# APPENDIX I

# ON GREEK RATIONALISM

## A. Ancient Greek Metaphysics

It is of the essense of Metaphysics to question the "given" and to ask for its adequate explanation. Such an investigation, ontologically and objectively conceived, takes the form of an inquiry concerning the ultimate principles of what, as given, bears the marks of unself-explainability by reason of its metaphysical defects, and its consequent "opacity" and resistance offered to Reason's attempt to comprehend it. It is therefore evident that to ask for the principles and for the ontological explanation of the given, presupposes a clear awareness of the non-ultimate, non-fundamental character of the latter. But this awareness grounds also on the reflective level the quest for what is really real *(ὄντως ὄν)*, in the sense of that whose transparency, as it were, to Reason provides a safeguard for its metaphysical blamelessness. Thus it is seen that the same intellectual (and spiritual) dissatisfaction with the given lies at the basis of both the inquiry for the first principles and the search for the true reality. To take the principles as more real than that which is derived from them is but the natural conclusion of the line of thought traced above.

These systematic connections found their manifestation in the history of Greek metaphysical speculation. This began and proceeded as an inquiry for the first, ultimate principles, developing both in a naturalistic (Ionian *φυσικοὶ φιλόσοφοι*) and in a more properly metaphysical context (Pythagoreans). It belongs to Eleatic Philosophy, and to Parmenides in particular, the honour for bringing sharply to the foreground the necessary presupposition of every inquiry after first principles: namely, the acknowledgment of the ontological defectiveness of the World as given. They detailed these defects of

apparent reality, and they posited what is free of such blemishes as the only genuine reality. But they applied their newly gained higher philosophical awareness in too one-sided a way, rendering the cleavage between really real and apparently real unbridgeable, thereby abolishing the possibility and the point of a search for first principles. To put it paradoxically, they conceived so absolutely and exclusively the reality of the principle that its claim to be a principle was abrogated.

With Plato came the synthesis of the two previous moments. To search for the first principles of the given is both to admit some sort of reality for it and to deny the metaphysical perfection of the ultimately real from it. In effect we are encountering the existence of the defectively real. Hence the stratified view of reality and the hierarchical derivation of the lower from the higher.

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The quest for ultimate ontological explanations and the search for the really real are the two cardinal preoccupations of ancient Greek, and, mutatis mutandis, every genuinely metaphysical speculation. Such investigations are intrinsically interconnected.

For an inquiry concerning the first principles of the "given" (the world as given to us) presupposes, ultimately, an intellectual dissatisfaction with the given, the discernment of certain metaphysical defects, so to speak, in its reality. And the existence of such ontological blemishes is not compatible with the metaphysical perfection of absolute reality. But although systematically inseparable, the one or the other of the above enterprises may be one-sidedly emphasized in a historical context. Eleatic philosophy represents the moment of the complete, reflective awareness of what is necessarily presupposed by every search for first principles - namely the unsuitability of the given to fill the place of the genuine and self-explainably real. They applied this their higher philosophical awareness in a too one-sided way, by conceiving the search for the really real in such an absolute way that the inquiry about the first principles became for them irrelevant and impossible. But their position was a challenge which had to be taken into account and answered before further progress in metaphysical speculation could be achieved. And this was the light in which Plato

viewed it when he offered the requisite higher synthesis by his notion of stratified reality.

Now the two main and fundamental defects in the given for the Eleatic philosophers were multiplicity and movement or change. The reason why these are indeed metaphysical defects is that they both presuppose, they thought, non-being, negation of being. And it is inconceivable that the absolutely real should necessitate a contradiction, namely the being of the non-being, the existence of the negation of existence.

For Plato, there was a powerful reason why the Parmenidean analysis should be erroneous somewhere. For in his World of Ideas he was able to restitute the Ideal perfection and reality of what was in the actual world defective and only apparently real; and in noetic intuition he also discovered perfect activity. He could not view the supreme beauty of the Ideal World and its contemplation as unreal, solely because multiplicity and activity were to be found there. These results of the Dialectic seemed to him unexceptionable; and yet "father Parmenides" was there offering his formidable challenge. Plato was not the man to shrink from plunging deeper and deeper till he was able to find a secure bedrock. He knew well that to have a reason why the Parmenidean analysis must be somehow not entirely correct was not to answer the Parmenidean challenge and to show its incorrectness. And nothing short of this, of course, is satisfactory in philosophy - unless we are to confine this supreme, ultimate science to merely a just adjudication between competing plausibilities. Plato's final solution of the crucial problem consisted in this: what really is presupposed by multiplicity and activity is not absolute non-being but otherness. This is what made him a dualist and a metaphysical Pythagorean. There are two ultimate principles, both engendered by an initial positing: the posited and the rest (whatever indiscriminately and indefinitely else).

Aristotle had no need to invoke the blameless reality of an Ideal World against Parmenides; he boldly affirmed the undoubtful reality of the actual, given World. He also complained that the Platonists acceded to an unwarranted extent to Parmenides' demands by conceding that if there were to be multiplicity and movement of any sort, non-being must exist. Probably, therefore, he considered Plato's solution of the indefinite Dyad and Otherness as, in effect, different names for the Parmenidean Non-being. His own answer as to

multiplicity is grounded on the distinction between substratum and form borrowed from Plato: to be one in form is not incompatible with a multiplicity of concrete individuals: one form just is many individuals. Unicity of being does not entail the existence of only one being, of only one existent. And besides even the unicity of being as such is denied by the doctrine of the categories and the focal meaning.

This answer only shows the a-posteriori, "descriptive" character of Aristotle's thought. For metaphysically speaking, the solution leaves much to be desired. Why is it that unicity of form can degenerate into the multiplicity of its exemplifications? And why are there many forms? Both questions, seem to be answered in Aristotle's system by the existence of matter; which is but the analogue of Plato's Indefinite Dyad and Otherness. And the divine *Νοῦς* is but the counterpart of the Platonic One - so that structurally Aristotle is moving on Platonic lines, indeed in a very similar way to that of Xenocrates, and the real difference is between the abstract - metaphysical thought of Plato and the more concrete - quasi-naturalistic - physical thinking of Aristotle.

So much with regard to multiplicity. If we turn now to movement we encounter a similar situation. Movement is grounded on matter for Aristotle; and on otherness for Plato. But activity, *ἐνέργεια*, is not qua *ἐνέργεια* grounded on matter for Aristotle (though it is so qua particular *ἐνέργεια* - forms being inherent in *ὕλη*) - and this is the result of confusion, or rather of frustration. Consider a perfect Aristotelian *ἐνέργεια*, seeing, for example. It is an entire whole at each moment. But what makes it continue the next moment? In so far as it is repetitive it presupposes and is grounded in otherness. It fails to continue in actuality, when it fails to do so, because of matter; but what makes it continue, if it continues? Clearly, either something external, or something internal to the single moment's state. If something external, that cannot be either *δύναμις* - *ὕλη* or *ἐνέργεια* at pains of a regressus ad infinitum. If internal, again this cannot be either *ὕλη* or, at pains of contradiction, *ἐνέργεια*. It must by then be something static, a principle of containment and finitude, transcending even *ἐνέργεια*. This is quasi-recognized by Aristotle in his notion of the divine intellect - but here his confused notion of eternity makes the effort abortive.

So it is clear that the great division is not between *κίνησις* and *ἐνέργεια* in the Aristotelian sense (real and important as their

distinction is), but that between repetitive activity or succession and atemporal activity without need of continuation. This is much better caught by Plato's division of three *κινήσεις* (ideal - psychic - sensible) than by Aristotle's major distinction. And this is not to mention his specific difficulties in the theory of movement, which are caused by his having postulated as principles *δύναμις* and *ἐνέργεια* instead of *δύναμις* and *στάσις*. For from *δύναμις* and *στάσις* we have both movement and *ἐνέργεια* very easily - whereas to have *κίνησις* from *δύναμις* - *ὕλη* and *ἐνέργεια* is impossible. But with *δύναμις* and *στάσις* we approach the old Pythagorean dualism of *ἄπειρον* and *πέρας*, provided we ascend from the notion of *δύναμις* as mere (passive) potentiality to that of plenipotential might, the power of existence.

## B. The Metaphysics of Change

Parmenides deduced the nonexistence in reality of movement and change from the very beingness of Being. Absolute Being or being in so far as it is (and there is no other way or respect in which being can be - and therefore can be considered or conceived to be; Being can only be, as it were), entails the nonexistence of any ontological negativity within itself, and thus the absence of any distinction. But change necessarily presupposes distinctions in quality, quantity, space and time. Therefore there can be no change in real Being. This in its bare essentials is the Parmenidian position with respect to movement in general: change is simply impossible in truth and true being.

But in appearances there is change: change does appear to be. For it to be possible in appearances, there must exist an apparent, but unreal, ultimate dualism. And Parmenides saw this apparent but unreal dualism as a projection of the true but vacuous pseudo-opposition of Absolute Being and Nothing: this is what in effect he tells us towards the end of the 8th fragment. It is true he strongly suggests there a "subjectivistic" interpretation of his move: it is human belief and deception, human "imposition" and "naming" which "causes" appearances. It is not unlikely that such might have been his view if expressed in modern and misleading terms; for it does not seem that he wanted to envisage a stratified pattern of reality, with levels and degrees of reality objectively and ontologically subsisting independently of human perception and conception. An "inferior reality" existing in itself would rather be an anathema for him. But then again it all depends on how one is construing "existing in itself" in this connection.

One may well believe au fond that what I have written above about the possibility of a "subjectivistic" interpretation of the Parmenidean appearances is the outcome of residual mixtures still existing in us, between the modern and the ancient modes of thinking about these matters. Consider the following formulation: There is only one reality, that of absolute Being. To this being there is opposed in unreal opposition an absolute nonexistence - Nothing. The correct way to formulate this sham opposition is by saying that nothing opposes Being. It is wrong to take this proposition with the "nothing" as

metaphysical subject: Nothing opposes Being. But nonetheless the deceptive metaphysical opposition constitutes an apparent dualism. Materially and, so to speak, physically manifested or expressed this unreal opposition takes the form of the opposition between πῦρ and νύξ (end of Fr. 8), Parmenides' two principles necessary for the "construction" of the World of appearances.

Now to say that deception and appearance presupposes a perceiving subject in which they subsist, is to commit what I shall call the modern fallacy. (Consider the Indian thought in this connection). Deception and appearance have their foundation "objectively" (so to speak, in modern parlance), though un-really, in the above mentioned sham opposition. The pseudo-opposition is really nonexistent; and appearances are really nothing, while they are apparently something. You see here all the "problematique" which takes a new, developed form in Plato's magnificent system.

For I believe that Plato's thought is more in tune with the spirit of the Parmenidean Truth - than the rather avid and fossilized Eleatic thought of Melissus and Zeno. This Eleatism refuses to follow the natural, organic development of Parmenides' seed and concentrates instead on its negative aspect exclusively. It desires to prove the inherent contradictoriness, and therefore the ontological impossibility as a reality, of the sensible World rather than demonstrate the essential absence of such contradictoriness (together with what such absence entails by way of positive characteristics) from the world of True Being: it is a matter of significant emphasis. People reacted to the Parmenidean thesis with the commonsensical, ignorant unbelievingness founded on a "re-affirmation" and re-exhibition and re-manifestation of the (apparent) reality of the empirical world. And Parmenides' followers tried to combat directly the claims of that world to the honour of reality, rather than concentrate in establishing and reproducing the true characters and nature of absolute being thereby indirectly (in an almost by-the-way manner), showing the nullity and voidness of that World's claims. The followers cannot occupy for long the high, vantage point of the leaders soaring mind - usually.

But, on the other hand, the Eleatics' subsequent attitude encouraged the investigation of movement and change not only or primarily in its presuppositions (like the Parmenidean attitude - cf.

Plato, Platonism and Neoplatonism versus Aristotle), but also in its intrinsic, peculiar character and nature as movement and change, in its in-itself-ness and ἰδιότης.

The essential core of the problem of change is clearly manifested in the third of Zeno's arguments against movement[1], Fr. 27 (Aristotle *Physics* Z9 239b). In formal clarity, the difficulty can be expressed thus: something is A at time $t_A$, and the same is B at another, let us say later, time $t_B$.[2] (A and B can be states or places or qualities or quantities - any definite character whatever). This is the first element in the essential nature of movement. But it is very important to observe that there is another one, necessary for the construal of the ordinary notion of movement: not only the thing is in different "states" at different times, but it passes, it flows from the one to the other. (This is the moment captured and promoted as the single essential fact of the World by Heracleitus). It must be kept very clearly in mind that difficulties relating to change may stem and be founded on either of those elements. Thus Parmenides found contradictory the former one in its presuppositions, in so far as absolute being was concerned. And Diodorus Cronos the Megaric (Megaricism continuing Eleatism) accepted the former feature while strictly condemning the second as ontologically incomprehensible (v. Sextus, *adv. Math.* X 85). Historically speaking, the explanation for this choice rests on the fact that later Eleaticism exploited the difficulties residing in the second element of flow; the philosophical attempt to really understand the felt[3] necessity for the "flow" element resulted in the concept of the continuum[4].

The notion of a continuum represents the attempt to capture and articulate philosophically the perceived, or rather felt, element mentioned above: the flow or transition from something to something. In any transition there are "states" or points of halt, and there is flow; there are frozen "instantanèes", and there is a continuous vanishing away of the former into the later. Both these factors are necessarily implicated in the unperverted common and natural sense (κοιναὶ ἔννοιαι). But how can Reason "comprehend" their curious combination - here is the crucial problem. Heracleitus negated the existence of any frozen component - this is the essence of his World-view. Some (at least) Megarics accepted differing "states", but ostracized all flow. Bergson moves in a clearly Heracleitian

atmosphere. Indeed Bergson (freed from the dose of "subjectivism" indispensable for a modern mind) is an excellent guide for a substantial understanding of Heracleitus.

Take the flow as the primary reality. Conceive of it as a continuous melting away of the "earlier" into the "later". Negate the real existence of any "frozen moments" within that flow: what appears as an "instantanèe" is really a bit of flow, a very small bit of flow, so small that it is imperceptible to our gross sense-organs. There is not even any "now", but what comprises a small duration.

This is Bergson[5] - and it is already an attempt at articulating the "feeling", as it were, of flow. It is also Damascius, even in respect of time. It is furthermore a quantum theory of reality. But one need not go even so far as this: one has only to stick to the view that in flow there is no frozen element really incorporated within it and constitutive (at least partly) of it. Zeno tried to show that if we begin from the naturally assumed existence of determined, definite, un-flowing states, then we cannot really understand the flow. Heracleitism may be seen as conceding the force and validity of the inference, but denying its antecedent premise. Aristotle is, on the other hand, denying the validity of the inference itself.

Let us consider the essence of the problem of the continuum in change. (It is in substance, as above noticed, clearly manifested in Zeno's third argument against movement). If movement consists in, or at least comprises really and essentially, "states" of rest, then what is that which constitutes the substitution, as it were, of the previous state by the following one with preserved identity? If a movement (in the sense of flow) then again the problem is to be posited on the new level - and so on, ad infinitum. If a resting state - this is blatant contradiction[6].

From this dilemma all philosophical positions may be seen to arise as from their common matrix. Megarics (and strangely Damascius, at the other end) agree that the first option is impossible, but then they have to accept abrupt, inexplicable change-without-flow: they do away not with everything which is not rest and stability, but only with flow as an alternative to rest.

Trying to cope with the first option is by far the dominant tendency. However there are, basically, two different ways of coming to grips with it, represented respectively by Plato and Aristotle. All

subsequent thought down to our own day is embedded in the Aristotelian way of handling the problem, and it is therefore very difficult to understand the Platonic position without interpreting and expressing it in an Aristotelian framework, thus distorting it.

In a word, Aristotle accepts the regressus ad infinitum contained in the first alternative, but denies that it constitutes a regressus ad absurdum. Yes, between any two resting "states" (embedded in a movement) there is flowing un-rest[7]. But Aristotle knows that an actual progress to a real, actual infinite is absolutely impossible - there is no such thing as an actual indefinite or infinite. Hence he invokes his cherished notion of potentiality: a flowing continuum does comprise an infinite[8] number of "resting places", but it comprises them potentially (though really), not actually. A potential resting place does emerge as an actual resting place under circumstances which actualize its potent implicit resting-ness, so to speak. The resting places in a movement are categorically different from the flow which constitutes the essential nature of the movement; and flow takes place when the resting places comprised in it are not actual *πέρατα* - only potential stoppages. The clear apprehension of that categorical difference makes Aristotle establish his two categories of *ποιεῖν* and *πάσχειν* beside the other ones (and as against merely introducing *κίνησις* as a third mode of being as it were). Flow is a further element of reality, of the content of reality, in spite of its comprising, and in a sense consisting of, "resting places".

This last remark gives us the clue for a more correct appreciation of the Platonic position, a higher one. Plato saw clearly that movement as Flow cannot be reduced in whatever way to Rest. But he penetrated into the root of the problem: even supposing that one can dissect flow, and can cut "instantanèes" in it, the resulting "resting places" (whether actual or potential) are not in their nature and essence the same with Rest, or even with these same resting places as they would have been outside the flow of movement - to put the matter in an impossible but significant way. There is all the difference in the World between real Stability and Rest-in-the-context-of-Movement - whether potential or actual (yet apparent, not Real) Rest, I repeat. And this difference is not something superadded to a content so that it can be at times and in certain respects Stable, while at other times or in different respects simply Resting, actually or potentially. Ideal things cannot but be

eternally stable, while things of this world cannot but be in flow with actual or potential resting places being the faint ἀπεικάσματα of Ideal stability. Here we are in Heracleitean flow; above in Parmenidean "Rest". There is an absolute opposition between Flow and Rest - and a relative one within flow, just as there is a relative one within Rest! (cf. in the Sophist the doctrine of the life and movement of true being, i.e. of the idea).

One sees the higher character of Plato's position. It is not that Plato would restrict this World to only continuous Heracleitean flux: in Philebus he indicated all the essentials for an analysis of this World's movement lacking nothing from Aristotle's complex account, and superior to it in that he co-ordinated in his analysis things and processes of this world here with ideal (= truly real) facts and factors.

Nor did he stop there. The antithesis of Flow and Rest as exemplified within Flux posits a further problem. If one is misled (by Aristotle's denial of the existence of any higher World of Ideal Essences) into taking that antithesis as the true and only real opposition between Rest and Flow, then one faces a more serious problem than the initial regressus ad infinitum. And this is what Plato indicates in the third hypothesis of Parmenides. Suppose one construes movement along Aristotelian lines. Then either one opposes Rest to it, in an important and metaphysically significant way, as being outside Flow, in which case one faces the higher-order problem of the transition from that Rest to Flow and vice-versa; or one accepts that Rest in this world belongs essentially to Flow, and can only be taken as an apparent halting of the process of flux which constitutes the very "essence" of our empirical reality - which is the Platonic position. There is no real Rest, no Rest outside flux, in this world.

Now one may ask why Aristotle should disagree with these results; or, in other words, in what sense can we discern a real and significant disagreement between Plato and Aristotle in this matter. The answer is that, of course, in so far as Aristotle sees the Truth, he does not and could not disagree. But the point with really great philosophers is that their disagreements concern all-important but very subtle differences of perspective and significant formulation. Of course all of them are right; and yet simultaneously there is gradation of being-intelligibility, one sees and adequately formulates more than the other. Thus here we may say that Aristotle himself saw rest in this World as the temporary,

sudden and partial emergence in actuality of what lies embedded in potentiality, namely of eternal, unchanging forms, under the influence of the final causality of the only actually eternal (to put it paradoxically) Form. To that extent he subscribes to the Platonic position - I mean as to the "temporary emergence" ἐξαίφνης factor. But he also implicitly presupposes that the antithesis between Rest and Flow as exemplified in this World is the real antithesis between them: and this is false, simply and absolutely. It is thus with Plato and Aristotle: the former may often appear in the wrong in matters of detail or of parts, whereas Aristotle is always persuasive and apparently incorrigibly correct in this field; but Plato is never wrong in matters of fundamental importance and pertaining to the whole, in matters where Aristotle is often either less adequate or misleading.

## NOTES

1. It should be noted that locomotion is usually taken as standard example because it exemplifies all relevant difficulties in a particularly clear-cut and easily graspable way. Whatever is said of it, applies, of course, mutatis mutandis to all change of whatever kind.
2. To introduce time-distinctness is one way of resolving an ontological contradiction - as Plato clearly saw: e.g. *Parmenides* 155e. We still try to accept negativity without formal contradiction!
3. Movement is "perceived" as flow - basically. What is "sensed" may be succeeding states or stages, but the perception and the inarticulate, "natural" notion is one of flow, of running, of a continuous process of fading away and simultaneously emerging (cf. Bergson's notion of duration).
4. Not that the problems relating to the continuum concern exclusively movement and change; but movement and change provide the, so to speak, physical manifestation of the abstract notion of the continuum. Compared with them, the continua of space and time are less concrete and perceptible, and, in a sense, more derivative. The most concrete flow, is the "physical" flow of Heracleitus, Aristotle's movement.
5. It is also in, at least, the followers of Heracleitus. Cf. Plato, *Theaetetus*.
6. Mutatis mutandis, the same type of argumentation is applicable to the two other continua intrinsically connected with that of movement, those of space and time.

7. Proclus formalizes beautifully the core of the problem when he proves as propositions 26 and 27 of his *Elementatio Physica* both that *πᾶν τὸ κινούμενον κεκίνηται πρότερον* and *πᾶν τὸ κεκινημένον ἐκινεῖτο πρότερον*. Apply this to "stages" in a movement successively approaching the beginning and you have vividly portrayed all the horrors of the continuum.
8. Their infinity is of course necessitated by the assumption that between any two given resting places in a continuum, there are further resting places.

## C. On the Great Problem

With his theory of Matter, Form and *Στέρησις* and the collateral theory of *δύναμις* and *Ἐνέργεια*, Aristotle claimed to have provided the foundation of "Physics" towards which the entire preceding philosophical speculation on Nature was unconsciously aiming. This he makes clear in Book A of the *Physics* (significantly entitled *Περὶ Ἀρχῶν* in the ancient lists of his works and in some manuscripts as well), where he develops especially the former aspect of the theory, reserving the analysis of the deeper *δύναμις - ἐνέργεια* dimension for *Metaphysics*, Θ. He also emphasizes there that his analysis not only supplies the true principles of this world, but also constitutes the only conclusive reply to those tendencies which will dissolve this World into either ontological Nothingness or noetic incomprehensibility i.e. Unintelligibility - much the same thing for the Greek Mind, immersed as it was in reality. Read esp. chapters 8 and 9 of Book A - in 8 presenting his solution of the Eleatic challenge, in 9 differentiating his position from the Platonic semi-solution, as he sees it.

Now the main essential characteristic of the World, as we have found ourselves in it, is change, *γένεσις* (in the category of substance or in any other category), becoming. And that was what philosophical speculation attempted to explain from Thales onwards. Two types of thought developed in that endeavour: the Ionic and the Italo-Sicilian, Magna Grecian. Both were of the experience-cum-insight nature, but the former relied more on experiental analogy, whereas the latter was ultimately based on symbolic insight. They correspondingly evolved two general kinds of explaining Becoming: the model of transformation and the model of Generation. The first concentrates on the observation of things or substances giving place to others as the perennial process of nature (water being made air; wood being made fire and then smoke; earth being dissolved or water crystallizing etc.); the later sees everywhere copulation, impregnation, birth. Ultimately, the former requires a first, Primal Substance out of which (and there were various ways of analysing this fundamental mode of transformation) everything comes, while the second presupposes a final, irreducible Contrariety: hence, the Ionians cultivated a monistic "materialism" (in Aristotle's sense of "matter"), whereas the Pythagoreans developed a symbolo-idealistic dualism.

But the Eleatics came with the radical alternative of an uncompromising, strict rationalistic conceptualism, affirming in one-sidedness the peculiarly Greek character in thought to the exclusion of everything else. And they boldly affirmed regarding the topic in question, that the very notion of Becoming is unclear, confused and contradictory (rationalistically defective), and that therefore the reality of becoming is imaginary and impossible. For they asked, in essence, How can there be Becoming, if there is Being? For since becoming is becoming being so to speak (what is becoming X is X once the process of becoming has terminated), neither Being can be in a state of becoming (since it already is), nor Non-Being (since Non-Being or Nothing can become No-thing). Neither being nor non-being can be becoming. One can vary the formulation of the dilemma, but the essence remains the same: Mind cannot perspicaciously understand Becoming.

I emphasized in the Eleatic basic question above the clause: if there is Being. For this is an indispensable presupposition. Mind does understand (the claim is) Being, and also Non-Being. Given this, one fails to "penetrate" rationalistically and render conceptually transparent the idea and phenomenal reality of Becoming: for neither Being, nor Non-Being, can have a past or a future different from themselves; they are incapable of history. We thus naturally understand the type of position which, basing itself on Heracleitus, abolished Being in order to keep Becoming: hence the continuous-flux views of the world.

But this development of Heracleiteanism could not be received with anything like satisfaction by the Greek Mind, archetypalistic and Normalistic as this was. In fact, as Plato profoundly observed (in Cratylus especially), our predicament seems to be that Becoming (if it is real in any way) presupposes Being as its determinative - and yet, as Eleatism maintained, it was incompatible with it. An explanation of Becoming should be found which will not impair the unimpeachable credentials of Being as superior Reality.

I shall not analyse here Plato's complex solution to the Great Problem (in association to the akin question about Multiplicity and the Oneness of Being); it goes deeper than Aristotle's and it utilizes three central notions: Otherness, Indefinite Dyad (esp. as exemplified in More-and-Less), Receptacle (Aristotle's criticism of the Platonic

theory in *Physica* A.9 is elementary and very misleading). Aristotle's answer, when formulated in terms of the δύναμις / ἐνέργεια distinction, is fundamentally this: Being comes from Non-Being, but not from Non-Being simpliciter; non-actually-being-X (which is the στέρησις of X) changes to actually-being-X in that potentially-being-X (the ὕλη) becomes actually-being-X.

It is to be emphasized that mere multiplicity of being does not suffice to explain Becoming: one cannot simply say that being-Y becomes being-X, and that therefore the main trouble with the Eleatic question with which we began is its non-specification of the content of being involved. This can never do: for the main point now is not whether there are many contents of being so that it may be possible for one of them to change to another to begin with, but that there is no reason whatever in being-Y qua being-Y which can make it change to X - no reason, that is, in so far as strict rationalism is concerned. We must find a ground for the change in being-Y itself, we must rationalistically explain the change and not merely affirm or postulate it from experience, or commonsensically justify it (the general type of this justification being that of a law in modern science: X always succeeds Y).

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We now come to the Megaric position in *Metaphysica* Θ.3. Its substance is succinctly put by Aristotle, 1046b29-32: *εἰσὶ δέ τινες οἵ φασιν, οἷον οἱ Μεγαρικοί, ὅταν ἐνεργῇ μόνον δύνασθαι, ὅταν δὲ μὴ ἐνεργῇ οὐ δύνασθαι, οἷον τὸν μὴ οἰκοδομοῦντα οὐ δύνασθαι οἰκοδομεῖν, ἀλλὰ τὸν οἰκοδομοῦντα ὅταν οἰκοδομῇ· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων*. Power to do something really exists when, and only when, it is actually exercised. Potency and corresponding activity go necessarily together in rerum natura. Their separation is a mental trick. Now what was the Megarics' real point in maintaining such a counter-commonsensical view? Naturally their purpose was to discredit the Aristotelian theory on this very crucial topic - we may imagine Eubulides or Alexinus (who wrote against Aristotle) severely criticising his views on the matter. But what was their positive point? I think the following.

Take something which we would say ordinarily has the power to do (or suffer or be or whatever) X. So we claim that it can do X. Now suppose that it is not, in fact, doing X, and ask: Why is it not doing X? The general form of a rationalistically acceptable answer to that question must be: Because something is prohibiting it, is impeding and blocking the exercise of its power (be it even its own will, if it is a person). For an (essential) power (in a thing) will exercise itself, and the thing will be accordingly projected in existence, unless it is hindered and prevented from doing so by some appropriate greater force capable of annihilating it. So we must postulate some restrictive factor, some cause which in fact cancels the natural propensity of a power to exercise itself and produce its proper result. For the crucial point is this: a real potency is not a dead susceptibility, not a ψιλή ἐπιτηδειότης in a neutral or negative sense (as a conditional capability if something else acts). It is rather a spring which must necessarily pour out its water, a fire which must necessarily heat or be extinguished: a power must necessarily manifest itself, act in accordance to its nature, produce its proper results - live as a power. A power will exercise itself continuously - if nothing prohibits, not if something else permits. The sufficient reason for the exercise of a true power must reside in itself, not in something else.

Starting from such a notion of a positive (in a real sense, not in the aseptic Aristotelian sense of δύναμις τοῦ ποιεῖν) power, we will say that it is not the reason for its activity which should be looked for outside its own nature, but the reason for its inactivity. Suppose that the latter situation obtains. The potency is impeded in its self-effective manifestation by some external factor or factors. Now ask: In such a case, can the thing which has that potency act in accordance with it? The answer is no - for if it could, it would, given the necessary activity of a real power. The thing then cannot do-X in the circumstances: its power is checked, and, for the time being, cancelled. So, if we still persist in saying that the thing is nonetheless capable of doing-X, that it can do X, that it still has the power to do X - we are following ordinary turns of expression without rationalistically approved meaning. The conceptually clear thing to say is that the thing cannot then do-X. For a power which cannot exercise itself is no real power, has its capacity (and, therefore, its essential nature) removed, so to

speak, for so long as the cancelling force prevails upon it. For a power without its automatic and necessary capacity to act, is power only in name: if you call it power in its time of compulsory inactivity (for, I repeat, this is the all-important point: there is no self-originating inactivity in a power), you call it so not *συνωνύμως* but *πρὸς-ἕν* (to use Aristotelian jargon!): what you really mean (in a clear way) is that the thing will act again in the future in accordance with the power in question, that it will possess again the power in its full and primal and focal sense - which is: the source of a self-originating, necessary activity.

This, I believe, is the essence of the matter. The history of the word *δύνασθαι, δύναμις* from Homer onwards testify to it. It always meant something very positive, and was always conjoined closely with the corresponding exercise of the power. It began with meaning the actual might of a man. Senses and uses like *τί δύναται* a word (= its meaning), the geometrical *δύναμις* etc. highlight the point: if X *δύναται* Y, then X and Y can be interchanged in rerum natura, in that they either both occur or none does, X can and will effect Y, the emphasis being in the causality of X. To this extent Hartmann is right. Following a hint by Hartenstein, Hartmann gave a mechanical explanation (in the European sense of the word) whose important and (so far as it goes) valid point is this: an actuality is caused by a set of causes, just as everything has its cause. The set of causes which render an actuality actual, are the powers producing it. Only the full cohort of these powers can really effect that actuality - any single one of them is insufficient to the task. Hence each one alone cannot effect the entire work by itself; once the chain of causes is completed, the effect follows automatically and necessarily. Its posibility is full and real only upon that completion which safeguards the immediate actuality; before that completion its possibility is not full and real. - This seems to be the gist of Hartmann's argument. Besides everything else, he sees the matter from the point of view of the cause-effect syndrome, and esp. from the point of view of the effect as being framed within that syndrome - not of the thing which has the (sovereign) power to do or be something.

Aristotle's criticism - deducing *ἄτοπα* (but *ἔνδοξα ἄτοπα*, so to speak, not rationalistic impurities!). A1: 1046b33-1047a4; A2: a4-7; A3: a7-10. B:a10-17. In effect:

A1: *δῆλον γὰρ ὅτι οὐδ' οἰκοδόμος ἔσται ἐὰν μὴ οἰκοδομῇ (τὸ γὰρ οἰκοδόμῳ εἶναι τὸ δυνατῷ εἶναί ἐστιν οἰκοδομεῖν), ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τεχνῶν. εἰ οὖν ἀδύνατον τὰς τοιαύτας ἔχειν τέχνας μὴ μαθόντα ποτὲ καὶ λαβόντα, καὶ μὴ ἔχειν μὴ ἀποβαλόντα ποτέ (ἢ γὰρ λήθῃ ἢ πάθει τινὶ ἢ χρόνῳ· οὐ γὰρ δὴ τοῦ γε πράγματος φθαρέντος, ἀεὶ γὰρ ἔστιν), ὅταν παύσηται, οὐχ ἕξει τὴν τέχνην, πάλιν δ' εὐθὺς οἰκοδομήσει πῶς λαβών;*

A2: *καὶ τὰ ἄψυχα δὴ ὁμοίως· οὔτε γὰρ ψυχρὸν οὔτε θερμὸν οὔτε γλυκὺ οὔτε ὅλως αἰσθητὸν οὐθὲν ἔσται μὴ αἰσθανομένων· ὥστε τὸν Πρωταγόρου λόγον συμβήσεται λέγειν αὐτοῖς.*

A3: *ἀλλὰ μὴν οὐδ' αἴσθησιν ἕξει οὐδὲν ἂν μὴ αἰσθάνηται μηδ' ἐνεργῇ. εἰ οὖν τυφλὸν τὸ μὴ ἔχον ὄψιν, πεφυκὸς δὲ καὶ ὅτε πέφυκε καὶ ἔτι ὂν ‹τρόπον›, οἱ αὐτοὶ τυφλοὶ ἔσονται πολλάκις τῆς ἡμέρας, καὶ κωφοί.*

B: *ἔτι εἰ ἀδύνατον τὸ ἐστερημένον δυνάμεως, τὸ μὴ γιγνόμενον ἀδύνατον ἔσται γενέσθαι· τὸ δ' ἀδύνατον γενέσθαι ὁ λέγων ἢ εἶναι ἢ ἔσεσθαι ψεύσεται (τὸ γὰρ ἀδύνατον τοῦτο ἐσήμαινεν), ὥστε οὗτοι οἱ λόγοι ἐξαιροῦσι καὶ κίνησιν καὶ γένεσιν. ἀεὶ γὰρ τό τε ἑστηκὸς ἑστήξεται καὶ τὸ καθήμενον καθεδεῖται· οὐ γὰρ ἀναστήσεται ἂν καθέζηται· ἀδύνατον γὰρ ἔσται ἀναστῆναι ὅ γε μὴ δύναται ἀναστῆναι.*

How could the Megarics respond to these points? Briefly as follows:

A1: Is the man *οἰκοδόμος* when he is not actually building? It depends on what one means by the word. If one signifies the possession of the full-blown power to act - then no; if one means only certain (however important and essential) prerequisites for that full power and its consequent actualization - then maybe. The point being that you must keep apart ordinary usages and meanings on the one hand, and precise, rationalistically adequate ones on the other. - What follows in A1 depends on taking too seriously ordinary senses, the Megarics would say.

A2 is very "sophistical»! Fire, e.g., will keep heating whether there is or is not a percipient being around to be affected by it in the form of *θερμόν*. The problem whether the *αἰσθητόν* exists as such even in the absence of *αἴσθησις*, or the *ἐπιστητόν* in the absense of *ἐπιστήμη* is also raised in *Categoriae* 7b15-8a12. Simplicius despairs about the

whole matter - it is so clear and yet Aristotle makes such a fuss about it. Simplicius (*In Categoriarum* p. 193.33-194.8 Kalbfleisch) observes: *χρὴ μέντοι γινώσκειν ὅτι οὐκ ἀρέσκεται τούτοις τοῖς ἐπιχειρήμασιν* (in the quoted passage of the *Cat.*), *διὸ καὶ συνεχῶς τὸ δοκεῖν προσέθηκεν (!). Πρόχειρον δὲ λέγειν πρὸς τὴν ἔνστασιν κοινῶς μέν, ὅτι μὴ οὔσης ἐπιστήμης μηδὲ αἰσθήσεως τὰ μὲν ὑποκείμενα εἰς γνῶσιν τοῖς ἐπιστήμοσιν καὶ αἰσθητικοῖς εἶναι οὐ κωλύεται, ἐπιστητὰ δὲ οὐκ ἔστιν οὐδὲ αἰσθητὰ οὐδὲ γνωστὰ ὅλως. Βέλτιον δὲ αὐτὸς καὶ πραγματειωδέστερον ἐν τοῖς Μετὰ τὰ φυσικὰ περὶ τούτων διατάττεται, ἐν οἷς φησιν τὰ μὲν ἐνεργείᾳ αἰσθητὰ ταῖς ἐνεργείᾳ αἰσθήσεσιν, τὰ δὲ δυνάμει τοῖς δυνάμει· τελειοτέρας δὲ οὔσης τῆς κατὰ ταῦτα τῶν ἀπορηθέντων λύσεως καὶ δεομένης τῆς περὶ τῶν δυνατῶν διακρίσεως, ἀνεβάλετο νῦν αὐτὴν ὡς εἰσαγωγικὴν ποιούμενος διδασκαλίαν (!).* That solution would be nice, if *αἰσθητόν* etc. did not already incorporate the notion of possibility: *αἰσθητόν* is not the object of an actual perception - but of a possible one. Anyway the whole issue is much fog and noise with little substance. Interestingly though, Simplicius naturally connects the issue with the *περὶ τῶν δυνατῶν διδασκαλίαν,* a grave and difficult subject, *τῆς περὶ δυνατῶν χαλεπωτάτης θεωρίας* (*op.cit.* p. 196.7). In his concluding remarks (*op.cit.* pp. 195.31-196.33) on the above mentioned passage in the Categories, Simplicius (drawing on some unidentified source, Proclus?) distinguishes three meanings of the *δυνατόν.* 1) *μόνη* or *ψιλή* or *ὁποιανοῦν ἐπιτηδειότης,* sole or bare or of whatever kind of suitableness, tendency, liability or aptitude. This sense Simplicius associates with Philo (of the new Academy), p. 195.34, 196.20 and with the "ancients", *οἱ ἀρχαῖοι* p. 196.20, *οἱ παλαιοί* p. 195.24. He explains it by *τὸ ἔχον ἀφορμὴν ὥστε δύνασθαι γενέσθαι,* what has the basis so that it can come into being, p. 196.24-5. 2) *ἀκώλυτος ἐπιτηδειότης,* unhindered aptitude (p. 196.2), which he explains by *καθ' ὅσον πέφυκεν εἶναι καθ' ἑαυτὸ μηδενὸς φανεροῦ κωλύματος ἐνισταμένου* (cf. 196.3-4), something is capable of being *(δυνατόν)* so far as it has the nature in itself to be, no apparent hindrance standing in the way. (A Stoic use). 3) The Diodorean sense: something is really possible if it obtains or, at least, will obtain. This is to judge possibilities by present or future actualities; as Simplicius puts it, *τῇ ἐκβάσει κρίνεσθαι τὸ δυνατόν,* decide what is possible by the outcome, the issue, by the event (cf. p. 196.4-6; 18; 22). The

adherents to the Diodorean acceptation will not permit something to be called possible unless it is going to be translated into actual fact, *ἐὰν μὴ πάντως μέλλῃ εἰς ἔργον ἐναργὲς προχωρήσειν* (196.18-19).

The Megarics have a stricter sense of possibility than Diodorus, whose signification is an obvious relaxation of the Megaric construal. Aristotle in the Metaphysics passage criticizes the Megarics on the count that, according to their understanding of possibility, things would not possess perceptible qualities unless there was a percipient subject actually perceiving them, which would validate Protagorean subjectivism. He thinks that he himself can avoid this absurdity by taking *δυνατόν* in a sense which allows for the possibility of perception in the absence of actual perception. This he believes permits him to accept perceptible qualities without perception. But as Simplicius is keen to observe, this is really beside the point (*ibid.* p. 196.27 sqq.). For perceptible qualities in things would require according to this logic possible perceptive subjects, just as perceived qualities require actual perceiving subjects. Hence, we are condemned to Protagorean subjectivism once more. The truth is that the seeming crux rests on a confusion. If we accept the bare-aptitude conception of possibility, then there is no problem in admitting perceptible qualities in things in the absence of percipient subjects. Again if we understand possibility in the strict Diodorean, or stricter Megaric, sense, then the qualities of things are not perceptible unless there are, or will be, percipient subjects. But still in this case, the qualities of things can be just as they are in our perceptible world. There could be hot and red things just the same. Nor do we need to introduce then some distinction between necessarily perceptible qualities like heat and redness on the one hand, and underlying properties (like, say, configuration and movement of atoms) which explain the perceptible qualities on the other. For such properties as the latter ones are also perceptible, in the same sense. The point is rather, that in either construal of possibility there is no real problem with the perceptibility of reality. It is only when one mixes the senses and switches to and fro between them that the problem arises. And this is precisely what, according to Simplicius (*op.cit.* p. 196.19 sqq.), some interpreters accused Aristotle of just doing: *ὅρα οὖν ὅπως ἄτοπον πάσχουσιν οἱ κρίνοντες μὲν τὸ δυνατὸν κατὰ τὸν αὐτὸν τοῖς ἀρχαίοις τρόπον, κατὰ τὴν ὁποιανοῦν ἐπιτηδειότητα, ὥσπερ ὁ Φίλων, ἀποροῦντες*

δὲ πρὸς αὐτὸν (sc. Aristotle) νῦν (sc. in the passage from the Categories in question) κατὰ τὴν Διοδώρου ἔννοιαν αὐτῇ (pro ταύτῃ) τῇ ἐκβάσει τὸ δυνατὸν κρίνοντος (sc. Aristotle), καὶ ὡς ἔνστασιν πρὸς ταύτην (sc. that Diodorean acceptation of possibility) κομίζοντος (so with all mss. against Brandis and Kalbfleisch's miscorrection to κομίζοντες) τὸ τὸ ἐπιστητὸν ὡς ἐπιστητὸν εἶναι μὴ οὔσης ἐπιστήμης. That is, they wonder at Aristotle who now behaves as if he would judge about the δυνατόν similarly to Diodorus, and so adduces as a counter-reason the existence of ἐπιστητόν in the absence of ἐπιστήμη. They think, that is, that of course the ἐπιστητόν qua ἐπιστητόν exists without ἐπιστήμη, and nobody would make a great point out of this unless he had Diodorean ideas in his mind.

A3 is also typical. Aristotle plays with his own definition of τυφλός, which reflects (and is meant to reflect) ordinary usage, not rationalistically expurgated signification.

B is no more real and relevant. If something cannot do X at a certain time, how can it do it at any other time? Well, how can it in ordinary parlance, or in Aristotle's system? The "impossibility" involved is no genuine problem here. To use his own terminology, Aristotle takes something relative *(ἀδύνατον γενέσθαι νῦν)* as ἁπλῶς (ἀδύνατον γενέσθαι simpliciter). If his problem is the general metaphysical one of change - then it is he who should give an answer to the Megarics, not they to him. They either denied change all together, or accepted differing things- and World-states without pretending to understand how they were effected, followed each other or were interconnected (Diodorus memorable and momentous view - κεκίνηται but not κινεῖται).

Aristotle emphasizes that, in his view, the Megaric position implies the overthrow of a mighty distinction, that between potency and actuality. 1047a17-20: ἐκεῖνοι δ' οἱ λόγοι δύναμιν καὶ ἐνέργειαν ταὐτὸ ποιοῦσιν, διὸ καὶ οὐ μικρόν τι ζητοῦσιν ἀναιρεῖν. That he who holds the Megaric view must identify potency and act is, naturally, a non-sequitur. For suppose a power eternally and uninterruptedly and necessarily activated - can we not make the distinction there? Aristotle hesitated with regard to eternal activities, whether they involve a δύναμις. But there is no foundation for such hesitation - unless one has in

his mind a *ψιλὴ ἐπιτηδειότης* (or *ἀφορμὴ εἰς τὸ δύνασθαι γενέσθαι*) as the paradigm-case of dynamis.

After his criticism of the Megaric theory concerning possibility, Aristotle draws his conclusions (1047a17 sqq.). He explicitly affirms that something can be possible without actually being, can actually be while being possible that it is not. And this he insists is valid in all categories (1047a22-24). In fact he holds the view that possible is what is not, directly or by implication, impossible. His definition runs thus (1047a24-26): *ἔστι δὲ δυνατὸν τοῦτο ᾧ ἐὰν ὑπάρξῃ ἡ ἐνέργεια οὗ λέγεται ἔχειν τὴν δύναμιν, οὐθὲν ἔσται ἀδύνατον*. He gives as example the case of possible sitting, and then generalizes (1047a26-29). It is possible that one may sit, if his sitting implies no impossibility. Different senses may be distinguished in this definition: e.g. (a) a plant can not sit; (b) a serpent cannot sit; (c) an animal with no high differentiation between front and hind legs can not sit; (d) a man bound in chains on a bed, or incapacitated by sickness to raise himself from bed, cannot sit. One may account systematically for such and other variations on Aristotelian principles, unperturbed by modernistic nightmares about logical and physical impossibilities.

This is the view directed by Aristotle against the Megaric position. And it is precicely the view against which Diodorus directed his *Κυριεύοντα*, sc. *Λόγον*, his Master Argument. For Diodorus it was not enough to say that possible is that whose actuality implies no impossibility. As he would also not accept the Megaric position as too restrictive, he devised the Master Argument so as to establish a realistic construal of possibility as that which is either present or future actuality. He conceded to Aristotle against the Megarics that something may be really possible without being actually the case. But he denied, against Aristotle, that something could still be possible even if it was never to be actualized. For him this would subtract from possibility all connection to reality, and leave it as a phantasm of the imagination. A possibility must be sometime realized if it is realizable (and hence real possibility) at all. Otherwise, Aristotle's definition would be empty verbiage. The ultimate criterion that no impossibility follows upon the hypothesized realization of a possibility is precisely, according to the Diodorean logic, that it is realized at some point of time. Barring this, one may always suppose some hidden impossibility

(of one kind or another) which prevents the realization of the theoretical possibility. There is much point in this conception. For a real possibility represents the tipping of the existential scales in one direction rather than in another. Just as there is for Aristotle himself a tendency (a «longing») of matter to assume positive form rather than to be deprived of it, to have the privation of the form. This constitutive ontological aptness of a real possibility to be activated as full existence must be somewhere, sometime translated in actual fact - over the vast expanses of space and time there can be no reason annuling its realisation apart from some manifest or occult impossibility. For Diodorus therefore the very logic of Aristotle's thrust must lead to his reformed definition of possibility. And indeed the Master Argument is framed with the logic of that thrust in mind.

In fact, Aristotle takes a small, preliminary step in Diodorus' direction. He makes clear that one is not justified to use the formula «it is possible, yet will not happen» in a way that will virtually make redundant the notion of impossibility. We must distinguish possibilities that will not be actualized, from impossibilities which will never be actualized precisely because they are impossibilities. So in the sequel of Θ3 he explains; Θ, 4, 1047b3 sqq.: *φανερὸν ὅτι οὐκ ἐνδέχεται ἀληθὲς εἶναι τὸ εἰπεῖν ὅτι δυνατὸν μὲν τοδί, οὐκ ἔσται δέ, ὥστε τὰ ἀδύνατα εἶναι ταύτῃ διαφεύγειν· λέγω δὲ οἷον εἴ τις φαίη δυνατὸν τὴν διάμετρον μετρηθῆναι οὐ μέντοι μετρηθήσεσθαι* (he means that the diagonal of a square is incommensurable to its side) - *ὁ μὴ λογιζόμενος τὸ ἀδύνατον εἶναι - ὅτι οὐθὲν κωλύει δυνατόν τι ὂν εἶναι ἢ γενέσθαι μὴ εἶναι μηδ' ἔσεσθαι. ἀλλ ἐκεῖνο ἀνάγκη ἐκ τῶν κειμένων, εἰ καὶ ὑποθοίμεθα εἶναι ἢ γεγονέναι ὃ οὐκ ἔστι μὲν δυνατὸν δέ, ὅτι οὐθὲν ἔσται ἀδύνατον· συμβήσεται δέ γε, τὸ γὰρ μετρεῖσθαι ἀδύνατον.*

It is however erroneous of course to say that Aristotle agreed with Diodorus in that the possible must be actualized if it is really possible. A log of wood can be burnt even if it never does. In 1047b3-6, all the emphasis falls on *ὥστε τὰ ἀδύνατα...* etc. We cannot say that some potency will not be actualized in such a way as (= if by saying what we do we thereby mean) not to leave any room for real impossibilities. In some cases according to Aristotle we can indeed further demonstrate that something must be actualized if possible at all - as in *De Caelo*.

But these are special cases having to do basically with the eternity of the world (v. *de Caelo*, 12).

There are Aristotelian hints everywhere in the Diodorean sense. One is unavowed, but clear. Impossibilities are never to be realized because they are impossibilities. Situations will never be realized if their realization would involve impossibilities. Such situations are not real possibilities. What hinders a real possibility from being ever realized is not some impossibility. It can only be a stronger possibility that excludes it from actualization. Aristotle's theory seems committed to the idea of a graduated field of possibilities, of degrees of possibility. But possibility so weak that it can never be realized, how much of reality may it possess? And if what makes the obtaining of a situation unavailable is impossibility, how near to impossibility is that weakest possibility?

## D. Greek Rationalism and the Megarics

Greek Rationalism is founded upon the innate belief that pure thought is intrinsically «in tune» with objective reality, and that its natural movement intrinsically represents and follows the structures and rhythms of that reality. The clarification and articulation of that belief provides the starting point (and in most cases the focal point) of all major intellectual and philosophical developments in Ancient Greece.

The self-awareness of mind in connection with the said belief comes in a striking form with «father» Parmenides, whose paramount significance Plato saw, though Aristotle did not sufficiently appreciate it. Not that the belief itself (and with it Greek Rationalism) comes into being with Parmenides. It is, on the contrary, at work from the very beginning of Greek speculation on things - in fact it influences the formation and elaboration of even the myths themselves on Greek soil. To give a major philosophical example, Heracleitus' *ξυνὸς λόγος* is the law of the Universe, inviolable and universal, the "measure" of the common principle of all things - our souls included. V. (in this sequence) Frs. 30; 31; (cf. 90) - 1; 2; 114 (113); 17; 72; 89; 73 - 113; 45; 101; 115. (And v. the very good account by Sextus in A.16).

One finds here, fully developed, the fundamental elements of rationalism: (1) that there is in Man a principle of understanding (*νοῦς, λόγος, φρόνησις* in pre-classical terminology) which is akin ("in tune" intrinsically as I said above) and even somehow identical (just in order to be objectively akin) to the principle of things. (2) That the operations of that principle of understanding are usually hindered, so that very few can attain to the truth and reality of things, in their objective universality; the many are continuously imprisoned in subjective, individual, personal divergences and perversions. Various philosophies conceive and analyse differently that identity and these obstacles (and prescribe different methods and procedures in removing the latter and reaching the full implications of the former), but a crucial step has been taken where (1) and (2) are to be found.

What is then the *ἴδιον* of the Parmenidean type of strict rationalism so influential afterwards? Let us study pre-Parmenidean philosophical thought. Man sees and hears and senses and feels the World. Man remembers and imagines, *φαντάζεται*, i.e. sees with his

mind's eye, so to speak, things absent now but experienced before. Man keeps many things together in mind. Man notices similarities, differences, patterns of structure or succession. From such *τριβαί*, *ἐμπειρίαι* are formed, and these crystallize themselves around certain beliefs or "*θεωρήματα*" *δοξαστικά* but not *ἐπιστημονικά* as yet.

These formations and crystallizations are guided by a most powerful drive in the soul of Man. This drive itself is based on an inherent capacity that he possesses - immeasurately more significant than the abilities above enumerated, which themselves separate himself from *ἄλογα* animals: this is the ability to be puzzled. He wonders - in awe, in fear, in terror, or in pleasure and admiration, it does not matter. The capacity to be puzzled is the root of the desire to understand, the drive to ask «why».

But what does Man expect as an answer to such questioning, what will satisfy his burning need to understand, what can resolve his state of ontological *ἀπορία*? Basically, what Man wants is - ORDER. He accepts as the solution to his problems what exhibits things in connectedness. He absolutely and implicitly believes in the existence of an order in things, and of an «organic» principle of such order; and he also knows that he possesses the power to see that order in various degrees of breadth, depth and clarity. And all this because he is, and he recognizes himself as, order. His inner joy and elation at the discovery of the least piece of connectedness in the world is such that very often he is tempted to rush to conclusions and to hurriedly impose (artificial) patterns (objectively nonexistent) on reality.

From the observation and awareness of the first elementary uniformities in the World on which to base even his physical subsistence and preservation, up to the vast metaphysical syntheses of Proclus and Damascius, to explain is fundamentally to systematize. One understands something when one exhibits it in its connectedness to the rest of relevant things, when one provides its natural context, when one sees the order to which it belongs organically, when one, in a word, locates it in reality. To be (spiritually) puzzled is to be in front of something without apparent connections, to confront a particularity, an individuality as such.

Now there are different levels, and different kinds, of such connectednesses (objectively founded and systematically articulated) as seen and conceived by Man. Firstly, the connection may amount to

mere uniformity, to sheer factual correlation: that X and Y are found together or in (more or less) definite succession. Such patterns, when discovered, represent the coagulation of protracted ἐμπειρία into nuclei of "doxastic" belief, as I indicated above. Cardinally useful as they are, they cannot soothe, let alone fulfill, Mans desire, nay need, to know why. The reason for this failure is easy to see: the primal wonder at the initially unapprehended connectedness of X, the ontological puzzlement, that is, at its apparent isolation and particularity, is simply substituted by the puzzlement at the mere fact of the discovered correlation. There is a way of trying to rectify this second-order puzzlement by organizing the observed uniformities, by discerning patterns of higher uniformity among such correlations, by subsuming lower "laws" (in the modern physical sense of the word) to higher and more general ones. This is the way of modern science. But so long as connectedness remains a mere fact; so long, that is, as it is extrinsic to the nature of the connected items and, therefore, can only be "justified" and itself explained, if at all, by recourse to a higher, equally opaque, correlation alone, instead of emerging out of the very nature of the connected things, constituting and reflecting this nature - so long as the uniformity gives rise to nothing more than a bare description, man is not satisfied that he has really explained anything. And although even the bare description of a connectedness is a sort of first level explanation (so potent is man's need for order), yet even modern science explains only quantities and the quantitative aspect of the World at most: for it is only with quantity that scientific Laws stand in intrinsic relationship - not with the entire nature of things.

To truly understand a connection as an answer to a "why", is to understand the nature of the connected, and vice versa; only then a description becomes also an explanation, whether one may choose to formulate this transition as a movement from mere facts to their significance, or as a discovery of deeper and deeper lying essential facts.

Setting factual correlation aside then, real "understanding" falls into two categorial types. I call the one symbolic (or intuitional) and the other conceptual (or mathematical). Through continuous τριβή, experience, "doxology" and "description" the mind sees now and then (or rather is struck by) light. It sees a connection and thereby heightens and sharpens and clarifies its understanding of the nature of the things concerned. One notices, for example, that the sperm is

liquid and warm; one observes the watery secretions of the uterus; one further is aware of the luxuriating exuberance of warm and moist climates or places; one discovers that food has to be liquidated in order to be assimilated by animals and plants alike; one is fully conscious of the importance of rain in agricultural affairs; one sees everywhere earth circumscribed by immense masses of water; one lives with the experience of a whole country being the "gift" of a river. The wise man notices these facts; and, one day, he connects their diversity - he binds them with a principle - the Principle of Moisture as the source and preserver of Life. He may go further, by connecting further experiences, and see water as the primordial source of everything. This is what I call symbolic, intuitional thought; one operates with things rather than with concepts; or, if you like, one lets the notions grow out of things and of man's immediate experience of nature in all its aspects.

In what does the difference between "symbolic" and "correlational" connectedness consist? Indeed, in what I said previously that mere uniformities fail. So long as you simply know that if you water it, the plant will grow, you understand nothing properly speaking. But if you have attained to the insight indicated above, your way of looking on plants is changed: you see in them the working of Moisture, you see them as particular products of the same primeval sperm which, in an eternal spasm of divine ejaculation created and creates the entire World. And so on. Instead, to give a lower level example, of asking why such and such a solid substance is obnoxious to man when taken as food, you rephrase the question: whether such and such a substance is not liquified in man's digestive system or whether in liquid form it acts adversely on some human constituent humours. You have an important direction to look at, and discover further connections, which could not even be imagined unless you understand digestion as presupposing liquidation. Particular views, general ideas and entire attitudes and ways of looking on things and feeling them - depend absolutely on whether you share the insight into the Principle of Moisture, and to what extent and in what way.

Ionic philosophers, Pythagoreans and Heracleitus work mainly in the same mode of thought. The Mind is in continuous contact with the World; it wants insight, through experience. And then Parmenides comes, and with him the self-awareness, and consequent emancipation of Mind from the World as it is given to us through our

total beings. The Mind discovers that it can withdraw from that contact entirely from time to time, and still be operating meaningfully to its own satisfaction. We can call the phenomenon objective Intellectualism, or perhaps transcendental objectivism - to contrast to the previous stage of, so to speak, (naïve or) absolute objectivism (just as the modern mind moves from the absolute subjectivism of Descartes to the transcendental subjectivism of Kant). The point is: the mind discovers that it can work alone, shut in, as it were, with its concepts. Parmenides calls this working of the mind by and in itself - *νοεῖν;* and he claims that this *νοεῖν* is ingrafted in (real) reality, indeed identical with it: in the immortal words of Fr. 8.34-41.

Another dimension of thought has been opened, or rather pursued in isolation. One looks into *λόγοι* rather than onto *πράγματα* for the truth of reality - this is the full import of Plato, *Phaedo*, 99d-100a. (And notice the highly significant remark *Respublica* E, 473a). Now for the mind to work by itself, is for it to work with concepts. But the relationships of concepts are "logical": incompatibility (or coherence) and implication (or presupposition). To search reality in their "logical" way (this "logical" is not formal-logical - in fact the relationships I mentioned depend on the precision of the content of the concepts involved[1]) is to make these relationships the fundamental fabric of reality (given the identity or affinity of *νοεῖν* and *εἶναι*).

This mode of "logical" thinking I call mathematical, because it is exemplified in paradigmatic fashion in Mathematics. (You see there clearly that there is nothing "formal" - logical in this "logical" processes: the mathematical notions do have precise content). This is the profound point of Plato's insistence of Mathematics as a preparatory study (after grammar and music and before philosophy).

The two modes of thought that I have adumbrated never exist absolutely apart. It is a question of direction or (pre)dominance. In fact from Plato onwards, the main philosophical tradition is occupied with a continuous attempt to blend the two together - symbol and concept - with both insight and rigour. This is the peculiar problem of true Platonism[2]. In fact Parmenides himself presents the first combination side by side (though not in fusion) of the two modes: the second part of his work reconstructs the world in physico-symbolic terms, although the "logical" clarifications of the first part have an important bearing in the conception of the two supreme principles of

the World as we found it through our whole existence (and not by sheer intellectual thinking).

Parmenides' discovery of the (possibility of the) self-sufficiency of mind in thought must have immediately generated fierce opposition. The opposition must have included both reactionary and progressive, «enlightened» philosophers: both Empedocles and Anaxagoras, for example, de facto ignore him. Zeno ran to the defense; Plato describes the whole situation excellently: Parmenides 127d-128e. With Zenos negative approach, dialectics as the means of destroying views and beliefs "logically" emerges - for Aristotle Zeno is the founder of dialectics (Diogenes Laertius VIII, 57; IX, 25; cf. Sextus *Adv. Math.* VII, 6-7). Dialectics here is the method to combat and support views by reasons *(λόγους)*, in the mathematico-logical sense above indicated (i.e. through incompatibility and implication).

But what is the further significance of all this? What is the fundamental difference between Plato and the Platonists (as reformed, revisionist Parmenideans) on the one hand and Zeno and the Megarics (as orthodox successors of Parmenides and Eleatism) on the other? Let us define rationalism as the view that truth is attained by the Mind when it is drawn back into itself. Both Plato and Zeno are then rationalists. But the former allows the entire field of experience-cum-insight to be there, so to speak, when the mind performs its "logical" operations; the latter excludes it. So, the difference hinges on how one understands "the mind by and in itself". In fact there is the possibility (and actuality) of an entire gradation in the relative positions and attitudes.

The Eleatic School, and to a somewhat lesser degree the Megarics, represent the purists, so to speak, of rationalism, the Puritans of the new Religion of Reason. Their strict rationalism will not allow any influence from traditional thought - sense and symbol, experience and insight. Everything has to be determined through and by "logical" operations - ultimately through conceptual coherence and presupposition. But the pure is usually poor in variety, and the purists often are poor in material. And so with rationalism. Man's entire apparatus of notions is the more or less natural outgrowth of Man's total existence in the World, and thus reflects the mind's natural adaptation to that World, as we have found ourselves in it. The entire conceptual system has been evolved along the direction of experience-

plus-insight, and not as a rigorous "logico"-mathematical systematization. Now, once rationalism is discovered the following three options are open - and had been severally taken:

Either one still starts with traditional methods of experience plus insight and the entire wealth of Man's "conceptual" apparatus - mostly (Aristotle, Stoics etc.) with to a large extent subdued or at least implicit the symbolic dimension and those portions of the universal awareness which are usually absent from ordinary consciousness in "developed" times (poetic and religious experience, magic) - and endeavour to put it into rationalistic order.

Or one discards all this as worthless *φλυαρία* coming from mind's operations when it is contaminated through its contact with the World of experiences (and therefore when it sees insubstantial appearance and not true reality) instead of staying within its innermost retreats - in which case one will insist that not only the operations of the mind must be pure, but the very concepts used must be purified too, providing therefore a meagre basis for one's positive doctrine: for only the most general of the already available conceptions could enter the chaste gates of Intellect-in-itself, as possessing the least specific contact with the world of experience, so that the Mind can accept them as valid even away from that World in the altitude of pure intellect (the Mind can give content to them from out of itself, so to speak). To the paucity of positive doctrine there corresponds in this attitude an emphasis on the "logical" criticism of all conceptions and arguments not passing the severe test of purity in content (= transparence to *Νοῦς* as such, in the sense that Mind can generate them by itself when in itself) or the second test of integrability within a rigorously and mathematically organized system according to the principles of coherence and strict logical presupposition.

Or, thirdly, you have the extraordinary belief that experience and insight (with less or more of poetico-religious symbolism) can and do form themselves (if developed to the utmost) into a system satisfying rationalistic criteria - and that mind in its essence (that is divine mind, as really separate from matter) can produce out of itself that very system in all its variety and multiplicity: and then you are basically a Platonist.

In strict rationalism, the negative aspect of "logical" criticism (directed against as much ordinary notions and thinking as against

philosophical views stemming from a different mode of thought) is bound to be always singularly prominent; hence pure rationalists cultivate paradoxes, sophisms, elenctic arguments - dialectics in general as the art of refutation and Eristics. The paucity of their positive doctrine can be sometimes relaxed (as in Diodorus, perhaps in other Megarics, certainly in the case of the *φίλος τῶν εἰδῶν*, Stilpo and the Eretrian Menedemus - or, to move in another direction, Melissus and the Atomists, whose theories are derived, correctly, from the Eleatic philosophy, and to whom Diodorus' views approximate as to the minuscule, elementary particles of matter). But that paucity may increase as well - up to the disappearance of all positive doctrine. It cannot be accidental that Pyrrho the Sceptic is associated with these elenctic philosophies; and Arcesilas of the novel Academy was also connected by Timon to Menedemus and Diodorus as well as to Pyrrho (Diogenes Laertius IV 33), while the verse:

*πρόσθε Πλάτων, ὄπισθεν Πύρρων, μέσσος Διόδωρος*

not only gives in a nutshell the fundamental problem of Arcesilas' philosophical personality, but also significantly makes Diodorus the bridge, so to speak, between the transcendental and partly unformulatable "dogmatism" of Plato on the one hand and the immanent scepticism of Pyrrho directed against the easy, "physical" certainty of, e.g., the Stoics on the other. So, for instance, Menedemus the elenctic and eristic Eretrian philosopher (cf. e.g. Diogenes Laertius II 134-5; 136), is said by Heracleides that *ἐν μὲν τοῖς δόγμασι Πλατωνικὸν εἶναι αὐτόν, διαπαίζειν δὲ τὰ διαλεκτικά* (135). Many able dialecticians are capable of (and prone to) using their *εὑρεσιλογία* against those who from *ἀναισθησία* are likely to laugh at their inner beliefs and higher wisdom!

The Zenonian and Megaric *ἔλεγχοι* (utilised afterwards by both the Pyrrhonian and the Academic Sceptics) aim to bring into focus the fact that some very pervasive and very important (ordinarily and philosophically) notions, whose very simplicity and clarity causes their validity to be taken automatically for granted - that such notions generate "logical" problems and therefore should be rejected according to strict rationalism. (They correspond to the "paradoxes" of modern mathematical logic).

Take the παραλλαγή (version) of the κερατίτης in Diogenes Laertius II 135: "Have you stopped beating your father?" If yes, then you were beating him before; if no, you still beat him. Now take the question seriously[3]. It is grammatical and meaningful. It is cast in the form appropriate to a yes or no answer. (And every possible question with its answer can be put into such form). So why is it that it is not really susceptible of a simple yes or no answer? Are you prepared to accept that not all grammatical and meaningful questions of the proper form are susceptible of a yes-or-no answer? There are two ways out of the difficulty. Firstly, one may say that stopping doing X presupposes doing X (before one stopped), and so does equally not stopping doing X; therefore questions with such presuppositions, although grammatical and meaningful, cannot be answered with a yes-or-no, because either answer involves a common affirmation (namely doing X). Now this solution of the paradox consists actually in the postulation of an anomaly with regard to the rationalistically transparent rule: all grammatical and meaningful questions of the proper form can be answered with a yes-or-no[4]; and the only justification, or rather, as the strict rationalist will say, excuse for postulating this anomaly is that the notion of stopping generates "logical" problems. Why then not rather condemn the notion instead of challenging the self-evident rule? Besides, even that first anomaly is not the only one. We must say further that stopping and not stopping are not contradictories (for both entail doing the relevant action in the past and unless this doing is necessary, the former cannot be contradictories); and we have thus the second anomaly, a systematic exception to the rule that contradictory notions are formed by simple negation. Furthermore, secondly, there is an alternative solution of the difficulty: we can answer no to the initial question, and if our interlocutor deduces "therefore you still beat your father", we can reply: No; not stopping to do X does not necessarily entail doing X, for it is compatible with never having done X as well. This solution is more "tidy" rationalistically, and is preferred by Alexinus in Diogenes Laertius II 135 (Menedemus' repartee there is aimed at a different target!). But the very possibility of two alternative solutions, both acceptable to mind-in-the-world, of the difficulty exemplifies the rationalistic defects of such an ordinary and innocent notion as

stopping. And the same applies to the notion of loosing in the standard κερατίτης (v. Diogenes Laertius VII, 187).

With the σωρείτης[5] (Diogenes VII, 82; Cicero *Academica* II, 49) - or its opposite form, the φαλακρός (cf. Horatius *Epistolae* II, 1, 45) - we are into deeper troubles. In fact this argument reduced Chrysippus, one of the supreme dialectians[6], to literal silence - so that the sophism was as a consequence also called ἡσυχάζων! See the already indicated passage in Cicero, *Academica* II, 91 sqq. - a very instructive one (Cf. Sextus, *Pyrrhonianae Hypotyposeis* II, 253; *Adversus Mathematicos* VII, 416 - for further references on the σωρείτης and ψευδόμενος v. Pease's edition of Cicero's *De Divinatione* pp. 364 sqq.). The Soreites is really unanswerable. And it does not affect only that group of concepts which, depending on some amount for their meaning, carry no precise implications as to its determination (σωρός, φαλακρός, πλούσιος etc.); it can be extended to cover all pairs of opposites susceptible of more and less. (As against, I mean, oppositions where the Norm is contrasted to everything out of the Norm, like ἴσον - ἄνισον etc.). For one cannot specify a point at which the little becomes large, or the few, many. And if one says that these notions are vague to various degrees or blurred; this is first of all only to name the difficulty: for how can we employ such notions, or describe situations, and communicate such descriptions with vague concepts at all? How can such concepts exist and be conceived at all? Meaning is always definite - it may be only more or less general but aways precise. (A Megaric doctrine was that it may be unclear what the meaning of an expression as used by somebody is, but the meaning itself cannot but be definite). Further, the Soreites destroys one of the two opposite concepts once you begin with the other one; and since you can do it either way, it destroys the very foundation of the distinction. The necessity to use such concepts clashes with the very simple, clear and elementary procedures like adding one and repeating the question: these procedures are rationalistically ἄμωμοι, blameless. Should we then abandon their absolute validity, qualify them, and say that they do not apply to a large body of concepts? Why not discard the concepts rather from the noetic apparatus of a true apprehension of real reality? This is, again and again, the point of Megaric elenctic processes. And it is a point valid today as then. It constitutes the Parmenidean heritage.

With Diodorus' Master Augument or the Dominator, *ὁ Κυριεύων* (sc. *λόγος*) (SVF II 283 = Arrianus, *Epictet. Dissert.* II 19, 1 sqq.), we enter the higher ground of positive dialectics. Consider the following three statements:

*1) πᾶν παρεληλυθὸς ἀληθὲς ἀναγκαῖον εἶναι*
*2 ) ἀδύνατον δυνατῷ μὴ ἀκολουθεῖν*
*3 ) δυνατόν ἐστι ὃ μήτε ἔστι μήτε ἔσται.*

Diodorus maintained that (1), (2) and (3) are inconsistent, and that, therefore, one at least must be false.

Take any past event, say, the sack of Troy. Since it happened it cannot be undone: its reality cannot be annihilated, nor the truth of the corresponding proposition can be changed to falsehood. This immutability makes the event necessary. Now take a time before that event. And suppose an oracle said then that Troy will fall. Was it possible that the oracle might be false? Suppose it was; suppose, i.e. that the non-fall of Troy was then possible, despite the fact that this event did not happen after all (since its contradictory, the fall of Troy, did happen). This is what (3) allows us to say. But then, when Troy fell, a supposed possibility (the non-fall of Troy) changed its modal nature from possibility (because of (3)) to impossibility (because of (1)) - since the fall of Troy cannot be annihilated. And this contradicts (2). Q.E.D.

Diodorus considered his Dominator as irrefutable. Subsequently, philosophers, particularly Stoics, seem to have considered his claim as valid. Thus Cleanthes and Antipater for example, accepted (2) and (3) but were forced to negate (1). On the other hand, Chrysippus admitted (1) and (3) and rejected (2). Diodorus used the Dominator to refute (3), since he viewed (1) and (2) as evident. He also in all probability went further and might have accused Aristotle of inconsistency. For Aristotle apparently accepted (1): in *de Caelo* A, 12, 283b13-4, he maintains that *οὐδεμία γὰρ δύναμις τοῦ γεγονέναι ἐστίν, ἀλλὰ τοῦ εἶναι ἢ ἔσεσθαι*. V. also *Ethica Nicomachea* 1139b7-8; *Rhetorica* 1418a3-5. He also insisted on the principle of the unchangeability of modality, i.e. (2); cf. e.g. *de Caelo*, 281b15: *συμβαίνει δ' ἀδύνατον ἐξ ἀδυνάτου*. As analysed above, this principle forms the very point of Aristotle's definition of possibility in

*Metaphysica*, Θ3, 1047a24-6: possible is that which, if posited in actual reality, no impossibility follows, but only possible things. In Θ4, 1047b3 Aristotle expresses precisely the principle in question: *εἰ δέ ἐστι τὸ εἰρημένον τὸ δυνατὸν ᾗ ἀκολουθεῖ*, i.e. possibility is essentially characterized by its being followed by possibilities, by no impossibility. This interpretation of a passage which has even been declared corrupt (Zeller, Jaeger) is the one best supported by what follows in Aristotle's argument, *φανερὸν ὅτι οὐκ ἐνδέχεται* etc., 1047b3 sqq. The alternative one, advocated by Alexander Aphrodisiensis and Bonitz, consists in understanding *ἐνέργεια* as the subject of *ἀκολουθεῖ*, and construing: "the possible is that upon which actuality follows". This view (to which Ross also subscribed, although he rejected the concomitant interpretation of Fw *ἀκολουθεῖ* as impossible for grammatical reasons) is patently mistaken: it does not belong to Aristotle, but to Diodorus, in fact is the precise point of Diodorus' attack on Aristotle in this connection. The view rests on a misunderstanding of the Aristotelian argument that follows in Θ4, on which, and on whose correct understanding, v. my explanation supra. (Ross *ἢ ἀκολουθεῖ* on the strength of ms. J is so very weak that it cannot be by Aristotle). - The principle of the collocation of modalities is further analysed by Aristotle in Θ4, 1047b14-30 (cf. *Analytica Priora* 34a5 sqq.), where it is extended to more than one situation.

Having satisfactorily shown that Aristotle accepts (1) and (2), Diodorus would have triumphantly accused him for inconsistency in accepting (3) as well, instead of negating it with Diodorus, and affirming that in order for something to be possible, it must be actual sometime[7].

What I said on p. 457 about the Megaric doctrine on the meaning of expressions refers chiefly to SVF II Fr. 152 (Chrysippus) = Diodorus 111, K. Döring, *Die Megariker*, 1972, from Aulus Gellius (on Diodorus): Chrysippus ait, omne verbum amgiguum natura esse, quoniam ex eodem duo vel plura accipi possunt, Diodorus autem, cui Crono cognomentum fuit "nullum", inquit, "verbum est ambiguum, nec qusiquam ambiguum dicit aut sentit, nec aliud dici videri debet, quam quod se dicere sentit is, qui dicit etc.". Chrysippus maintained that every word and expression is (potentially) ambiguous (= can be understood in different ways), because by nature it can be taken to

mean different things; this possibility lies in the nature of words (although words signify *φύσει* according to the Stoics - v. Fr. 146 Chrysippus; in which case the possibility of misunderstanding should be founded on the nature of man rather than on the nature of words. Another typical Stoic problem). Diodorus' view is worthy of much attention: everyone knows what he means in saying something and the expression he uses means (then and there) for him what he is meaning; so that if someone else takes the formulations in a different sense (and he also necessarily thinks one definite sense, albeit a different one, in taking them in whatever way he takes), it is not that the words as uttered then and there have two meanings (for they have just that meaning that the utterer means when he uses them), but rather that the utterer formulates and conveys his meaning obscurely. Someone may be inclined to pronounce this sheer sophistry. Why on earth should one refuse to accept that two senses belong to those words when uttered in such circumstances - one meant by the hearer, the other by the utterer? The answer is this: Diodorus of course accepts that in our case the utterer means one thing and the hearer understands another as being meant.

But what this at most implies is not that two things are meant by the words on this occasion, but rather that if the hearer had used these words to mean anything, he would have meant something different from what is meant on the occasion. And since even this subtlety will more likely be accused as sophistry - the further point is this: for Diodorus words do not mean by themselves; the mind means things and he uses words to express and convey its meaning. The words are nothing more than tools to be used at the mind's will. This Diodorus tried to emphasize deliberately in a striking fashion - v. Döring, *Die Megariker*, Frs. 112, 113, 114[8]. The point being that words are mere sounds; that the mind means with them what it wants. So Diodorus *διέπαιζε τοὺς τῆς γραμματικῆς διορισμούς* (Fr. 113). He further would do away with all the weight of *συνήθεια*, the meaning of word as determined by common usage. It is all part of the strict rationalism he observed: Nothing has any importance or significance or precedence before *νοῦς* as this works in and by itself. Discrediting the senses, experience, common notions, ordinary language - and all philosophies that will take such confused impurities seriously or even as a starting point in truly understanding (*νοεῖν*, intellecting) reality -

is part of one and the same attitude: truth is the business of Mind-in-itself, and nothing else: As Aristocles the Peripatetic (Fr. 23) shows, one can clearly see the connection between methodological rationalism and the doctrinal content of the Rationalists' positions.

The Megaric puzzles can be made or understood as a game only by innocent souls, naively ignorant of the power (the "tyranny") of Reason - not surely by people who would commit suicide when they cannot resolve an argument according to their own principles[9]. There are two serious ways of using them: either as a way of destroying the credibility of everything - including Reason (let us call this the Pyrrhonian way); or as a way of highlighting that everything outside mind (including mind-as-existing-and-working-in-the-World-as-given-to-our-total-being) does not conform to the rigorous standards of truth imposed by Mind-in-itself. Chryssipus knew that the latter was the important point of the Megaric *ἐρωτήματα*, v. SVF II Fr. 270 (= Plutarch *de Stoicorum Repugnantiis*, 1036E): *ἐπεὶ καὶ οἱ κατὰ τὴν συνήθειαν καταλαμβάνοντες καὶ τὰ αἰσθητὰ καὶ τὰ ἄλλα ἐκ τῶν αἰσθήσεων ῥᾳδίως προΐενται ταῦτα, καὶ ὑπὸ τῶν Μεγαρικῶν ἐρωτημάτων περισπώμενοι καὶ ὑπ' ἄλλων πλειόνων καὶ δυναμικωτέρων ἐρωτημάτων.* Notice *οἱ τὴν συνήθειαν καταλαμβάνοντες* (the Stoic technical term for secure and certain comprehension of the object, *κατάληψις*) *καὶ τὰ αἰσθητά* etc. Chrysippus considers evidently his own criticism of ordinary conceptual tools as more articulate and powerful *(πλειόνων καὶ δυναμικωτέρων ἐρωτημάτων)* than Megaric paradoxes. Despite his own castigation of Stilpo's and Menedemus' arguments, and his low opinion of their performance (*τῶν μὲν παχυτέρων* - thicker - *τῶν δ' ἐκφανῶς σοφιζομένων* - pursuing manifest sophisms), what he says there (1036F = Fr. 271) about Stilpo's and Menedemus' *ἀδοξία* (fall into obscurity) in his times does not refer to the Megaric puzzles themselves: Carneades was still using them against Stoicism (see the references for the *Σωρείτης* - in fact the whole section of Cicero, *Academica* II, 91 sqq. springs from an Academic opponent of Stoic formal logic: it is clear, the challenge is to those who build elaborate dialectics and a system of formal logic, whose entire edifice is threatened by such so called "sophisms", in fact paradoxes and puzzles. And Chrysippus wrote a lot against particularly those sophisms, just as he also elaborated sustained criticisms against commonsensical notions and ordinary conceptual

frameworks. In the case of *σωρείτης* we know that he, as we saw, de facto confessed to be unable to solve it logically. (For it must be stressed that the ancient philosophers took very seriously these "sophisms" in general). Chrysippus remark on the change of fortunes of Stilpo and Menedemus with respect to their fame, or rather celebrity, must refer (to the extent that it is not a polemical exaggeration) to the fact that negative dialectics and elenctic *εὑρεσιλογία*, if not accompanied by solid positive doctrine (or if such doctrine is allowed to fall into the background or even to disappear apart from the occasional lip service ritual), can perhaps thrust someone into meteoric fame for a while (Stilpo's case - the *Ἑλλὰς ὅλη ἐκινδύνευσε Μαγαρίσαι* because of him), but is not the stuff out of which valuable achievements, permanent contributions and eternal reputations are really made. The point of the negative dialectics must always be emphasized: that it is destructive of everything not conformable to the high standards of Reason - and that it is only a negative support for the positive, rationalistic doctrine - just as Zeno did for Parmenides according to Plato's account.

One more word on what I said above on p. 457 concerning the Soreites. It must be emphasized that reality itself cannot be vague, or blurred, or imprecise - even abstract or general reality is definite in its determination of its content. And for an adherent of "objective intellectualism" neither can *νοήματα* be anything but definite in determination (however abstract or general) - at any rate when *νοῦς* thinks by itself; for *νοεῖν* is *εἶναι*. So in fact if one tries to remove the puzzle of the Soreites by saying that terms like "few" etc. are vague or blurred or imprecise and that there is no harm in that; we shall reply that first of all such terms are not at all homogeneously vague etc. to begin with: we know very well in most cases whether an aggregate of Xs is few or many Xs; it is only in some ("intermediate") cases that the indecision sets in; it is as if these terms were blurred at the boundaries of their applicability, so to speak. Now that indecision cannot be due to reality itself: for since reality is definite, and meanings are so too (at least so far as they are rationalistically passable), if terms (and our ordinary notions) were equally definite in significatory power, no possible case could be indeterminate or uncertain as to the applicability of those terms to the realities concerned. So the defect must lie with the terms. And in fact we can see why. For to call a

collection of Xs "few Xs" is a rough, imprecise (not general in the sense that "general" signifies a precise, but abstract, content) indication of their number: if there are 5 Xs in the collection, the proposition describing adequately the fact is that there are 5 Xs and that is the end of it; nor can there be any doubt as to the applicability or not of the term "5" to any conceivable given collection of anything (provided that "anything" is determinate itself!). So "5" is a term corresponding to reality, and rationalistically "passable". - And if one says that the statement "there are a few Xs" signifies more than a rough indication of number since it normally implies the existence of some point of reference (stated or unstated) as well (like "high temperature" with regard to either a man's temperature or the temperature of the atmosphere etc., when the reference is to the temperature of man's healthy condition or to the temperate or average or spring temperature of the air respectively), even then the real fact of the case is that the temperature of A is X and that the normal temperature of As is Y (something to be determined by the nature of A whether we can establish it exactly or not). - In conclusion, terms which by rationalistic elenchus are shown to be vague and blurred may serve their practical purposes in ordinary life, but they cannot correspond to and signify true reality. The "sophism's" function is to bring forcibly to our attention such fundamental defects in our common terms and (ordinary) conceptions.

The *Ψευδόμενος* is another logical puzzle reappearing in modern foundations of logic under the appellation of the paradox of self-reference. (A says "I am lying". If it is true that he is lying, he is speaking the truth; and if it is not true that he is lying, then he is saying truth when he says that he lies. In short if what A says is true, then it is false; and if it is false, it is true. Or if A lies, he is speaking the truth; and if he speaks the truth, he is lying.) V. Cicero *Academica* II 95. And in 95 and 96 sqq. it is made clear that the argument was used against formalized dialectics (logic). If, as the Stoics were maintaining, the following sequence is valid because of its form (in fact it was the Stoic first *τρόπος* of general syllogistic form), then how can you deny the validity of the *ψευδόμενος* which can be put into the same form? The first Stoic mode of inference is like: si dicis nunc lucere et verum dicis, lucet; dicis autem nunc lucere et verum dicis: lucet igitur. But take the formally equivalent inference: si dicis mentiri verunque dicis,

mentiris; dicis autem te mentire verumque dicis, mentiris igitur. Here we are implicated in explicit contradiction. If you say that in this case it is different, because it involves the odd assertion of one's lying - you admit ipso facto that validity is not confined to logical form alone, but has also to do with the content and the circumstances of the proposition - nexus involved. In either way the reduction of syllogistic validity to a science according to formal rules is rendered impossible. This is the major point. (See the two parallelisms in form in §96). And it is made explicitly clear by the Academic source of Cicero in the mentioned passage.

The seriousness with which philosophers were discussing these puzzles in antiquity is amply testified (see e.g. Pease's edition of *De Divinatione* p. 365a). Some ultra-formalists apparently decided to accept the logical force of *ψευδόμενος* and maintain that in some cases one may be speaking simultaneously truth and falsehood! This is how I suggest we should understand Chrysippus' book *πρὸς τοὺς νομίζοντας καὶ ψευδῆ καὶ ἀληθῆ εἶναι*, Diogenes Laertius VII, 197 (= SVF II, Fr. 15) for it is inserted (in a catalogue which is explicitly composed *πρὸς εἶδος ἀναγραφή*, a list according to the kind of subject, ibid. 189) between many works devoted to the examination of this baffling "sophism". If I am right, these people were prepared to accept that the law of contradiction is not universally valid - just as Epicurus (with his fierce distaste of, and attack on, dialectics as a formal science)[10] rejected the absolute and universal validity of another law of Formal Logic - that of the excluded middle (i.e. it is necessary that either p or not-p) - in order to avoid the fatalistic implications of singular future disjunctions[11].

It is instructive to see how Aristotle coped with the *ψευδόμενος*-type of "sophism". In *Sophisticae Refutationes* 25 he gives his remedy, which consists (as only to be expected) in making the distinction between *εἶναι ἁπλῶς* and *εἶναι κατά τι*. (So, in the *ψευδόμενος*-case, between *ἁπλῶς ψευδής* and *πῇ ψευδής* or *ἀληθής*). Now it is true that Aristotle has in mind there rather the older form of the *ψευδόμενος*, one nearer to the supposed original dictum of Epimenides from Crete, "All Cretans are liars"; I mean some habitual liar who says on one occasion "*ψεύδομαι*". I do not feel that Aristotle has in mind the "reflexive" power of the purely logical form of *ψευδόμενος*[12]. (Cf. the examples of *πείθεσθαι* and *ἐπιορκήσειν;* they are not reflexive, self-

referential). Even so, the type of solution is characteristic. Aristotle, before arguments highlighting the logical untidiness, so to speak, of ordinary notions and common conceptualisations, replies by restating the rationalistically defective, given notions in articulated, clarified and coherent way. Their logical impurity has thus been expurgated. This provides the key to all his "solutions" of such difficulties. So it is with *De Interpretatione* 9 as above mentioned. So with the problem of continuum too. See Zeno's four arguments against movement (*Physica* VI, 9. 239b5 sqq.), esp. the third one, which brings most clearly into prominence the inner core of the problem. Notice the vigour of Zeno's argumentation in its inescapable procession. (We should read in 239b5 sqq.: *εἰ γὰρ αἰεί, φησίν* (sc. Zeno), *ἠρεμεῖ πᾶν ἢ κινεῖται, ‹ἠρεμεῖ δὲ›* (Lachelier) *ὅταν ᾖ κατὰ τὸ ἴσον, ἔστιν δ' αἰεὶ τὸ φερόμενον ἐν τῷ νῦν ‹κατὰ τὸ ἴσον›* (Zeller following the corrector in F), *ἀκίνητον τὴν φερομένην εἶναι ὀϊστόν* (with Ritter); or: *ἠρεμεῖ πᾶν κοὐ* (pro *ἢ*) *κινεῖται* (Emminger, Diels, Cornford, with verbal modifications) *ὅταν* Fq etc. without any other change). The point is that at any particular moment the arrow occupies a definite place and therefore cannot be moving, since nothing moves which occupies a definite place (whatever moves, moves in a space which is larger than its own proper space; the point is made explicitly by Diodorus as we shall see). And if it does not move at any moment, how can it move over a period of time? Upon this Aristotle remarks that time is not an aggregate of moments, is not constituted by moments. Rather it is something whose parts are of the same nature as itself (i.e. have duration), moments being not parts but limits of parts, or cuts and discontinuities into that duration. This duration is then a continuum: for given any moment, there is no next moment to it. For suppose there is: either between the two moments there is some time however small or not. If not the two moments coincide; if yes, then there is duration between them and it can be divided; at the dividing cut you have a limit, i.e. a moment, and so the second moment was not, after all immediately next to the first one. Which contradicts the hypothesis. Hence the hypothesis is impossible since self-contradictory, and therefore false, unreal. (To that extent all thinkers are strict rationalists).

The point of the Aristotelian solution is to make a moment a, so to speak, fleeting moment, something which a thing cannot be properly

said to be in, but rather to pass through, as it were, something which lapses, which passes away the very "moment" that it becomes, something that gives way to other moments by its very evanescent existence. So really the fault with Zeno's argument above, according to this view, is that at any moment the arrow is not at rest despite its being in a certain, particular space, simply because it passes through the space and by the moment, so to speak. In effect, we see, we have at bottom the commonsensical answer, that, somehow, the flying arrow at any given moment is neither at rest, nor actually does it move during that moment (for there is no duration in a moment, rather duration is potentially or actually limited by moments), but rather is in a state of movement all along and is passing by that moment. Of course the point of Zeno's question is precisely whether we can form any definite conception of this third possibility, whether a noncontradictory, rationalistically transparent notion of the continuum can be formed, whether, that is, this idea of ours corresponds to true, absolute reality, or is rather a set-up, imagined (rather than thought) solution aiming at giving credibility to the ways of our ordinary "thought" on, and of, and crucially in, the world.

Now there are higher-order questions to be solved as well - like the Iamblichean one of how is it that a momentary state is stamped as a state of movement in that case? For something must intrinsically differentiate it from a corresponding, identical in content, state of rest. But leaving this realm of higher Metaphysics out of the current investigation, let us observe that the continuum met strong opposition in the Academy as well, particularly in the person of Xenocrates. In his case, his resistance was purely metaphysical, but Diodorus joined in and utilized the negation of continuum in his negation of movement. The crucial point in such opposition is to challenge the following clause used in the argument establishing that there can be no immediately next point to any given point in a linear continuum: "if yes, then there is duration between them, and it can be divided". Those opponents say in effect basically yes, there is duration between any two moments of time, but not all duration can be divided: there is a minimal, elementary duration which is undivided and indivisible, ἄτομος. And what can be said of time, must be said of the two other continua (as Aristotle had observed their close correspondence): extension in space (and body) and movement. So we have the

Xenocratean doctrine of *ἄτομα μεγέθη*. Those Diodorus called *ἀμερῆ*. The point is evident: they have no parts. Not all duration, extension, movement can be divided: there are elementary parts of them without parts. The idea of continuum has thus collapsed[13]. We avoid the absurdity of having to accept a serial sequence of entities of which we cannot speak of the immediate next to anyone among them. And we do away with all that "symbolic" talk of fleeting, evanescent entities passing by, or of us and things passing through them, being and not being in them simultaneously.

Diodorus is reported chiefly to have postulated the existence of *ἀμερῆ σώματα* (Frs 116-118, 120). But Diodorus' rationalism could not have been contented with a merely physical atomism. In Fr. 119 it is *μέγεθος* in general (not only corporeal being) which is claimed to have minimal parts without further parts; and, more importantly, in Fr. 123.4 we have the crucial inference (only to be expected): *τὸ γὰρ ἀμερὲς σῶμα ὀφείλει ἐν ἀμερεῖ τόπῳ περιέχεσθαι*. For suppose the place occupied by an *ἀμερὲς σῶμα* was not *ἀμερής;* then the body also could be divided along the division of the parts of the space which it occupies - and so it would not have been *ἀμερές* either. Besides Diodorus used the doctrine of *ἀμερότης*[14] essentially in the proof of his thesis *κεκίνησθαι* but not *κινεῖται* - v. Fr. 123 sub in. and more particularly Fr. 125. Take any *ἀμερὴς τόπος* (a partless place) and its next one; and suppose an *ἀμερὲς σῶμα* occupies the first of these *τόποι*. Now this *ἀμερὲς σῶμα* cannot be so to speak in transition from the first space to the second: for if it was, it would have to occupy part of the first and part of the second with two parts of its own (since its extension is exactly commensurate with one *ἀμερὴς τόπος*): and this is patently impossible. Therefore it must either occupy the first place, or the second - and there is no other alternative. So either *ἠρεμεῖ* or *κεκίνηται*, but it cannot be that it *κινεῖται:* it is either at rest (and has been at rest), or has already be moved (and is now at rest, although in a different condition of rest than the previous one); in any case it cannot be in movement. You cannot catch being in movement; you can only experience differing states of rest. Now, further, the elementary jump presupposed by this theory must take part in an elementary time; for if time was continuous, movement would have been also (as Aristotle has shown). But movement is taking part jumpwise, and so time must also be discreet. The elementary indivisible

time duration in this Quantum theory of Movement, Space and Time is Platos ἐξαίφνης - and this is Damascius' central line of approach with regard to time.

Notice the cohesive unity of the various doctrines of a strict rationalist. Diodorus seems to have been a second Parmenides, in that he also promulgated a closely-knit positive doctrine on which he laid great emphasis; his use of dialectics was equally positive.

The more rigorous argument explained above also had a more general form - relating to bodies not elementary and the place which they fully occupy. This was looser (Fr. 128). There was a simpler argument in Fr. 129 for composite bodies, *σύνθετα σώματα*. To these Diodorus added a final argument against movement utilizing a distinction introduced by him between movement *κατ' ἐπικράτειαν* and movement *κατ' εἰλικρίνειαν*, between, in other words, things being prodominantly and completely in movement[15]. This last reasoning illustrates revealingly the ways of Greek rationalism in its puristic acceptation.

The argument runs thus (Fr. 119 Döring = Sextus Empiricus, *adversus mathematicos*, X 112-118 = II F14 Giannantoni). Assuming that movement exists, a thing can move either wholly and by all its parts, or predominantly, i.e. by most of its parts. (If fewer parts of a thing are moving while most of them are in rest, then the thing cannot be said to be in movement at all: it mostly rests). Under the hypothesis of movement therefore, and since things are composite beings, there would be two types of movement, one *κατ' εἰλικρίνειαν* (absolute, unmixed), the other *κατ' ἐπικράτειαν* (predominant, prevailing) respectively: in the former all parts of the thing are moving, in the latter most of them are. With these presuppositions, the reasoning takes the following schematic form:

| | |
|---|---|
| Step a. | The movement *κατ' εἰλικρίνειαν* presupposes movement *κατ' ἐπικράτειαν*. |
| Step b. | The movement *κατ' ἐπικράτειαν* is nonexistent, being impossible. |
| Step c. | Hence, the movement *κατ' εἰλικρίνειαν* is also nonexistent, as impossible. |

It follows that there is no movement in reality. Step c follows directly upon a and b.

Step a is relatively evident. In matters involving gradual processes, to be wholly X presupposes being partly and mostly X. Like, for instance, in order for something to be wholly heated it must first become partly heated, and something whitened passes over from the condition of mostly white to that of fully white. Movement is the very essence of a gradual process. Hence the movement *κατ᾽ ἐπικράτειαν* is presupposed by the movement *κατ᾽ εἰλικρίνειαν*. (The two examples given by Sextus refer to *πολιός*, white or greyhaired man and *σωρός*, heap. The latter is inapposite: it cannot come from Diodorus).

Step b constitutes one of Diodorus' instances of force majeure in ratiocination. Take the minimal composite body susceptible of *κατ᾽ ἐπικράτειαν* movement: a body consisting of three *ἀμερῆ*, two of which are moving, one stationary. (Of course the distinction *κατ᾽ ἐπικράτειαν κατ᾽ εἰλικρίνειαν* is inapplicable to *ἀμερῆ*). This body then is moving *κατ᾽ ἐπικράτειαν*, and, therefore, is in movement: for there are two kinds of movement, as we have accepted (129.4 sqq). Now if, to a body consisting of three *ἀμερῆ* (which body is moving) we add one more *ἀμερές* not moving - the resulting body must be moving also; for one *ἀμερές* cannot prevail upon a condition under which three *ἀμερῆ* exist, so as to change it. And then the argument goes on as Sextus describes. (Sextus Empiricus, *adv. math.* X, 116-7 = II F 14.22-36 G.): *οὐκοῦν εἰ προσθείημεν τέταρτον ἀμερὲς ἀκινητίζον τούτῳ τῷ σώματι, πάλιν γενήσεται κίνησις. εἴπερ γὰρ τὸ ἐκ τριῶν ἀμερῶν συγκείμενον σῶμα, δυεῖν μὲν κινουμένων, ἑνὸς δὲ ἀκινητίζοντος, κινεῖται, καὶ τετάρτου προστεθέντος ἀμεροῦς κινήσεται· ἰσχυρότερα γὰρ τὰ τρί᾽ ἀμερῆ, μεθ᾽ ὧν πρότερον ἐκινεῖτο, τοῦ προστεθέντος ἑνὸς ἀμεροῦς* (so far I have set and explained the argument above; and then:) *ἀλλ᾽ εἴπερ τὸ ἐκ τεσσάρων ἀμερῶν συγκείμενον σῶμα κινεῖται, κινήσεται καὶ τὸ ἐκ πέντε· ἰσχυρότερα γάρ ἐστι τὰ τέσσαρ᾽ ἀμερῆ, μεθ᾽ ὧν πρότερον ἐκινεῖτο, τοῦ προστεθέντος ἀμεροῦς. καὶ εἰ τὸ ἐκ τῶν πέντε συγκείμενον κινεῖται, πάντως καὶ ἕκτου προσελθόντος ἀμεροῦς κινήσεται, ἰσχυροτέρων ὄντων τῶν πέντε παρὰ τὸ ἕν. καὶ οὕτω μέχρι μυρίων ἀμερῶν προέρχεται ὁ Διόδωρος δεικνύς, ὅτι ἀνυπόστατός ἐστιν ἡ κατ᾽ ἐπικράτειαν κίνησις· ἄτοπον γάρ, φησί, τὸ λέγειν κατ᾽ ἐπικράτειαν κινεῖσθαι σῶμα*

*ἐφ' οὗ ἐνακισχίλια ἐνακόσια ἐνενήκοντα ὀκτὼ ἀκινητίζει ἀμερῆ καὶ δύο μόνον κινεῖται. ὥστε οὐδὲν κατ' ἐπικράτειαν κινεῖσθαι.* The follow up in this reasoning is this: Having established that the body consisting of four *ἀμερῆ*, two of which are moving and two being in rest, must be considered as moving *κατ' ἐπικράτειαν*, we assume one more unmoving *ἀμερές* being added to the compound. Now this new complex will have to be also in movement *κατ' ἐπικράτειαν:* for so it was the previous system of four *ἀμερῆ*, and a state of affairs obtaining in four quanta of magnitude cannot be prevailed upon by the opposite state of just one such quantum. And so on. But then we reach the conclusion that, say, 10.000 *ἀμερῆ* can be in movement *κατ' ἐπικράτειαν* when 9.998 of them are standing still, while just two are moving, which is absurd *(ἄτοπον)*. Hence a movement *κατ' ἐπικράτειαν* is nonexistent *(ἀνυπόστατος)*. Hence nothing moves *κατ' ἐπικράτειαν*. The argument of step b is a reductio ad absurdum invalidating the very concept of a movement *κατ' ἐπικράτειαν* and cancelling its reality. (Of course, the above indicated process can continue indefinitely).

Now someone may object: But the three *ἀμερῆ* are not moving, all of them; only two are moving; so if one adds to the one already at rest the additional resting one, we have two moving particles and two resting; which means that the body consisting of the four *ἀμερῆ* is not moving, not even *κατ' ἐπικράτειαν*.

What would Diodorus respond to this? Simply, that our notions are not precise, and our logical inferences do not restrict themselves to the relationships existing between precise notions, but tacitly import into the concepts connotations and implications which they indistinctly bear by reason of their "ordinary" origin (in the sense in which I have explained the origin of experience-plus-insight type of thought), which is exactly what we should not do if we wish to think-in-reality, think "mathematically", think with the mind by and in itself. To explain in the present context: either the notion "*κατ' ἐπικράτειαν κίνησις*" means something precisely or not. If it means, then it must signify a condition which obtains for the whole body, and not only for these parts of it which are in absolute movement. For these parts if taken separately each one by itself are in movement in the undifferentiated, yet absolute sense in which an *ἀμερές* can move[16]; and if taken exclusively as a whole they move *κατ' εἰλικρίνειαν* since

all of them move absolutely. So if, according to our hypothesis, *κίνησις κατ' ἐπικράτειαν* is to be differentiated at all from *κίνησις κατ' εἰλικρίνειαν*, it must be referred to the entire body comprising all particles moving and unmoving (most of which are moving absolutely, while the rest are resting). It is immaterial for the strict rationalist, that this state of affairs obtaining for the entire body, obtains by reason of the fact that the greater number of this body's particles belong to a sub-whole which as a whole moves *κατ' εἰλικρίνειαν*. In fact this is what it is to think precisely and mathematically (in Parmenidean manner): the sub-whole moves *κατ' εἰλικρίνειαν;* the whole moves *κατ' ἐπικράτειαν;* and the second is the case because of the former. That this last is the case does not imply that the *κατ' ἐπικράτειαν κίνησις* is not a condition pertaining to the entire body; in fact if it was to be restricted to the sub-whole, the very distinction between *κατ' εἰλικρίνειαν* and *κατ' ἐπικράτειαν* movement would collapse.

So it is the entire body which moves *κατ' ἐπικράτειαν*. And if this movement is a movement (and not a confused notion of our ordinary thinking imagined to make a fictitious way out of our difficulties and puzzles regarding movement[17]), and a real state of affairs pertaining to the entire body, it cannot be changed (for a body of three *ἀμερῆ*) by the addition of a resting *ἀμερές*. For the condition of one *ἀμερές* cannot prevail on the opposite condition of three *ἀμερῆ* taken as a whole. And so on.

It must be stressed that this argument depends on the hypothesis that there is movement, and that there obtains consequently that real distinction in movement which it utilizes[18]. The argument shows that the hypothesis leads to absurdity: it is a reductio ad absurdum. On the contrary the main (and *ἐμβριθής*, Fr. 123.1) argument employing the *ἀμερῆ* is a positive argument whose conclusion establishes that *κίνησις* is impossible, but *κεκινῆσθαι* possible; which conclusion is accepted by Diodorus according to all our evidence. And so he must have accepted the necessary premise of that conclusion in the main argument: that there are minimal magnitudes.

Significantly, the second independent Diodorean argument against movement (namely the one utilizing the distinction between the two kinds of movement) also rests definitively on the doctrine of *ἀμερῆ*. For step b in it starts with the supposition of the minimal compound thing in movement *κατ' ἐπικράτειαν:* one consisting of three *ἀμερῆ*,

two moving one resting. An *ἀμερές* can either move absolutely or rest absolutely: having no parts it cannot be anything partly. This therefore supplies the secure foundation on which we may build the argument. Without the theory of *ἀμερῆ*, we could not form a precise idea of what movement *κατ' ἐπικράτειαν* is. For to say that most parts of a body are moving means nothing precise if there is no way to know what exact condition as to movement and rest these parts are really in. The presumed moving parts could really be moving absolutely, themselves moving *κατ' ἐπικράτειαν*, or even resting *κατ' ἐπικράτειαν*. It is clear therefore that the Quantum Theory of Magnitudes is an indispensable tool in Diodorus' onslaught against movement. This theory was part of his positive doctrine.

And of course this is what all our sources say. I would not have made this obvious point, but for the claim of so many modern interpreters, who in their astounding incomprehension of ancient thought and logicality think (Döring naturally included) that Diodorus did not believe in *ἀμερῆ* really, but used their existence as a hypothesis[19] in order to refute *κίνησις*! The sheer illogicality of the notion is incredible. How can a refutation work through a false hypothesis, when the hypothesis is essentialy involved in the argument. An argument whose conclusion does not contradict its premises (any argument, that is, other than a reductio ad absurdum) is such that if you accept its validity and its conclusion, you cannot but accept the premises as well. This from a logical point of view. But of course the main point is the intrinsic need of the *ἀμερῆ* for the doctrine of *κεκίνηται* but not *κινεῖται*, and for the attack on the continuum. A single, important line of thought connects Eleatism, Atomism, Heracleides Ponticus (and his *ἄναρμοι ὄγκοι*) and Diodorus' *ἀμερῆ*.

Particularly characteristic of the contrasting methodological attitudes and material views involved is the altercation between Diodorus and opponents of his thesis "*κεκίνηται* but not *κινεῖται*". Some impugned it directly. They objected that if the proposition that something has been achieved (a *συντελεστικόν*) is true, then the proposition that something is being achieved (a *παρατατικόν*) must have also been true. For achievement is the end and limit of an endeavour. It cannot consequently be without the latter's becoming. As Sextus Empiricus reports the objection (*adv.math.* X, 91-92 = Fr.

123 Döring = II F 13.22 sqq. Giannantoni): *καὶ δὴ ἔνιοι μὲν ἀδύνατον εἶναί φασι τῶν συντελεστικῶν ἀληθῶν ὄντων ψευδῆ τυγχάνειν τὰ παρατατικὰ τούτων, ἀλλ' ἀληθῆ καθεστάναι, καὶ ψευδῶν ὄντων ἀναλόγως ψευδῆ. οὗ γὰρ ἔστι τι πέρας, ἔστι κἀκεῖνο, καὶ τοῦ μὴ ὄντος οὐκ ἂν εἴη τι πέρας. εἰ δὲ πέρας ὑπῆρχε τοῦ παρατατικοῦ τὸ συντελεστικόν, ἀνάγκη ἄρα τοῦ συντελεστικοῦ ὄντος, ὃ δὴ πέρας ἐστιν, εἶναι καὶ τὸ παρατατικὸν οὗ τοῦτο πέρας ἐστιν. καὶ ὡς οὐδέν ἐστι τὸ γεγενῆσθαι συντελεστικὸν μὴ ὄντος ἀληθοῦς τοῦ γίνεσθαι παρατατικοῦ, καὶ ὃν τρόπον οὐδέν ἐστι τὸ ἐφθάρθαι συντελεστικὸν μὴ προϋπάρξαντος τοῦ φθείρεσθαι παρατατικοῦ, οὕτως ἀδύνατόν ἐστι, μὴ ὄντος ἀληθοῦς τοῦ κινεῖσθαι παρατατικοῦ, ἀληθὲς εἶναι τὸ κεκινῆσθαι συντελεστικόν.* The formulation and its phraseology *(παρατατικόν - συντελεστικόν)* clearly smell of the grammatico-formal type of Stoic Logic. It is based on the grammatical distinction between *παρατατικός* (past tense) and *παρακείμενος* (perfect tense) formalized in logico-propositional shape. Diodorus pays them back in the same coin. His refutation consists in concocting examples which satisfy his opponents grammatico-logical rule and yet prove to be exceptions to it - as is succinctly described by Sextus, Fr. 123.34-52 = Sextus, *adv.math.* X 97-98, 101 = II F13.33-60 G.

Diodorus' counterexamples are of two types. The first is made by the conjunction of two states of affairs obtaining at different times, say state $S_1$ at time-interval $\Delta t_1$ and $S_2$ at a later time-interval $\Delta t_2$. Now the proposition "$S_1$ and $S_2$ obtain" is manifestly always false: for when $S_1$ obtains $S_2$ does not yet obtain, while when $S_2$ obtains, $S_1$ obtains no more. But of course at any time later than $\Delta t_2$, the proposition "$S_1$ and $S_2$ have obtained" is patently true. The former proposition is a *παρατατικόν* as the objecting logicians would call it; the latter is a *συντελεστικόν;* which shows that a *συντελεστικόν* can be true, when the corresponding *παρατατικόν* is false. Apparently, one of Diodorus' concrete counter examples referred to Helen's three marriages. It is now true to say that "Helen had had three husbands"; but it is always false to say that "Helen has three husbands"; for Menelaus, Paris and Deiphobus succeeded each other as spouses of the Trojan War's femme fatale.

The other type of Diodorus' counter examples is constructed by taking a *συντελεστικόν* (describing a final state of affairs, an achievement, an end) and then considering as corresponding *παρατα-*

τικόν not a description of the process of attaining that end, but the description of the final state of affairs itself as an enduring event. For example (Sextus Empiricus, *adv.math.* X 101 = Fr. 123 Döring = II F 13.49-55 G.), Diodorus took the case of a ball being thrown up to the ceiling of a hall. The ball reaches the ceiling, is in touch with it momentarily, and then starts to fall again to the floor. Take the συντελεστικόν "the ball touched the ceiling"; this is true, from the moment the ball gets in touch with the ceiling. The strictly corresponding παρατατικόν is not "the ball moves towards the ceiling", but in fact the statement that "the ball touches the ceiling"; and this is false while the ball goes up to the ceiling. Here then, argued Diodorus, you have a true συντελεστικόν, with false its corresponding παρατατικόν, which παρατατικόν furthermore is true, if at all, paradoxically at one single moment of touch. But even this is anomalous. (a) It is not a real παρατατικόν then, being a momentary event. (b) With the quantum theory of time, a momentary event is an imprecise conception, and the state of affairs described is either unreal or a fact obtaining for the minimal length of time. The latter possibility cannot easily pass in the present case: for why, and by what force, is the ball in touch with the ceiling for a certain duration of time, however small? Given, therefore Diodorus' temporal, spatial and physical atomism, the παρατατικόν in question is never true. And this answers the rejoinder reported by Sextus against Diodorus' counter example (Sextus Empiricus, *op. cit.*, X 102).

One may reply similarly to the objections against the first type of Diodorean counter examples. Such objections are mentioned by Sextus *op.cit.* X, 99-100. In effect, the objections appeal to commonsensical plausibilities while simply trying to formulate them in logical patterns. For instance, suppose a man married last year and another this year. The συντελεστικόν "these men married" is true from this year onwards. But the παρατατικόν "these men marry", argues Diodorus, is never true. Now you can "explain", as Sextus does, that there are two ways of construing the statement that "these men married". One is indeed to mean that both these men married simultaneously. But another is to take it as signifying the conjunction of two independent facts, that one man (A) married and the other man (B) married. The corresponding παρατατικά in this latter acceptation would then be "A marries" and "B marries", which are

both true. Hence their conjunction would also be true. Of course the separate statements are not true simultaneously: and hence their conjunction is never true. Which was Diodorus' point. The objection is founded on a Formalism alien to the spirit of Greek Rationalism. It lays stress on the formal patterns and relationships of statements, ignoring the nature and character of statements, ignoring the nature and character of their conceptual content. On the contrary, Greek rationalism not only insists on the formal structure of statements and the inferential rigour in their interconnections; but also focuses, even more so, on the precision and transparency of the concepts employed however abstract they may be. It is certainly an intrapropositional, as well as an interpropositional logic. Moreover, to use modern approximate parallelisms, Greek rationalism in general and Megaric logic in particular, is intuitionistic rather than formalistic[20], without being less strict for that matter. It relates to the rigorous observance of few, natural rules.

Let us now turn to Diodorus' doctrine of possibility. Anything whose reality cannot be cancelled (and indeed this is a tautology for a strict rationalist, for reality cannot be annihilated if it is really real) is ontologically necessary, since it is immutable, v. Fr. 132A and esp. sub fin. The past is immutable and thus necessary. Past and future are relative, depending on the continuously changing point of view, represented by the limiting present, merely, and therefore only partially and relatively real: the point being that even accepting time as a reality (with Diodorus), the distinction of past and future is not absolute, as can be shown by the mere fact that future becomes continuously past; and when something changes from X to its opposite without any intrinsic change having been effected in itself, then X-ness can at most have a relative reality, by which I mean an "existence" founded on something truly real, but not itself really real; thus in our case past - future is founded on the objective (once we accept time) relationship of temporally prior and posterior. Past and future being thus not absolutely real (depending as they do on the present point of view which is continuously changing), they cannot affect in any real way the modal status of temporal events (any more than this can affect any real characteristic of events or their nature). So if the past is necessary, so is the future - only we do not usually know the future and this is the only (and this subjective) difference.

Reality is possible and necessary, as well as real (so to speak), and that is all. So, for Diodorus the possible is what either has been already realized or what will become realized[21], i.e. the entire spectrum of reality, the sum of part and future events (for their distinction is ontologically immaterial), whatever happens along the line of time - and nothing more, for there is nothing else.

Compare this with the formulas in Fr. 138.9-12D. = IIF28. 11-14G (Boethius): Diodorus possibile esse determinat, quod aut est aut erit, impossibile quod cum falsum sit, non erit verum, necessarium quod cum verum sit non erit falsum, non necessarium quod aut iam est aut erit falsum. Necessary is what, holding good up to now, will never prove false (like 2+2=4, or that mankind is not to be extinguished - if it will not be extinguished, or that ἀμερῆ cannot be destroyed, or that Troy fell to the Greeks etc.). This is formulated in terms of truth or falsehood (and so normally with reference to propositions rather than corresponding realities) but the difference is systematical, and a matter of view-point so to speak: a proposition is true when the content described is real, obtains in reality. Changing the formulation accordingly, we can say that necessary is what is, and will always be, the case. That includes past events and general facts valid for all time. Diodorus' conception of the possible (either is or will be the case) is meant to exclude universal facts, and to comprise future events (although unknown), which latter are (if I am right) excluded from the notion of necessity (in this narrow sense). On the other hand, what will happen is necessary, since a state of affairs cannot change modality, first being (merely) possible and then becoming necessary. Since possible is now what is the case or will be, once the point of view of the limiting present (now) is removed, the possible coincides with the necessary and both with the real. The difference is that with regard to most future states of affairs, we do not know whether they are going to happen, i.e. we do not know whether they possess the power to exist. It is just the same in effect to say that we do not know the possibility of such states of affairs, or their reality, or their necessity. As Cicero puts it, the immutability of truth-value, i.e. the necessity of past events is evident; not so with the future ones; *de fato* 9, 17: nihil fieri, quod non necesse fuerit, et, quodquid fieri possit, id aut esse aut futurum esse, nec magis commutari ex veris in falsa posse ea quae futura, quam ea, quae facta sunt; sed in factis

immutabilitatem apparere, in futuris quibusdam, quia non apparet, ne inesse quidem videri etc. The bottom line is that (*op.cit.* 7, 13): quicquid futurum sit, it dicit (sc. Diodorus) fieri necesse est, et quicquid non sit futurum, id, negat fieri posse.

To Diodorus' idea of possibility as most rigorous, Philo's is contrasted as the least demanding, while the Stoics occupy an intermediate position, namely assumed to hold that the possible is what both possesses the natural *ἐπιτηδειότης* required by Philo, and for which there is nothing external which precludes the realization of that internal disposition or capacity. It is instructive to ask here the question: what would Aristotle say in this connection? I believe he would reply with one of the standard tricks: the piece of wood at the bottom of the ocean is and is not combustible, *ἄλλως καὶ ἄλλως*. As that particular piece of wood it cannot be burned in the circumstances; but as a piece of wood in general it does possess the capability to be burned; *οὔτε γάτος οὔτε ζημιά* as it is proverbially said in modern Greek.

Diodorus' notion of possibility is stringent enough compared to the Stoic and Philonian. But the properly Megaric one was even stricter. For they would not allow the second clause in Diodorus' definition "which is actual or will be actual". For them possibility is restricted to actual reality, so far as it is actual, v. Fr. 130A and B. So that these Frs. cannot belong to the Diodorean doctrine[22]. The view in the fragments must represent the ideas of the older Megarics, *οἱ περὶ Εὐκλείδην* as Alexander says. In fact we can reconstitute three steps in a process similar to that which I delineated above regarding the 3rd Zenonian argument against movement.

(a) The older Megarics say that possible is only the actual, when and qua actual. Aristotle, among other arguments in Θ3, which the Megarics would accept without embarrassment, has this additional one.

(b) 1047a10 sqq. If impossible is what lacks the power to exist *(εἰ ἀδύνατον τὸ ἐστερημένον δυνάμεως)*, then what is not already in existence cannot come into existence *(τὸ μὴ γενόμενον*[23] *ἀδύνατον ἔσται γενέσθαι)* - for since it is not in actuality, it is not even in potentiality towards existence, in accordance with (a) - and, therefore, it will not come into existence ever *(τὸ δ' ἀδύνατον γενέσθαι ὁ λέγων ἢ εἶναι ἢ ἔσεσθαι ψεύδεται)*. Aristotle explains that *οὗτοι οἱ λόγοι*

*ἐξαιροῦσι καὶ κίνησιν καὶ γένεσιν* - everything, as he goes on to illustrate by means of his ordinary-language examples, will be in perpetuity as it is in any given moment, all moments of present being exactly identical, and the flow of time being virtually annulled. Now this is exactly the picturesque portrayal of an eternally frozen world with many but incommunicable realities - tantalizingly near to the world of the *φίλοι τῶν εἰδῶν* in the Sophist!

(c) But Diodorus thought that he should allow (since they were all more or less accepting in the end time as reality - again most clear on this was father Parmenides with his denunciation of temporality from true being) for things to happen in the world although without movement (the world-history as a sequence of discret photographs, instantanèes without cinematic flow) - so he effectively reversed Aristotle's statement in 1047a12-13 and defined the possible as that which either already is the case or will be the case. In fact, it would appear that Diodorus took over something else as well from this very Aristotelian passage: 1047a24-26, in effect, that the realization of a possible must not result in any impossibility, which is in essence: *ἀδύνατον δυνατῷ μὴ ἀκολουθεῖν*, esp. as used in the *κυριεύων*, the Dominator. For if the Fall of Troy is just as possible before it happens as is the non-Fall of Troy, then by the realization of the former possibility something impossible is being brought about - namely the non-Fall of Troy, which, (once the Fall has occurred) is henceforth impossible. And this contradicts the Aristotelian dictum - hence (for Diodorus) we must abandon the equal and (ontologically) indifferent possibility towards the Fall and the Non-Fall of Troy. Possibility is so very laden with necessity that it will have to be realized - sometime. Possibility is a real propensity to be, not an indifferent capability to be or not to be. (This explanation of the *κυριεύων*, is a rephrasing according to Aristotle's definition of the possible here). In fact, however, 1047b2 sqq. is simply Aristotle's warning that one must not misunderstand his position as implying that anybody could make everything (even downright impossibilities) possible, by claiming in each case: it is possible, but it will never happen.

One more word on Frs. 136 and 137. It concerns the question of possibility as applied to knowability, to what can be an object of

knowledge, as above discussed. Diodorus would not call any reality *ἐπιστητόν* if there was not the real possibility of an actual *ἐπιστήμη*, of a mind knowing it. For *ἐπιστητόν* does not denote a *ψιλὴ ἐπιτηδειότης*, but the real possibility (= the past or future actuality) of the reality being in actual fact the object of knowledge. I mention this in order to connect it with the issue regarding Stilpo's *ἀναίρεσις εἰδῶν* refutation of eidetic forms (Fr. 199 Döring = II O 27 Giannantoni = Diogenes Laertius II 119): *δεινὸς δ' ἄγαν ὢν ἐν τοῖς ἐριστικοῖς ἀνήρει καὶ τα εἴδη, καὶ ἔλεγε τὸν λέγοντα ἄνθρωπον εἶναι μηδένα· οὔτε γὰρ τόνδε λέγειν οὔτε τόνδε. τί γὰρ μᾶλλον τόνδε ἢ τόνδε; οὐδ' ἄρα τόνδε. καὶ πάλιν· τὸ λάχανον οὐκ ἔστι τὸ δεικνύμενον· λάχανον μὲν γὰρ ἦν πρὸ μυρίων ἐτῶν· οὐκ ἄρα ἐστὶ τοῦτο λάχανον.* Stilpo impugned in effect the validity of an assumed relationship between generic (abstract) and concrete reality. He argued that there is no referent for a common name, like man or vegetable. When one uses the word "man", nothing is denoted: for why should this man be referred to rather than that man? Hence no man is signified. And how could this man be denoted? Man in fact existed a myriad years' age; hence the referent of "man" cannot be this man. Therefore not any could be referred to. Hence the assumption of a generic, abstract content of being as the referent of a common name, i.e. the hypothesis of an *εἶδος* as the denotee of such a name, is null and void according to Stilpo, since there is no way to relate it to the existence of particular, concrete individuals. An abstract (or ideal) (content of) reality is *εἶδος* when it actually enters into the exemplificatory relationship with the singular individuals or particulars exemplifying it. If the reality of that relationship is cancelled, the mere fact that those abstract contents could (by virtue of their nature) enter into such relationships does not make them *εἴδη*, though it leaves to them their Ideality. The *ἀναίρεσις* of *εἰδῶν* is like the *ἀναίρεσις* of an *ἐπιστητόν* which is not as a matter of fact to be known; it leaves the reality intact, and also even the abstract (or rather *ψιλή*) *ἐπιτηδειότης* to enter into the relationships of exemplification and knowledge respectively: but this is not, for a strict Rationalist, true ontological possibility as real power.

We may here take a synoptic view of the various acceptations of possibility in ancient philosophical thought, ordered in a decreasing degree of stringency.

1. *Δυνατὸν (= ἔχον δύναμιν) ὅταν δρᾷ.*
   Possibility is real, sovereign power to be or act. Nothing can hinder it from being or acting in its natural way. Thus, a real possibility exists when it is actually realized, for it is then, and only then, that its sovereign power to be or act in its proper way is fully manifested.
   This is the old Megaric position, congruously to Plato's dictum that being is defined by power (*Sophist*, 247d).
2. *Δυνατόν* is what *ἔστι ἢ ἔσται.*
   This is a relaxation of (1) without abandoning its basic point. The power to be or act which constitutes a real possibility is such that it can ensure its actual manifestation, and thus the actual realization of the possibility involved, at some time or other. If this possibility has not materialized as yet, it must then be activated sometime in the future.
   This is Diodorus' theory.
3. Possible is what (a) is intrinsically capable of actualization and (b) nothing (physically) hinders externally its actualization.
   Stoics ~ Chrysippus.
4. Possible is that state of affairs whose actual realization involves no (logical and ontological) impossibility.
   Aristotle's view.
5. *Δυνατόν* corresponds to what has the *ψιλὴ ἐπιτηδειότης* to be, the bare and mere capacity to be the case. Possibility as a simple appropriateness to actual existence.
   Philo's acceptation.

One point regarding the Diodorean theory of *συνημμένον* (= conditionals, "if-then" propositions). The fullest and clearest analysis is to be found in Fr. 142D = II F 20G = Sextus Empiricus, adv.math. VIII 112-117. (The contrast of Diodorus' and Philo's respective positions is illuminating). He wants to make a conditional the statement of a real (and therefore necessary) connection between the protasis and the apodosis, so he defines it as true if and only if it cannot begin with a true protasis and end up with a false apodosis under any circumstances (*οὔτε ἐνδέχεται οὔτε ἐνεδέχετο* = neither under the actual nor under any circumstances; this absolutist sense of the imperfect (cf. *τὸ τὶ ἦν εἶναι*) is clear from what our sources say).

Philo has again the formalistic notion of conditional which in modern logic is called paradoxically "material implication", while Diodorus' view approaches nearer to what is characteristically called "strict implication".

Diodorus relaxed in important respects the severity of the Eleatic doctrine - though not the rigorousness of strict rationalism. But precisely herein lies an important message. If the metaphysical foundation of strict rationalism is forgotten or allowed to remain out of sight (and by that foundation I mean the theory of being that proceeds from the revolutionary insight into Mind as it is in and by itself, and in the consequent possibility of Thought Pure, unalloyed from contamination by the habits - "practical" or World-oriented, so to speak, in an important sense - of ordinary thinking) - if this foundation does not remain at the center of rationalistic speculation, then the philosophy of strict rationalism runs the danger of becoming just a rigorous game, unpersuasive (though subtle) even to the mind as such. Not that powerful arguments cannot be found in these cases, arguments which exhibit the defects, inadequacy and incoherence of commonsensical notions, ordinary thought-processes and ordinarily achieved views; no, much more, even penetrating doctrines which provide valuable insights into the nature of reality must be expected to exist in philosophies where unflinchingly and inexorably precise thinking is habitually practiced. But if the foundation that I mentioned is lacking, a certain (more or less pronounced) want of that very character is felt, which constitutes the war-cry of strict Rationalism: Coherence. It certainly is bound to exist in so far as the expounded doctrines themselves are concerned; but somewhere the lacunas will gape open. Is it accidental that in the entire extant amount of information concerning Melissus nothing is said about *Νοῦς*, and about the way in which pure Thought (which constitutes his arguments) relates to the content of these arguments - with the concepts and inferences contained or arrived at in them? Is it accidental that though he denied that his Being possessed body (30B9 DK), yet he certainly used phraseology which partly justifies Aristotle to claim that he understood the Eleatic One-Being *καθ' ὕλην* rather than *κατ' εἶδος*? Is it accidental that he certainly must have provided the transition from Eleatism to Atomism, esp. with the relative

emphasis that the notions of *κενόν / πλῆρες* (void / full) have in his thought, and in the use of these notions in a proof of the nonexistence of movement (30B §§7-10; cf. Aristotle, *De Melisso*, esp. 976b12-14: *ἀκίνητον δ' εἶναί φησιν, εἰ κενὸν μὴ ἔστιν· ἅπαντα γὰρ κινεῖσθαι τῷ ἀλλάττειν τόπον,* and following)[24]?

And so with Diodorus. He lies in the same line which from Melissos goes to the Atomists. He accepts the *ἀμερῆ* (rather like Xenocrates) in order to destroy the continuum and the scandal this latter poses to pure Thought (this scandal consisting in its not being transparent to it) - not in order to validate the multiplicity of beings (all of the same beingness, so to speak, i.e. *τὸ πλῆρες, τὸ ναστόν,* - in absolute opposition to the *κενόν*) and, (together with the postulation of the existence of Non-being in the physical form, or rather formlessness, of the *κενόν*) to justify the existence of movement. These latter motives are those of the Atomists. The existence of the *κενόν* he denied, as we are incidentally but fortunately explicitly told in Fr. 143.3-5. But the multiplicity of being he accepted in the doctrine of *ἀμερῆ*. And these *ἀμερῆ* do have body and extension. Do they have any other characters - primary or secondary? They seem to be for him more of the nature of a logical desideratum. We seem to end up with a world of *ἀμερῆ* fully packed up so to speak, without intervening empty space. But how are we to conceive of it? And what about *νοῦς*? The vigour of strict rationalism cannot be merely a question of mathematical precision in thought. The rigour and precision must be noetic, everything must be transparent to pure Reason. And surely Diodorus' minimal bodies are not as such, from what we do and can reasonably know at least.

Diodorus, to judge from what we know and can guess, is a figure in, and of, his own[25]. We must treat him separately from the rest in so far as his positive doctrine is concerned - and crucially for the reason mentioned above. We do not find in him the required logical-noetic nature of the doctrines as well - but only the logical (in the strict rationalistic sense) type of thought.

Setting aside Diodorus, how do the other figures associated with the Megaric School distribute themselves? It is clear that what the

Anonymous of the *Theaetetus Commentary* says in Fr. 37D = II A26G must have been roughly correct.

> *ὁ [δ' Ε]ὐκλείδης τῶν ἐλ-*
> *λ[ο]γίμων ἦν Σωκρα-*
> *τικῶν καὶ ἦρξέν γε*
> *τ[ῆ]ς ὀνομασθείσης*
> *Μεγαρικῆς αἱ[ρέ]σεως, ἥ-*
> *τις ὕστερον ἐγένετο*
> *σοφιστικωτέρα.*

(Cf. Strabo IX 1, 8 = II A 29G. Others were put all on the same indiscriminate heap, less probably, v. e.g. IIA 27G; cf. IIA 28G). Eubulides and Alexinus for instance seem to have devoted themselves to sophistical elenchi, while they were also given to the peculiarly Greek vice of speaking ill of and calumniating one's opponent. They seem not to have spared attacks on one another as well among themselves, Fr. 83 D = IIC6G (cf. Fr. 73D. = IIC1G.); Fr. 88.22 sqq. D. = IIC12.27. However given the state and scope of the extant evidence, we must associate all these as a group with Euclid[26], and speak of the circle and successors of Euclid on the one hand - and Stilpo (synchronizing with Diodorus) on the other. To which we must finally append the Eretrian school, that is, from what we know, Menedemus.

Schleiemacher first recognized in the *φίλοι τῶν εἰδῶν* the Megarics.

In the *Sophist*, Plato inquiring about *ὄν* and *μή ὄν*, first complains about preceding philosophers (242c-243a) in general (significantly including Parmenides himself specifically in the censure); then briefly criticizes (243b-244b) all the doctrines based in experience-cum-insight-cum-symbolism type of thought (cf. *μῦθόν τινα ἕκαστος* etc. 242c sqq.); and then finally turns to Parmenides (244b-245e), while he had already mentioned Xenophanes (and, surprisingly, even earlier representatives of the Elean "tribe", *τὸ δὲ παρ' ἡμῖν Ἐλατικὸν ἔθνος, ἀπὸ Ξενοφάνους τε καὶ ἔτι πρόσθεν ἀρξάμενον*, 242d) in the former group of thinkers. De facto he confirms the great division: all the previous philosophers belong to one or the other of my two modes of thought. On the one side fall all excepting Parmenides; on the other

lies Parmenides. The fact that even Xenophanes belongs to the former group indicates that the dividing line is not whether one accepts multiplicity or unity as the basic fact of reality, but rather the type of thought involved, although this refers also to its content and the character of precision and logical transparency it has got to have in order to satisfy the strict rationalistic criteria of reality. In Parmenides the unity of being emerges with logico-ontological reasons, unlike the physical interpretation of world-wholeness associated with Xenophanes.

We should then understand 245e as referring to just that division between looser and stricter intellectual thinking. For we read: *τοὺς μὲν τοίνυν διακριβολογουμένους ὄντος [τε] πέρι καὶ μή* (sc. *διακριβολογουμένους* rather than *ὄντος*). Taking therefore the *μή* with the *διακριβολογουμένους* instead of with the *ὄντος*, we understand *οἱ διακριβολογούμενοι* as referring to Parmenides (and Parmenidean Eleaticism), while *οἱ μή* are all the rest. Anyway Plato must here refer to the preceding survey of all previous philosophers. Then immediately afterwards *οἱ ἄλλως λέγοντες* (245e) are contrastingly introduced - proximate in time and contemporary philosophers now. I believe therefore that the *γιγαντομαχία* described in 246a sqq. among this new group of *ἄλλως λέγοντες* is between the atomists (Democritus eminently) and the *φίλοι τῶν εἰδῶν* (the former's views 246a-b, the latter's 246b-c; cf. 246c9-d2).

Plato turns to the materialists first (246d sqq.). He assumes some of them as more civilized than their species usually is and he addresses himself to such interlocutors (246d-e). These "kinder", more gracious materialists concede to the existence of some little vestige in the reality of immaterial existence (247c9-d1). And he thinks that he can make them agree to a definition of being that will make it consist in power (247d-e).

Plato then turns to the other army in the Gigantomachy; he calls them *φίλοι τῶν εἰδῶν* (248a3). Their characteristic point in so far as Plato wishes to argue with them is (248c) that they deny the *δύναμις τοῦ ποιεῖν καὶ πάσχειν* of the *οὐσία*, and this, as becomes clear from the sequel (esp. 249a-249b), because they will not accept movement of any kind in true being. Plato infers that they are bound to deny therefore life and soul and mind of what is perfect being - as he puts it magisterially (248e7-249a2): *τί δὲ πρὸς Διός; ὡς ἀληθῶς κίνησιν καὶ*

*ζωὴν καὶ ψυχὴν καὶ φρόνησιν ἢ ῥᾳδίως πεισθησόμεθα τῷ παντελῶς ὄντι μὴ παρεῖναι, μηδὲ ζῆν αὐτὸ μηδὲ φρονεῖν, ἀλλὰ σεμνὸν καὶ ἅγιον, νοῦν οὐκ ἔχον, ἀκίνητον ἑστὸς εἶναι; Παντελῶς ὄν* is perfect being *(= ὄντως ὄν)*, not the totality of being. By refusing to accept any (sort of) movement, action and passion in the case of what is perfectly and completely, they to be consistent cannot admit a perfect being endowed even with mind, since intelligence and knowledge consist in the interaction with other being than the knowing, intelligent subject (the main counter example to their thesis, 248c-e). Acknowledging the incidence of intelligence in the realm of perfect being (= true being), one has to admit of movement as well in it (249a-b). For, 249b5-6: *συμβαίνει δ' οὖν, ὦ Θεαίτητε, ἀκινήτων τε ὄντων ‹πάντων›* (with Badham) *νοῦν μηδενὶ περὶ μηδενὸς εἶναι μηδαμοῦ*. Equally, intelligence is annuled if everything is in perpetual flux (249b8 sqq.). So we need both rest and movement in true being (249c-d and following). Which leads to the development of the theory of the *κοινωνία εἰδῶν*, as against a vision of immutable, incommunicable entities like the one of the *φίλοι τῶν εἰδῶν* (252a7-8; 251d5-6). It is these *φίλοι τῶν εἰδῶν* therefore that would not allow a communication among *εἴδη* to be expressed in the language as well, prohibiting all expressions predicating, say, goodness of a man, and only allowing tautological predications of the form "the man is man", "the good is good" (251b9-c2). They are *οἱ μηδὲν ἐῶντες κοινωνίᾳ παθήματος ἑτέρου θάτερον προσαγορεύειν* (252b9-10). These are, of course, the ones who were initially described (246b) to hold the view of a multiplicity of intelligible and incorporeal *εἴδη* as true substance and perfect being *(νοητὰ ἄττα καὶ ἀσώματα εἴδη βιαζόμενοι τὴν ἀληθινὴν οὐσίαν εἶναι)*. These same philosophers use reason to break up into small pieces little by little "their (opponents') bodies and what they call truth", in Plato's inimitable turn of phrase; 246b9-c2: *τὰ δὲ ἐκείνων σώματα καὶ τὴν λεγομένην ὑπ' αὐτῶν ἀλήθειαν κατὰ σμικρὰ διαθραύοντες ἐν τοῖς λόγοις γένεσιν ἀντ' οὐσίας φερομένην τινὰ προσαγορεύουσιν*. This is an apt description of late Eleatic and Megaric arguments against the continuum and the concomitant commonsensical notion of full and hard corporeal substance. *Ἡ λεγομένη ὑπ' αὐτῶν Ἀλήθεια* seems to refer to a certain vogue in calling one's main work embodying his speculations on reality *Ἀλήθεια* (Protagoras, Antiphon the Sophist, Antisthenes,

Simmias of Thebes, and even the first part of Parmenides' poem are cases in point). The doctrine of tautological predication as the only valid one, which is ascribed by Plato to the *φίλοι τῶν εἰδῶν*, is the one known to be held by Antisthenes (V A 152 Giannantoni = Aristotle, *Metaphysica*, Δ 29, 1024b26-34) and Stilpo (Fr. 197D. = II O 29 G.). Simplicius associated this view with the Megaric School in general (Fr. 198 D. = II O 30 G.). Antisthenes had drawn from this thesis the impossibility of definition as well as of argumentative opposition and of falsehood in statements (what one means is what one can mean and this is being, in effect a tautological predication). But Antisthenes, of course, could not be (and considered to be by Plato) a *φίλος τῶν εἰδῶν*. This leaves us with Megarics as candidates. Which fits nicely with the progress of the argument in the Sophist as above delineated for the relevant section. For Parmenides' unitary position is criticized (244b-245e) before Plato turns to the Gigantomachy (246a sqq.). And just as the Materialists of the Gigantomachy correspond to the non-Parmenidean majority of the Presocratic philosophy, so the *φίλοι τῶν εἰδῶν* seem to descend from Parmenides' strict rationalism, only relaxing his rationalistically unsustainable rigorous monism. For Platos indicative criticism exemplified in the passage mentioned above and elsewhere is of the strictly rational type, not of the mixed and empirical kind.

Now it is true that Euclid apparently held the full Parmenidean doctrine - *πολλὰ ὀνόματα* - one reality. Cicero in fact connects explicitly the Megarics (indeed Eucleid specifically) with the Eleatics in one line of spiritual descent; *Academica Priora* II 42, 129: Megaricorum fuit nobilis disciplina, cuius ut scriptum video, princeps Xenophanes, quem modo nominavi, deinde eum secuti Parmenides et Zeno, itaque ab his Eleatici philosophi nominabantur. Post Euclides, Socrati discipulus, Megareus, a quo idem illi Megarici dicti etc. (Fr. 26aD. = II A 31 G.). And so Diogenes Laertius II 106 (= Fr. 24 D. = II A 30 G.): *οὗτος* (sc. *Εὐκλείδης*) *τὰ Παρμενίδεια μετεχειρίζετο, καὶ οἱ ἀπ' αὐτοῦ Μεγαρικοὶ προσηγορεύοντο*. His chief doctrine is so expressed by Diogenes Laertius loc.cit.: *οὗτος ἓν τὸ ἀγαθὸν ἀπεφαίνετο πολλοῖς ὀνόμασι καλούμενον· ὁτὲ μὲν γὰρ φρόνησιν, ὁτὲ δὲ θεόν, καὶ ἄλλοτε νοῦν καὶ τὰ λοιπά. τὰ δ' ἀντικείμενα τῷ ἀγαθῷ ἀνῄρει, μὴ εἶναι φάσκων*. (Cf. Cicero, *loc.cit.*). This suggests a Parmenidean theory, with one homogeneous reality (total, complete

being), only differing in, and bearing many, names. The rest is unreality, it was cancelled by Eucleid as nonexistence. For the exact Parmenidean ancestry of such a view v. Parmenides 28B8.36-41:

> *οὐδὲν γὰρ ‹ἢ› ἔστιν ἢ ἔσται*
> *ἄλλο πάρεξ τοῦ ἐόντος, ἐπεὶ τό γε Μοῖρ᾽ ἐπέδησεν*
> *οὖλον ἀκίνητον τ᾽ ἔμεναι· τῷ πάντ᾽ ὄνομ(α) ἔσται,*
> *ὅσσα βροτοὶ κατέθεντο πεποιθότες εἶναι ἀληθῆ,*
> *γίγνεσθαί τε καὶ ὄλλυσθαι, εἶναί τε καὶ οὐχί,*
> *καὶ τόπον ἀλλάσσειν διά τε χρόα φανὸν ἀμείβειν.*

To such a nominalistic view of the apparent multiplicity of true reality (one being - many names) is addressed Plato's criticism in the *Sophist*, 244b-d, to be found precisely in the context where his criticism of Parmenides prepares the way for the second party in the novel Gigantomachy, namely the army of the *φίλοι τῶν εἰδῶν* who are therefore Plato's contemporary descendants in the Eleatic line. A further step in this direction is taken, it would seem, by Menedemus and the Eretrians. The concept "one thing - many names" is applied by him to virtue specifically, not to the complete being in general. So III F 17 G.: *Μενέδημος μὲν ὁ ἐξ Ἐρετρίας ἀνῄρει τῶν ἀρετῶν καὶ τὸ πλῆθος καὶ τὰς διαφοράς, ὡς μιᾶς οὔσης καὶ χρωμένης πολλοῖς ὀνόμασι· τὸ γὰρ αὐτὸ σωφροσύνην καὶ ἀνδρείαν καὶ δικαιοσύνην λέγεσθαι, καθάπερ βροτὸν καὶ ἄνθρωπον*. The Eretrian School appears to have held in some form the *φίλοι τῶν εἰδῶν* type of theory: being is segregated in a number of independent entities, each with the character of true Eleatic being. III F 19 G.: *οἱ δὲ ἐκ τῆς Ἐρετρίας οὕτως τὴν ἀπορίαν* (sc. making many out of a unitary being) *ἐφοβήθησαν ὡς λέγειν μηδὲν κατὰ μηδενὸς κατηγορεῖσθαι, ἀλλ᾽ αὐτὸ καθ᾽ αὑτὸ ἕκαστον λέγεσθαι, οἷον ὁ ἄνθρωπος ἄνθρωπος καὶ τὸ λευκὸν λευκόν*. This seems to imply a strict incommunicability of being with being, in the manner of the *φίλοι τῶν εἰδῶν*. As Aristotle puts it (*Physica* A, 2, 185b32 = III F 20.6 G.: *ὡς μοναχῶς λεγομένου τοῦ ἑνὸς ἢ τοῦ ὄντος*. Cf. III F 18.4-6 G. But in fact Menedemus accepted statements that go beyond strict tautological predication (or perhaps we should say strict tautology, of the form *ὁ ἄνθρωπος ἄνθρωπος*, without the copulative *ἐστί*). Thus he would accept simple positive statements as against compound ones (conjunctions, for

instance, or conditionals). III F 18.7-9 G.: *ἀνῄρει δέ, φασί, καὶ τὰ ἀποφατικὰ τῶν ἀξιωμάτων* (the formulation is Stoic), *καταφατικὰ τιθείς· καὶ τούτων τὰ ἁπλᾶ προσδεχόμενος, τὰ οὐκ ἁπλᾶ ἀνῄρει, λέγω δὲ συνημμένα καὶ συμπεπλεγμένα*. His concept of a simple, affirmative statement that goes beyond tautologies or tautological predications is illustrated by Aristotle's example: *ὁ ἄνθρωπος λελεύκωται* or *ὁ ἄνθρωπος βαδίζει*. *Physica* A, 2, 185b25-31 = III F 20.1-6 G: *ἐθορυβοῦντο δὲ καὶ οἱ ὕστεροι τῶν ἀρχαίων ὅπως μὴ ἅμα γένηται αὐτοῖς τὸ αὐτὸ ἓν καὶ πολλά. Διὸ οἱ μὲν τὸ ἐστὶν ἀφεῖλον, ὥσπερ Λυκόφρων* (saying for instance *ὁ ἄνθρωπος λευκός*, not *λευκὸς ἐστί*), *οἱ δὲ τὴν λέξιν μετερρύθμιζον, ὅτι ὁ ἄνθρωπος οὐ λευκός ἐστιν ἀλλὰ λελεύκωται, οὐδὲ βαδίζων ἐστίν ἀλλὰ βαδίζει, ἵνα μή ποτε τὸ ἐστὶ προσάπτοντες πολλὰ εἶναι ποιῶσι τὸ ἕν, ὡς μοναχῶς λεγομένου τοῦ ἑνὸς ἢ τοῦ ὄντος*. (Philoponus in his commentary on this text informs us that it was Menedemus who reformed ordinary statements in accordance with his theory. V. *loc.cit.* ll. 7-10). The Eretrian construal of such simple, affirmative statements seems to have been that an instance of a quality or action *(λευκόν, βαδίζειν)* exists in a proper concrete being (in a first substance Aristotle would say). There is no general quality like whiteness but concrete whiteness adhering to a substantive being, like a concrete man. So Simplicius *in Aristotelis Categorias*, p. 216.12-4 = III F 19.6-8 G.: *διὸ καὶ οἱ ἀπὸ τῆς Ἐρετρίας ἀνῄρουν τὰς ποιότητας ὡς οὐδαμῶς ἐχούσας τι κοινὸν οὐσιῶδες, ἐν δὲ τοῖς καθ' ἕκαστα καὶ συνθέτοις ὑπαρχούσας*. This adherence or inherence of an instance of concrete whiteness onto a concrete being was probably expressed by Menedemus by the simple, affirmative, non-tautological statement *ὁ ἄνθρωπος λελεύκωται*. It is a far cry from Parmenides, no doubt, but the logic of development is unmistakable, and can be set out into the following scheme:

I) One being - many names. Parmenides - Eucleid. All predication is nominal (Ontological Nominalism): the real fact underlying every such predication is that being is being.

II) Many beings incommunicable to each other. *φίλοι τῶν εἰδῶν* Stilpo, Antisthenes. Valid predication is only the tautological one: the A is A, where A is a complete being existing in itself and separately from other, and different, complete beings B, C etc.

III) Many substantive beings, incommunicable to each other, but with qualitative modifications consisting in the adherence or inherence of concrete qualities to the substantive full being. Menedemus. Valid predication is the tautological one and also simple affirmative statements of the form A is x-modified, where A is full being and x a quality. Probably for Menedemus A must be a concrete individual and not a character existing in itself as in II. Although we should not overdo such a distinction in the context of ancient thought (*pace* Aristotle)[27].

The idea leading to such a line of development from Parmenidean Eleatism, and also to the line that had been followed by Atomism and Particularism from the same source, is explicitly mentioned and analysed by Melissus, 30 B8 DK. In a nutshell, the idea amounts to this striking insight: *εἰ πολλὰ εἴη, τοιαῦτα χρὴ εἶναι, οἷόν περ τὸ ἕν.* (*ibid.* I p. 275.7-8). If there were really many beings with full existence, they would have to be like the Parmenidean One. The passage (with Simplicius preserving it) runs thus: *εἰπὼν γὰρ* (sc. Melissus) *περὶ τοῦ ὄντος ὅτι ἕν ἐστι καὶ ἀγέννητον καὶ ἀκίνητον καὶ μηδενὶ κενῷ διειλημμένον, ἀλλ' ὅλον ἑαυτοῦ πλῆρες ἐπάγει· 'μέγιστον μὲν οὖν σημεῖον οὗτος ὁ λόγος, ὅτι ἓν μόνον ἔστιν* (namely the strict Parmenidean proof)*· ἀτὰρ καὶ τάδε σημεῖα* (i.e. indicative arguments). *εἰ γὰρ ἦν πολλά, τοιαῦτα χρὴ αὐτὰ εἶναι, οἷόν περ ἐγώ φημι τὸ ἓν εἶναι. εἰ γὰρ ἔστι γῆ καὶ ὕδωρ καὶ ἀὴρ καὶ πῦρ καὶ σίδηρος καὶ χρυσός, καὶ τὸ μὲν ζῷον τὸ δὲ τεθνηκός, καὶ μέλαν καὶ λευκὸν καὶ τὰ ἄλλα, ὅσα φασὶν οἱ ἄνθρωποι εἶναι ἀληθῆ, εἰ δὴ ταῦτα ἔστι, καὶ ἡμεῖς ὀρθῶς ὁρῶμεν καὶ ἀκούομεν, εἶναι χρὴ ἕκαστον τοῦτον, οἷόν περ τὸ πρῶτον ἔδοξεν ἡμῖν* (i.e. each one of the putative realities, if it were a true and complete being, should be always as it appeared to us in our first encounter), *καὶ μὴ μεταπίπτειν μηδὲ γίνεσθαι ἑτεροῖον, ἀλλὰ ἀεὶ εἶναι ἕκαστον, οἷόν πέρ ἐστιν. νῦν δέ φαμεν ὀρθῶς ὁρᾶν καὶ ἀκούειν καὶ συνιέναι· δοκεῖ δὲ ἡμῖν τό τε θερμὸν ψυχρὸν γίνεσθαι καὶ τὸ ψυχρὸν θερμὸν καὶ τὸ σκληρὸν μαλθακὸν καὶ τὸ μαλθακὸν σκληρὸν καὶ τὸ ζῷον ἀποθνῄσκειν καὶ ἐκ μὴ ζῶντος γίνεσθαι, καὶ ταῦτα πάντα ἑτεροιοῦσθαι, καὶ ὅ,τι ἦν τε καὶ ὃ νῦν οὐδὲν ὁμοῖον εἶναι, ἀλλ' ὅ τε σίδηρος σκληρὸς ἐὼν τῷ δακτύλῳ κατατρίβεσθαι ὁμουρέων, καὶ χρυσὸς καὶ λίθος καὶ ἄλλο ὅ,τι ἰσχυρὸν δοκεῖ εἶναι πᾶν, ἐξ ὕδατός τε γῆ καὶ*

*λίθος γίνεσθαι· ὥστε συμβαίνει μήτε ὁρᾶν μήτε τὰ ὄντα γινώσκειν. οὐ τοίνυν ταῦτα ἀλλήλοις ὁμολογεῖ· φαμένοις γὰρ εἶναι πολλὰ καὶ ἀΐδια καὶ εἴδη τε καὶ ἰσχὺν ἔχοντα, πάντα ἑτεροιοῦσθαι ἡμῖν δοκεῖ καὶ μεταπίπτειν ἐκ τοῦ ἑκάστοτε ὁρωμένου. δῆλον τοίνυν, ὅτι οὐκ ὀρθῶς ἑωρῶμεν οὐδὲ ἐκεῖνα πολλὰ ὀρθῶς δοκεῖ εἶναι· οὐ γὰρ ἂν μετέπιπτεν, εἰ ἀληθῆ ἦν· ἀλλ᾽ ἦν οἷόν περ ἐδόκει ἕκαστον τοιοῦτον. τοῦ γὰρ ἐόντος ἀληθινοῦ κρεῖσσον οὐδέν. ἦν δὲ μεταπέσῃ, τὸ μὲν ἐὸν ἀπώλετο, τὸ δὲ οὐκ ἐὸν γέγονεν. οὕτως οὖν, εἰ πολλὰ εἴη, τοιαῦτα χρὴ εἶναι, οἷον περ τὸ ἕν.*

This is strict rationalism. Melissus uses the argument to denounce the possibility of the multiplicity of being as a self-contradictory notion. But one could use the same analysis in order to posit the existence of a multiplicity of true being. What Melissus envisages in fact is much like the doctrine of the *φίλοι τῶν εἰδῶν*: many beings, each eternal, unalterable, impassible, uncommunicable with a definite character *(εἶδος)* and might of identity in existence *(ἰσχύς)*. Herein the lines of development above described begin. One can understand the corresponding philosophical theories as resulting with the application of the principle of strict rationalism in that sense.

## NOTES

1. As a matter of most important fact one sees those ancients who rigorously insist on the purity of "mathematical" thought, usually attack formal logic. See the very significant development in Cicero, *Academ. Pr.* II §§91-98.
2. There is a remarkable and close enough correspondence with Hippocrates' 'position in *Περὶ ἀρχαίης ἰητρικῆς:* he supports the traditional methods (by accumulated experience and insight) against some novel tendencies to work through very general "hypotheses" as to the nature of man and disease. But here the question mainly concerns rather the "hastiness" in logical reasoning chastised by Plato in *Philebus* (16c-17a). It applies to every kind of thought.
3. If you say "But I did not beat my father at all" - this is irrelevant. We all know (and the elenctic philosopher as well) that this is precisely the problem. To call attention to it, or to name it (the favourable Aristotelian practice), does not solve it.
4. Naturally, further explanation may be required sometimes, but the basic correctness of the yes-or-no answer is not challenged.

5. It is significant that almost all of these eristic arguments are associated with Eubulides, the acerbic critic of Aristotle (Diogenes II, 109; Aristocles in Eusebius *Praeparatio Evangelica* XV, 2, 5).
6. Characteristically Chrisippus wrote many works attempting to solve these sophisms, among which one relating to *σωρείτης*. V. Diogenes VII, 196-198. He evidently thought it necessary to answer these objections to the formalization of logic and the "physicalization" of knowledge that he, and the other Stoics, effected.
7. Diodorus Dominator, in its wider significance for the philosophical theory of modalities, is the subject of Jules Vuillemin, *Nécessitè ou contingence: l' aporie de Diodore et les systèmes philosophiques,* 1984. The study is obfuscating.
8. Fr. 115 is to the same point. I subjoin a few words because of Döring's remark: ridetur auctor etc.! *Προτάττεται τὸ ὄνομα* - in the enumeration of the *μέρη λόγου: ὄνομα, ῥῆμα, σύνδεσμος* etc. The noun takes precedent because in a broad sense every word is an *ὄνομα,* since every word signifies something, has a sense - *σημαίνει,* is *σημαντικόν. Συστατικόν* means constitutive of *σημασία* in a context with other words: like a *σύνδεσμος,* say. Diodorus' point is, of course, higher: not only all words have a sense and do signify (and therefore bear important to the paradigm case of signification: naming) but they can signify what we choose to signify with them. Read ... *τὸν οἰκέτην «Αὐτοῦ» καλεῖν* (he called him by the adverb or the genitive!) or ... *αὐτοῦ ‹μὲν› καλεῖν* or ... *αὐτοῦ «τοῦ» καλεῖν* etc.
9. When Plutarch says (Fr. 197 = Plutarch, *Adversus Colotem*, 22, 1119C sqq.) about Stilpo, *ὧν δὲ παίζων* (sc. Stilpo) *καὶ χρώμενος γέλωτι πρὸς τοὺς σοφιστὰς λογαρίων προέβαλλεν αὐτοῖς,* is of course a rhetorical exaggeration in contrast to the other aspects of Stilpo - for Plutarch gives the point of the paradox castigated by Colotes in the sequel. Besides, notice that he charges against Colotes that he concentrated on just one such puzzle *καὶ πρὸς τοῦτο μηδὲν εἰπὼν μηδὲ λύσας τὴν πιθανότητα;* Plutarch's is precisely the attitude of the Greek Rationalist: if you do not like it - solve it! You cannot simply dismiss it *ἐπάγων τραγῳδίαν*, by acting a (tragic) theatrical performance (1119C-D). Stilpo's paradox selected by Colotes for theatrical criticism consisted in the rationalistic impossibility of predicating of a subject anything different from itself (Cf. *op.cit.* 1120A-B). And Colotes' repartee simply assailed it on the basis that such a view would make human life impossible. For rhetoric substituting philosophical argument in this cheap way v. Colotes' quotation in Plutarch *op.cit.* 1120D. And Plutarch's turning the tables against him, with much more point, v. *ibid.* 1119D-F.

Stilpo was an able dialectician with immense influence, or at least he was very fashionable, during his lifetime; all (philosophical) Greece almost turned Megaric: *τοσοῦτον δ' εὑρεσιλογίᾳ καὶ σοφιστείᾳ προῆγε τοὺς ἄλλους, ὥστε μικροῦ δεῆσαι πᾶσαν τὴν Ἑλλάδα ἀφορῶσαν εἰς αὐτὸν μεγαρίσαι;* Diogenes Laertius II, 11, 113.

The anecdotal story of Diodorus Cronos' death runs thus (Diogenes Laertius, II, 10, 111): while he and Stilpo were residing in Alexandria, at King Ptolemy's Soter Museum, Stilpo proposed to him some paradox (logical puzzle) for solution. Upon his inability to resolve the issue satisfactorily, he was censured by the King and scoffed at with the surname *Κρόνος*, implying in this context dotage and ancient outmoded ways. He left the symposium, wrote a treatise on the proposed paradox and died of grief.

10. We must carefully distinguish, in the context of the present discussions,Dialectics in the Stoic Sense as the Science of Formal Logic principally, and Dialectics as one of the names associated with the Megaric school, as the ability and knowledge to manipulate arguments in accordance with the principles of pure Reason.
11. The problem discussed already by Aristotle in *De Interpratione* 9. Briefly: Aristotle accepts that it is necessary that either A or not-A (where A is a future event), but thinks that this does not entail that it is necessary that A or necessary that not-A. Epicurus in the passage *Academica* II 97 and *de Fato* ch. 9 thought exactly that in reality the former entails the latter, so he rejected the former for future singulars. Diodorus (see the entire development in *de Fato* chs. 6-9. In fact there Cicero or his source accuses Chrysippus of virtual incoherence for not going all along with Diodorus, but wishing to maintain that future events are not altogether necessary) maintains that whatever is going to happen in the future, when it happens, is immutable in its factuality and therefore necessary; and since it is necessary once it lies in the past, it must have been necessary even before it occurred, since otherwise the modal nature of a fact would have to change from mere possibility to necessity (which is impossible according to the principle of homogeneity in modality of all inferential sequences of facts). And this alteration in modality he would not allow (in fact true possibility for him was real and necessary). See the analysis of the *κυριεύων* (the Dominator) above. So Diodorus accepted that one of the two propositions «A will happen» «A will not happen» is true, and even necessary, in the past, today, when it happens (or not happens), in the future, and in all eternity. (A very powerful logically position!). Aristotle denies that either of the two alternatives is true or false today. Chrysippus is exercising himself in the useful Stoic way in futile sophistry, correctly castigated by Cicero *de Fato*, ch. 8. He would keep all ordinary conceptual content in formal patterns according to reason.

12. The Scholia *ad. loc.* first explain the passage in 180b2 sqq. as referring to cases of different respects or parts or senses in which a proposition is true or false (like calling the eye white, which is partly true - or the Aethiopian black which is true ἁπλῶς, but then he does have some white spots, in the eye, so it is πῇ ψευδής) - and then give as an alternative the strict, reflexive, self-referential logical form of ψευδόμενος. My view above is, I think, the correct one as against both these alternatives.
13. There is one final devastating difficulty of the continuum theory in connection with movement - namely Plato's point in the 3rd hypothesis of Parmenides. For let us accept for a moment and for the argument's sake some state of movement through the moments and places while something is in movement. You can say "symbolically" that it slides over them, and is not strictly in any one of them. But how is it set in motion in the first place? Or what happens when it stops? There is no smooth sliding there over things fleeting or not, but an abrupt transition to a contrary state of being altogether. If there is a moment in which a thing begins to move (i.e. if the change in state from rest to movement happens at that moment), then the moment must have a duration in order to accommodate both states in succession. If it is not possible to speak of it being at rest and then, at the immediately next moment, moving (such a possibility being barred by the very nature of the continuum), it is equally impossible to consider any duration obtaining between the state of rest and the state of movement. So we cannot conceive at all of this change of state, according to the doctrine of the instantaneous moments which succeed and do not succeed one another in order.

    Diodorus utilized this point as well - Fr. 126. The ἐξαίφνης of Plato, implies a jump, a sudden fundamental change, not a smooth gradual transition. He, more probably perhaps than not, did not consider such a jump occurring in a moment of time without duration. After all he denied the mathematical assumption of geometrical points. But he might have left the temporal question unspecified. In any case, Diodorus' doctrine of κεκίνηται but not κινεῖται makes all movement (and not simply the transition from rest to movement and conversely) a series of such small jumps. And very significantly, this is the direction in which Damascius (in commenting on the 3rd Parmenidean Hypothesis) moves in his analysis of movement and of magnitude (extension, duration). Damascius proposed an explicit Quantum theory of Time, just as Xenocrates and Diodorus have expounded a Quantum theory of Space (and Diodorus probably of Time as well). Given the awareness of the necessary coimplication in the natures of time, space and movement (something sharply emphasized already by Aristotle), the tendency would be to apply the same fundamental analysis to all three.

14. This doctrine itself we are not told in the meagre extant fragments how he defended, apart from Fr. 119 where one of the arguments was from the existence of a minimal *αἰσθητόν* to a minimal *μέγεθος*. But as I have indicated above, I believe the real point of the doctrine, for Diodorus as for Xenocrates, was to counteract the absurdities (as they had appeared to strict rationalism) of the continuum hypothesis.
15. Thus perhaps we may, with Zeller (followed by Döring), distinguish four Diodorean arguments against movement: (a) what I call the most potent one and exactest employing the doctrine of the *ἀμερῆ* (Fr. 125 and 123 *sub in.*); (b) its general form, Fr. 123.9 sqq.; Fr. 124; 128; which is the common Zenonian argument (well known - *περιφορητικός λόγος* Fr. 123, 9); (c) the one in Fr. 129, 3-4; and (d) the one utilizing an inferred distinction of the supposed movement in *κατ' ἐπικράτειαν* and *κατ' εἰλικρίνειαν*.

    Here are the arguments, as reported by Sextus Empiricus:

    (a) *τὸ γὰρ ἐν τῷ πρώτῳ ἀμερεῖ τόπῳ περιεχόμενον ἀμερὲς σῶμα οὐ κινεῖται· περιείχετο γὰρ ἐν τῷ ἀμερεῖ τόπῳ καὶ ἐκπεπληρώκει τοῦτον. καὶ πάλιν· τὸ ἐν τῷ δευτέρῳ ὑποκείμενον οὐ κινεῖται· κεκίνηται γὰρ ἤδη. εἰ δὲ μήτε ἐν τῷ πρώτῳ τὸ κινούμενον κινεῖται ἐφ' ὅσον ἔστιν ἐν τῷ πρώτῳ μήτ' ἐν τῷ δευτέρῳ, παρὰ δὲ ταῦτα τρίτος οὐκ ἐπινοεῖται τόπος, οὐ κινεῖται τὸ λεγόμενον κινεῖσθαι.* (For the analysis see above). Fr. 125 = Sextus Empiricus, *adversus mathematicos* X, 143 = II F 15 Giannantoni.

    (b) *εἰ κινεῖταί τι, ἤτοι ἐν ᾧ ἔστι τόπῳ κινεῖται, ἢ ἐν ᾧ οὐκ ἔστιν· οὔτε δὲ ἐν ᾧ ἔστιν (μενεῖ γάρ), οὔτε γε ἐν ᾧ μὴ ἔστιν (πῶς γὰρ ἂν ἐνεργοίη τι ἐν ἐκείνῳ, ἐν ᾧ μηδὲ τὴν ἀρχὴν ἔστιν;), οὐκ ἄρα κινεῖταί τι.* Fr. 124 = Sextus Empiricus, *Pyrrhonianae Hypotyposeis*, II, 22, 242 = II F 17 Giannantoni. V. also Fr. 124 = Sextus Empiricus, *Pyrrh. Hypot.* III 10, 71 = II F 16 G.

    (c) *εὐθέως γάρ, φησι, τὸ κινούμενον ἐν τόπῳ ἔστιν, τὸ δὲ ἐν τόπῳ ὂν οὐ κινεῖται· τὸ ἄρα κινούμενον οὐ κινεῖται.* Fr. 129.3-4 = Sextus Empiricus, *adv. math.* X 112 = II F 14.5-6 Giannantoni.

    Zeller (followed by Döring) thinks that we have here three distinct arguments. And Sextus indeed mentions (c) in the context of different arguments against movement, different from the *ἐμβριθής* analysis which is based on the Quantum theory of partless quantities (II F 13.2 sqq. G. and II F 14.1 sqq. G). Even though by *ἄλλους τινὰς λόγους οὐχ οὕτως ἐμβριθεῖς* (sc. as the basic one) *ἀλλὰ σοφιστικωτέρους*, he means principally (as is clear from the sequel in II F 14) the argument employing the distinction between mostly / completely in movement. In any case (a), (b), (c) are clearly cognate and differ rather in the degree of precision and exactness displayed. In fact it is very instructive to notice in the reverse succession ((c) ( (b) ( (a)),

how the strict rationalist creates *ἀπορίαι* and elenctic refutations against ordinary thinking and its common conceptual apparatus. One begins by feeling that to be in place at all is somehow inconsistent with movement; one formulates his rationalistic feeling in (c). But then the philosopher proceeding from ordinary thinking replies: Well, what is in movement is not in one single place, but passes through a succession of places, it flows through them. Then the strict rationalist (Zeno) makes his argument more precise (b): Take any moment, in such a construal, in this supposed movement; surely the moving body is then and there in a single place commensurate to its extension; and it cannot be moving in the same place, nor can it be moving in the space in which at that moment it is still not yet in at all. Then another opponent again objects: all right, but the moving body at any particular moment is not strictly speaking in the place it happens to occupy, nor is it again outside it in a different place - it is just passing through it, it glides over a continuum of space in a continuum of duration etc. (This was explicitly argued by some philosophical adherents of imprecise commonsensicality as noted by Sextus, *adv. math.* X, 94: *παρόσον τὸ κινούμενον οὔτε ἐν ᾧ ἔστι τόπῳ κινεῖται οὔτε ἐν ᾧ μὴ ἔστιν, ἀλλὰ κατ᾽ ἀμφοτέρων, τοῦ τε ἀφ οὗ κινεῖται καὶ τοῦ εἰς ὅν*). And then the strict rationalist (Diodorus now) comes with (a), as I analysed it above. To give a precise sense to those symbolic ways of speaking (flowing, gliding) one will have to say that the thing in movement is at each moment partly in one place and partly in another. Which construal and contention Diodorus then proves impossible by means of the theory of *ἀμερῆ*, of partless quantities.

16. And it is a hypothesis, of course, that it can, for Diodorus naturally denies it. But the argument is a reductio ad absurdum. If there were movement, an *ἀμερές* could only move absolutely, since it has no parts.
17. If it were such a confused notion, it could not signify anything real, and Diodorus' opponent would then have already de facto admitted Diodorus' view: that the notion of *κατ᾽ ἐπικράτειαν κίνησις* is incoherent, and the corresponding supposed reality *ἀνυπόστατος* (which is the conclusion of step b).
18. Notice that Diodorus does not make a third distinction to correspond to a body in which a few *ἀμερῆ* are moving while most are resting: "partly but not mostly moving". For evidently this would be a case of "mostly in rest" in real terminology. Just as a body in which black predominates over white (dark gray, say) should not be described as "a little white", but rather as "mostly black". Cf. *supra* in the text.
19. They say, "as a logical hypothesis and not as a physical, atomistic doctrine". Their distinction, and their problem! Besides have they not heard of the Xenocratean "logical" atomism? Or of the unanimous ancient traditions that

the very Atomists represented a development of Eleatism - mediated through Melissus who interpreted the Parmenidean One-Being *καθ' ὕλην* rather than *κατ' εἶδος* as Aristotle put it?

20. To illustrate with reference to the objections to Diodorus' doctrine "*κεκίνηται* but not *κινεῖται*" detailed above, and to his counterexamples, the point is: the formal logician has not the right to complain for the far-fetchedness of the proposed counter-examples, nor can he consistently answer them by having recourse to their (commonsensical) absurdity - which in any case relies on their content as well. What really happens is this, the "formalists" try "indicatively", so to speak, to generalize from ordinarily valid thought processes to their general types or formal patterns; the strict rationalists conceive of only precise notions (in their content) and the rigorous relationships that they enter by reason of their precise content.
21. "Realised" ~ *ἐκβῆναι* as in Fr. 136, Fr. 137.18 sqq. (in l. 21 read *ἔννοιαν αὐτῇ τῇ ἐκβάσει τὸ δυνατὸν κρίνοντος* (sc. *τοῦ Διοδώρου*) etc.).
22. Accordingly they have been reallocated by Giannantoni under Eubulides in the context of the Aristotelian objections against the Megarics (*Quid Aristoteles Megaricis opposuerit*).
23. *Γενόμενον* (the reading of EJ) is better than *γιγνόμενον* ($A^b$). It is not a question of becoming, but of a power to exist which has already proven itself, so to speak, by being materialized.
24. The atomists accepted the reasoning: movement in space presupposes *κενόν* - and so, instead of denying the existence of movement, accepted the existence of *κενόν* (cf. e.g. Melissos, A8). Interestingly, the connection between movement and void was utilized to illustrate the truth-values of the "if-then" conditionals (and to explain the differences in the acceptation of such *συνημμένα*. Cf. e.g. the Diodorean fragment Fr. 143 D. = II F 22 G. Take the conditional "*εἰ ἔστι κίνησις, ἔστι κενόν*". For Epicurus this is true as both its antecedent and its consequent are true. Peripatetics hold it to be false since its protasis is true, but its apodosis false. Diodorus, on the other hand, considered it to be true, as both antecedent and consequent are, according to him, false and such that under no circumstances the former could be true while the latter false. (Cf. for the last point II F 20 G.).
25. In fact, he is significantly, by reason of origin and residence separated from the real Megarics. He was born in Iasus (on a small island off the coast of Caria) and mostly dwelled in the court of Ptolemy Soter (Callimachus' epigramm testifies to Diodorus' long stay there). Stilpo was the brilliant visitor when the famous incident which caused Diodorus' suicide occurred; so that one can understand the shame of the resident philosopher - to be humiliated in his own dialectical game in front of the king, who apparently was not very kind to the philosopher of his court! In fact I suspect that

Diodorus may not have stayed at all (or not for long) in Greece. His (only) teacher is reported to have been Apollonius Cronos from Cyrene (who probably went to Megara and heard Eubulides, but then equally probably returned to Alexandria near his country); Zeno the Stoic is mentioned as pupil of Diodorus - in Athens probably, where also Philo was his pupil. But in general the connection with Megarics is not particularly strong.

26. We must not underestimate the elenctic, eristic moment as present right from the beginning, in Eucleides himself - v. Fr. 9 D. = II A3 G. = Diogenes Laertius II, 30: ὁρῶν (sc. Socrates, no less judge) δ' *Εὐκλείδην ἐσπουδακότα περὶ τοὺς ἐριστικοὺς λόγους*, "*ὦ Εὐκλείδη*", *ἔφη*, "*σοφισταῖς μὲν δυνήσῃ χρῆσθαι, ἀνθρώποις δ' οὐδαμῶς.*" *ἄχρηστον γὰρ ᾠετο εἶναι τὴν περὶ ταῦτα γλισχρολογίαν*. But, on the other hand, to Euclid are not ascribed *λόγοι διαλεκτικοί* - most of them are attributed to Eubulides, Diogenes Laertius II, 108.

27. Much has been made occasionally of this distinction, understandably in connection particularly with Aristotle. Cf. e.g. Wolfgang-Rainer Mann, *The Discovery of Things*, 2000. The subject is treated fully elsewhere in this work. Briefly, here, two points. First, in ancient thought one did not so sharply distinguish ontologically between "this man" and "this white". Second, to the extent that such a distinction was validated, it was normally accounted for by the distinction between essential and accidental, and not by the one between substantial and attributive in our ontological construal of this antithesis. In other words, thinghood is constituted by an existing essence (with its accidents), not basically by some subjects "possesing" properties essential and accidental. Or if we will talk of such a subject, this is space (Plato) or something defined merely by a tendency or potentiality (Aristotelian matter). Failure to appreciate the modalities of ancient thinking in this crucial matter result in an intellectual cul-de-sac. Cf. the penetrating and very useful non-starter, D.W. Graham, *Aristotle's Two Systems*, 1987.

## E. On Indivisible Lines and Durations

Aristotle put his finger on the real core of the trouble about *ἄτομα μεγέθη* (*μέγεθος* being something almost ex definitione *συνεχές*) in that most important first book of Physics, known in antiquity not without reason as *Περὶ Ἀρχῶν*. The crux of the matter is laid down in A.3.187a1-3: *ἔνιοι δ' ἐνέδοσαν τοῖς λόγοις ἀμφοτέροις, τῷ μὲν ὅτι πάντα ἕν, εἰ τὸ ὂν ἓν σημαίνει, ὅτι ἔστι τὸ μὴ ὄν, τῷ δὲ ἐκ τῆς διχοτομίας, ἄτομα ποιήσαντες μεγέθη*. To the force majeure of the two main Eleatic arguments, some philosophers, conceding their validity and power, negated their vital premises and presuppositions. Thus to escape from the argument that derives the unity of being and the nonexistence of real multiplicity from the nonexistence of non-being, they accepted the existence of non-being. And faced by the argument (of inescapable, as they thought, cogency) that infers from the indefinite progress of the process of halving any given magnitude (dichotomy) the existence of the continuum (with the paradoxes that it carries with it), some accepted the existence of indivisible or undivided magnitudes. We have discussed the first point above, as manifested in the relationship between Parmenides and Plato and, with particular clarity, in the lineage Parmenides - Melissus - *φίλοι τῶν εἰδῶν* - Megarics - Plato. Now we are concerned with the second point, about *διχοτομία*. As it is made clear from Simplicius' commentary ad loc. (and the other comments edited by Brandis) the matter was already clearly peceived in antiquity to stand thus: Zeno's ultimate principle was that the real cannot be contradictory; if therefore a putative reality is shown to be contradictory, it follows that it cannot be (really) real. (We meet precisely the same form of argument explicitly invoked by Bradley). Thus, Zeno tried to deduce various contradictions about what people usually hold as realities - the many things of the empirically perceived World. The particular argument which is connected with the matter at stake is this: take one empirically perceived, physical, concrete thing; it necessarily has *μέγεθος* (it occupies some portion of the space; it is extended); now any *μέγεθος* can be divided into parts; therefore the one thing is also many, that is as many, as its parts are - here we have a first contradiction. But Zeno seems to have proceeded further; it is not

only that any one physical thing is also many; it is also that we can never say exactly how many things it is. For each of its parts can be divided further on indefinitely (since μέγεθος is συνεχές). Therefore it is not only that taking some things which appear to be one, we sometimes discover that they really are many; that would have been harmless; but the point is that with every conceivable physical thing it is both one and (indeterminately) many. And this was held by Zeno to be an inescapable contradiction.

This decomposition of physical, extended being as such seems to render evanescent its reality. For Reason demands some end to that process; Reason demands a unity; or, in the absence of unity, a definite, determinate (even if unknown, or unknowable) multiplicity which, precisely qua determinate, reposes on ultimate absolute (indivisible) unities. (It is this annihilation of material being also which is meant by Plato in *Sophist*, 246b-c, as above analysed).

What can be said about this powerful form of argumentation? The answers given to it in antiquity fall under the following types. (I do not count here the full acceptance of the conclusion - the Eleatic point).

I) The first response is to accept the force and validity to the argument (ἐνδίδω τῷ λόγῳ, as Aristotle poignantly puts it); but to deny the conclusion by denying one of the premises of the argument, namely that one can proceed with the division of μέγεθος indefinitely. This type of theory maintains that, if it is for material things to exist, then their divisibility must be limited; there must be something indivisible in the end.

This type of view is further subdivided, I think, into roughly the following positions:

a) Those who posit indivisible bodies, minimal material things, in the end of the analysis, like the Atomists. The important thing is that they need not maintain that extension qua extension is not indefinitely divisible; it suffices if there is a limit in the decomposition of physical things, if there are certain ultimate minuscule bodies indivisible physically διὰ σμικρότητα[1]. And this supposition of ultimate material atoms seems to have been the position of the Atomists; for them each atom was just like the Eleatic being, it was

*πάντῃ ὄν*, and not *πῇ ὄν* - only that they interpreted it materialistically: *πάντῃ ὄν* was the *πλῆρες*, that which is without any *ρωγμή* (crack) as it were through which their not-being, i.e. the *κενόν*, might enter. There were variant forms of such a doctrine of material corpuscularity of such a theory of particles, of the view that being is discreet, and matter's texture is fundamentally molecular. One sees here precisely the same model interpreted metaphysically by the Eleatic progency (*φίλοι τῶν εἰδῶν* some Megarics) and materialistically and physically by the Atomists.

The Atomic position is not very solid. Already Aristotle had shown the way to confute it - that it reappeared in Epicurean philosophy is one of the many retrograde characteristics of the Hellenistic thought. (Cf. A.L. Pierris, *Hellenistic Philosophy: Continuity and Reaction in an Oecumenical Age*, in K. Boudouris (ed.), *Hellenistic Philosophy*, vol. I, pp. 133-55). In short the demolition works like this: take one of the *ἄτομα σώματα*. It is extended (as material, physical being, i.e. as body) and hence it occupies space; now the space, as pure extension, is indefinitely divisible; take then the space occupied by an atom and divide it, say, into two parts; you cannot say that the whole atom is on one of the two sub-spaces; it must occupy both of them, partly being in the one, partly in the other; hence the atom has parts; hence it is divisible - whether it can be divided physically or not, it is divisible metaphysically. Quod erat demonstrandum.

b) The stronger, "metaphysical" version, of the (I) type of response to Zeno's argument would be to claim that even the *μεγέθη*, as such are not definitely divisible. This view is ascribed to Xenocrates, who postulated *ἀτόμους γραμμάς* (*γραμμαί* are the primary *μεγέθη* as it were according to this view, being in one dimension what *ἐπιφάνειαι* are in two and *σώματα*[2] are in three).

Xenocrates' position is untenable, as a theory about *μεγέθη* as such, that is, as a mathematical theory[3] - and as such it was proposed (unless one (mis)interprets him in the Neoplatonic way (v. n. 1)). Aristotle argued against his contemporaneous Head of the Academy without mentioning him, ex professo in the initial chapters of Book Z of *Physics*[4]. The substance of the reason against it is given in a short passage right at the beginning of the Book (231a21-b18), in the typically disorderly Aristotelian way (what follows is supplementary, in a sense which is made most clear by 231b18-20).

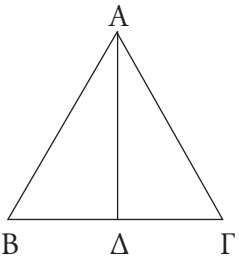
My constructive reconstruction of Aristotle's "deep" reasons against the Xenocratean theory is, in brief, this: Suppose a line is divisible into a (definite) number of *ἄτομοι γραμμαί*, and is composed out of them. An *ἄτομος γραμμή* must be *ἀμερής* - otherwise it would be divisible[5]. Take one of these. And ask how is it combined with its neighbouring one (since there is a definite, however large, number of them, there must be a preceding or a next *ἄτομος γραμμή* to each one of them); the possible answers are the following, each leading to an absurd consequence according to Aristotle:

1) There is no contact between two consecutive *ἄτομοι γραμμαί*. But then the line composed out of them cannot be *συνεχής*, for in a *συνεχές* magnitude, between any two parts of it not in contact there is always another part of it. And it has been assumed that lines (except *ἄτομοι* lines) are *συνεχῆ*[6].

2) The one contacts the other[7]. But to contact is to have the respective *πέρατα* at the same place; now if something has *πέρας*, it must have something which *περατοῦται* by the *πέρας* - and hence it must be composite.

These are at most verbal reasons[8]. That is why we must move to the realm of mathematics in order to be able to combat the view. And here the *Περὶ ἀτόμων γραμμῶν* is valuable for it proposed to refute that there are *ἄτομοι γραμμαί* simpliciter - without restrictive and convenient conditions (like assuming in effect definitions of the magnitude which make it *συνεχές* in the sense of excluding as above the existence of atoms of magnitude). Reasons against the Xenocratean doctrine are given in the middle portion of the tractate, 969b26-971a3; and all of them, directly or indirectly, in one way or another, move on the mathematical level. Many of them can be answered by the adherent of the *ἄτομοι γραμμαί*, quite easily; others require a special inquiry. I shall give two examples, one of each category, to explain roughly what I mean.

The more easily answerable objection - take three elementary lines and form an *ἰσόπλευρον τρίγωνον* with them as sides, so:




Now draw the perpendicular from A to BΓ, i.e. AΔ. It is a geometrical truth that AΔ < AB and that BΔ is half the BΓ. But AB and BΓ are the elementary, *ἀμερεῖς* lines, nothing can be shorter than, or half of, them.

Now this objection may be countered thus: the triangle formed by the elementary lines is an elementary triangle; i.e. it presents itself as a surface unit, just as the atom line is a unit of linearity. Nothing can "happen" in the inside of such elements or quanta of magnitude, for there is no real inside.

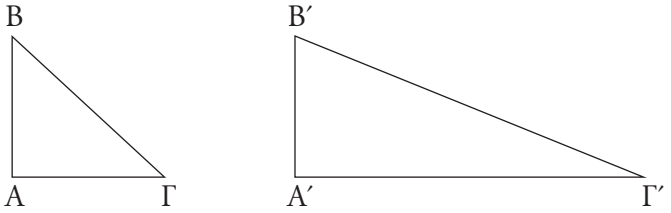
An apparently (mathematically) unanswerable objection. Every line (except an *ἄτομος* line) is divisible in two two equal parts. This is presupposed in all geometry - a universal, indisputable presupposition. But now take a line composed of an odd *(περιττός)* number of elementary lines, say 9. Obviously it cannot be divided into two equal parts for then one elementary line would have to be halved, 4 1/2 + 4 1/2 = 9. However, without the principle of the divisibility of any (complex) line into two halves geometry could not be demonstrable as a whole.

I cannot see how this can be answered, except by accepting that mathematical geometry as practised is an approximate science. Halving the line of 9 atoms of magnitude, would give in reality 5- and 4-atom parts, just as the rigorously constructed semitone in Acoustics is not half of the tone, but is rather expressed by the ratio 256 : 243 which is derived naturally from the structure of the harmonious octave. (Cf. e.g. A.L. Pierris, *Value and Knowledge: The Philosophy of Economy in Classical Antiquity*, pp. 346-8, n. [14]). This is in tune with stricter and simultaneously more natural Pythagorean mathematics. The musical part of the theory was utilized by Plato in the psychogony of *Timaeus,* 36B, where the secret semitone of 256 : 243 is specifically mentioned.

Before finishing this (b) section of the (I) type of response, what, we may ask, is Plato's position as to the matter? But previous to that, we must always look for the Pythagorean views on any matter concerned. Now Aristotle reports a Pythagorean doctrine which, I think, lies at the root of all the I-type developments. See, mainly, 1080b16-21 (and cf. 1083b8-18). In the former passage Aristotle succinctly explains: *καὶ οἱ Πυθαγόρειοι δ' ἕνα* (sc. they posited one kind of number), *τὸν μαθηματικόν, πλὴν οὐ κεχωρισμένον, ἀλλ' ἐκ τούτου τὰς αἰσθητὰς οὐσίας συνεστάναι φασίν· τὸν γὰρ ὅλον οὐρανὸν κατασκευάζουσιν ἐξ ἀριθμῶν, πλὴν οὐ μοναδικῶν, ἀλλὰ τὰς μονάδας ὑπολαμβάνουσιν ἔχειν μέγεθος· ὅπως δὲ τὸ πρῶτον ἓν συνέστη ἔχον μέγεθος, ἀπορεῖν ἐοίκασιν.* They conceived numbers as the very constitutive substance of physical things (not as a mere paradigm) - and since numbers are composed by units, they conceived of numerical units as somehow extended, in order to account for the extension of the physical things. But, Aristotle adds, they could not explain how the first One, the first number as material unit, was extended, in the first place. One can see here the primitive core of all subsequent troubles, from which there sprang both the (a) and (b) types of development. The aim was to have an arithmetical geometry as well as a geometrical arithmetic.

For Plato we have the valuable 992a20-23: *τούτῳ μὲν οὖν τῷ γένει* (the genus of points, *στιγμαί*) *καὶ διεμάχετο Πλάτων ὡς ὄντι γεωμετρικῷ δόγματι, ἀλλ' ἐκάλει ἀρχὴν γραμμῆς - τοῦτο δὲ πολλάκις ἐτίθει - τὰς ἀτόμους γραμμάς.* There can be no doubt as to the significance of this report. Alexander's interpretation (the same as Asclepius') is correct. Plato thought the existence of points was nothing more than a geometrical dogma, in effect a "working hypothesis" as it were, or rather worse than that, just an expedient "trick" without any reality to answer to it[9]. He of course admitted that there is a principle of lines - but such a principle was not a point, but what in many cases he called "*ἄτομος γραμμή*"[10].

This squares perfectly with what we are taught in *Timaeus*[11]. There are certain (two) elementary triangles out of which the elements are constructed, and therefore the material world in its entirety. These two fundamental kinds of triangles are the following:




Â=Â′ = 90° *(ὀρθή γωνία);* AB=AΓ *(ἰσοσκελές);* (B′Γ′)=2(A′B′),

in which case $\overset{\frown}{A'B'\Gamma'}$ = 60°.

Now, although this doctrine agrees as to the general nature and import with the doctrine of *ἄτομοι γραμμαί,* yet if one tries to trace in detail the correspondence serious difficulties arise, whose solution sheds clear light on the non-mathematical significance of the doctrines in Plato's eyes, if we take ordinary mathematics as the standard of judgement. But of course Plato believed in stricter, superior, Mathematics, in essential connection with Dialectics as the theory of the (mathematical) principles of reality. In many places he emphasizes the distinction; e.g. *Politicus*, 284d-e; *Philebus*, 56c-d; e; 57b-c; d-e[12]. For suppose AB = AΓ = A′B′ = α, and also suppose that these are the elementary, *ἄτομοι,* lines. Now obviously BΓ, A′Γ′ and B′Γ′ are greater than α, the *ἄτομος γραμμή,* but not twice as α (except B′Γ′) - therefore they must be one α and a part of it, which is impossible, α being the *ἄτομος γραμμή*. Further, it can be shown that (BΓ) and (A′Γ′) are incommensurable with α.

What is to be said as to this impasse which is irritating because one feels that it must amount to nothing au fond! This is what I would suggest: the *ἄτομος γραμμή* is not a mathematical line like all others - it is the principle of lines. The difference between the two triangles drawn above does not consist in the different length of their respective sides but in the fact that a different form has seized three elementary lines, all six of them derived from the principle of all lines - the *ἄτομος γραμμή*. In this way they cannot be broken; and the elements constituted thereby cannot be dissolved. The fundamental structure of this *Κόσμος* would then collapse, pulling with it the entire physical World, and we would have a relapse into that absolute disorder which

preexisted and preceded logically, ontologically and / or chronologically the imposition of order. That very imposition of order is effected by certain "injections" of definite correlations, of harmonious ratios, of order at the foundations of the fabric of the World. Such injections of order are the indivisibility of AB, AΓ, BΓ, A΄B΄, A΄Γ΄, B΄Γ΄ - and in this consists their being images, as it were, of the Principle *(Ἄτομος Γραμμή),* not in that they are equal in length to it and among themselves in an ordinarily geometrical sense. A΄Γ΄ is incommensurable with A΄B΄ - all right, but it is made so by the requirements of the form which grasps three images of the *ἄτομος γραμμή* and makes out of them a definite kind of *σκαληνὸν τρίγωνον* as a pre-elemental atom constituting the world-elements. A΄Γ΄ obeys the requirements of the reigning form and is made what, according to that form, it should be. But as a side of an elementary triangle it is just an image of the *ἄτομος γραμμή,* and therefore an *ἄτομος γραμμή* itself, as A΄B΄ was ex hypothesi.

There is more to be said for the fuller articulation of this kind of approach, but this, I think, is the substance of it[13].

II) Aristotle brings in the new moment to this "problematique" by his usual panacea - the distinction *δυνάμει - ἐνεργείᾳ.* See, e.g., the very instructive passage in *Physics* Book A, 185b25-18a3: *ἐθορυβοῦντο δὲ καὶ οἱ ὕστεροι τῶν ἀρχαίων* (i.e. those that followed the Parmenidean dramatic turn to absolute thought and absolute reality) *ὅπως μὴ ἅμα γένηται αὐτοῖς τὸ αὐτὸ ἓν καὶ πολλά.* (He gives some quite later examples) *...ἐνταῦθα δὲ ἤδη ἠπόρουν, καὶ ὡμολόγουν τὸ ἓν πολλὰ εἶναι - ὥσπερ οὐκ ἐνδεχόμενον ταὐτὸν ἕν τε καὶ πολλὰ εἶναι, μὴ τ᾽ ἀντικείμενα δέ· ἔστι γὰρ τὸ ἓν καὶ δυνάμει καὶ ἐντελεχείᾳ.* Typically Aristotelian in every respect. He believed that so long as *συνεχές* was actually undivided, it was actually one, and only potentially many, since it is divisible; and this, he thought superficially, is no contradiction - Zeno is therefore silenced.

Afterwards, this was generally accepted. Only in Neoplatonism the emphasis lies primarily on combining the different viewpoints. One accepts Zeno's argument in toto; one agrees that therefore physical reality cannot be real reality. But now between absolute reality and nothingness we have learnt to posit various grades of inferior reality.

Reality is graduated. So, arguments like Zeno's are now taken to prove the ὑφειμένη reality of material existence, rather than its total unreality. But at bottom the idea is "Aristotelian": if physical things are ἕν and πολλά, they are so ἄλλως καὶ ἄλλως. They enjoy enough unity not to be submerged into absolute Nothing; and still they are vitiated by enough chaotic multiplicity, not to be able to keep on the level of true being.

Before turning to Damascius' very singular doctrine, let it be observed that whatever was said above was concerned with extension and magnitude - spatial. Now this is one of the two great categories of fundamental *συνεχῆ;* the other is temporal duration on the one hand and movement on the other as a third associated kind - movement and change involving necessarily and essentially time whether they also necessarily entail change in place - which is true in locomotion and, for Aristotle, for any other change that, for him, involves necessarily locomotion as the primary change.

Aristotle emphasized the absolute correspondence between the extensional and durational categories of *συνεχές*. For instance see the argument in *Physics*, Z, 233a13-b15 (esp. 23a21-34) against Zeno's contention that if there is an infinite number of divisions between any two points A and B, and if a moving body transverses the distance from A to B in finite time, then it is possible to go through an infinite number of places in a finite time - which is absurd. Aristotle is answering that in the sense in which the spatial distance from A to B includes an infinite number of places, it is also true that the time taken by the moving body to transverse that distance involves an infinite number of time-divisions; and in the sense that AB is finite, just in the same sense the said time interval is finite - and in answering this Aristotle emphasizes strongly the absolute congruence of the structure of the continuum in both its extensive and durational forms.

But a major difference between these two forms comes into view as soon as we observe that parts of the spatial continuum (and of what occupies space continuously, i.e. matter, for all ancient philosophy excepting the various kinds of Atomists) coexist - whereas the parts of the temporal continuum (and of that which occurs in it, namely movement as a process) cannot coexist. In fact Aristotle himself had

raised serious doubts about the existence and reality of time in *Physics* Δ, 10, and left them unanswered, unlike what he did with the corresponding ἀπορίαι as to the existence of τόπος. This fact is duly emphasized by Simplicus[14] and before him by Damascius[15], possibly by Iamblichus as the ultimate source in this line of thought[16].

The main point of Aristotle's[17] ἀπορίαι about the existence of time in the beginning of Δ, 10 is this: the past does not exist any more; the future does not exist yet; the present is not a part of time but a limit; if that of which a limit is the limit does not exist, nor does the limit really exist; the present is the limit of past and future; from which propositions there follows that neither the past, nor the future nor the present exist - and hence that time does not exist at all. The second aporematic course (from 218a8 sqq.) relates to the status of the νῦν (which is the only thing in time which can exist properly speaking if anything can) showing that it can neither be the same throughout the flow of time, nor different at each moment. This latter development cannot be met, as it might appear in the first place, by the general observation that after all everything in this World labours under the same predicament: it continually γίγνεται καὶ φθείρεται, yet it has some δάνειον stability coming down from its eternally immutable archetype. For there is something characteristically peculiar in the application of this trite thesis to the temporal field. The present cannot be easily conceived either as the standing point through which the flow of time passes; nor as the moving point gliding on the immutable extent of all time. Both construals are counterintuitive: the former because the present is experienced as continuously changing; the latter because it presupposes the existence of time as a whole. However, there are rationalistic ways to come to grips with these difficulties. While the really formidable objection is the former one relating to the nonexistence of time. How can it be answered? This is the first prerequisite for any adequate theory of Time.

A second prerequisite comes into light through Damascius' penetrating discernement of a fundamental disanalogy between extension and duration. In the former there is no real objection to have a through and through continuity, since all the continuously interpenetrating (as it were) parts are coexistent[18]. But in duration we have to do essentially with passing from one stage to another whereby

the former is extinguished and the latter comes to exist. So we have a real and actual division at each moment; the division is effected a parte rei at each successive moment. Thus we cannot escape by invoking the distinction between potentiality to be divided and actual division, between divisibility and dividedness; in a certain sense if time is indefinitely divisible, then it must be actually if successively divided into an infinity of elements - and this must obtain at every moment[19]. But then how can time proceed from any moment to any other? How can it do that if this would necessitate the execution of an infinite number of steps in actuality? Since the division of time by the present is actual, there must be an actual next to every moment of time, contrary to the continuum-hypothesis. And indeed how could even an infinite number of momentary *νῦν* constitute ever a single step onwards? Damascius, *op.cit.* p. 236.13-5 Ruelle: ... *οὐ κατὰ τὰ νῦν προκόπτει ὁ χρόνος· οὐδὲ γὰρ ἂν προέκοψεν ἀπείρων ὄντων ἀεὶ τῶν νῦν*. And yet this step has to be taken - if time is to move - nothing similar happens with spatial extension; co-existence there solves (or so it appears) the problem - or rather no problem is posited at all.

*Mutatis mutandis*, the same holds for movement of any sort. Therefore time and movement must proceed stepwisely, *καθ' ἅλματα* if they are to proceed at all[20].

But on the other hand *χρόνος* (and *κίνησις*) are *συνεχῆ* as well. Any time interval is divisible indefinitely, must be so because of its very essence - there is no escape from this fundamental intuition. This is why Damascius calls the time *συνεχές* and *διωρισμένον μέγεθος* - as distinguished from the extensional *μέγεθος*, the *ἀληθῶς συνεχές*. But how are these contradictory characteristics to be combined? Here clearly emerges Damascius' originality. The Xenocratean tendency was to make a *συνεχές*[21] out of *ἀμερῆ;* Damascius makes it out of units which are *συνεχῆ* within themselves as it were, but consecutive, *διωρισμένα*, the one upon and from the other. This ingenious theory is hinted at in a few words in 236.10-11. Time is *συνεχὴς καὶ διωρισμένος, ἀλλ' οὐκ ἐκ μερῶν ἀμερῶν, ἀλλ' ἐκ διαστατῶν διωρισμένων συγκείμενος*. The classical tendency to break the continuity of extension with the assumption of partless elemental parts of magnitude is rejected. Instead, where continuity cannot apply because

of an Aristotelian actual rupture of its cohesion, then the elemental atoms of time possess parts, being extended intervals. Time is a disrupted continuum, whose continuity exists only in its atoms. These atoms are the units of time, and consequently, of movement. And these units are the *μέτρα*, the ultimate measure, of *χρόνος*. Such a unit is each *νῦν*. In order to be a unit, it has got to be elementarily extended.

This theory meets then perfectly the second requirement, i.e. that we must account for the possibility of passing from one stage to another, and therefore of actual division at each step. It also solves our difficulties about the existence of time - in fact, according to Damascius, it is the only way of meeting the first above mentioned requirement[22]. The present is an interval of time in fact, no mere limit - and it exists all at once, tangibly, as it were, thereby illustrating its descent from eternity which is the source of all time. And this extended *νῦν*[23] is the portion of time which exists fully at each (ordinary) moment[24].

Before settling the last question as to how exactly Damascius is conceiving of these divisible atomos or divisible undivided units of time and movement, it is highly important to observe that Damascius thinks that in his solution he is in agreement with Aristotle. See 236.15-16 (in the passage quoted in n. 20) and apud Simplicius 796.32-797.13[25]. Damascius had probably in mind chapter 10 of Aristotle's *Physica*, Book Z, just after the discussion of Zeno's arguments against *κίνησις*. See esp. 241a6-26, in particular such expressions as 241a6-7 *(ἔτι δὲ καὶ ἐκ τῶνδε φανερὸν ὅτι οὔτε στιγμὴν οὔτ' ἄλλο ἀδιαίρετον οὐδὲν ἐνδέχεται κινεῖσθαι)* or 15 *(ἔτι δ' εἰ ἅπαν ἐν χρόνῳ κινεῖται, ἐν δὲ τῷ νῦν μηθέν)*. This is the nearest I think to his view. But if so, he chose not to notice that Aristotle draws there from the impossibility of passing flow and movement in a moment, in a *νῦν* as *πέρας*, just the opposite of what Damascius is inferring, namely that change and passing from one stage to another is *συνεχές* (cf. 235b24-25), not that it is executed stepwisely. Obviously Damascius thought that it is impossible for Aristotle to blunder so badly[26], that he ought to have meant what Damascius says[27]. Of course Simplicius correctly detects the pious fraud - see 797.26 sqq.

And now I come to the final question proposed above. What about those elemental units and ultimate measures of time which are the core of Damascius' singular theory? We have seen that they are divisible as such and yet ultimate undivided atoms. How are we to combine these characteristics? Damascius' answer is briefly indicated[28] in 242.9-20: *ταῦτα δ' οὖν τὰ ἅλματα* (i.e. the elementary, unitary steps of time, the time-quanta), *μέτρα ὄντα χρονικὰ δημιουργικαῖς τομαῖς διωρισμένα καὶ ταύτῃ γε ἀμέριστα καὶ ὅλον ὁμοῦ ἕκαστον, τὴν ἐπίσχεσιν τοῦ πορευομένου χρόνου φατέον ἐνδείκνυσθαι, καὶ νῦν καλεῖσθαι οὐχ ὡς πέρας χρόνου ἀλλ' ὡς χρόνον ἀμέριστον δημιουργικῶς, εἰ καὶ τῇ ἡμετέρᾳ ἐπινοίᾳ διαιρετόν, καὶ τοῦτο ἐπ' ἄπειρον. Ἐπεὶ καὶ πᾶν σῶμα ἐπ' ἄπειρον διαιρετόν, ἀλλ' εἰσὶν ἀμέριστοι δημιουργικαὶ τομαὶ τῶν σωμάτων* (sc. the physical atoms, e.g. the Platonic elementary triangles). *Ἀμέλει καὶ τὰ ἅλματα τῆς γενέσεως* (the steps of becoming) *τοιαῦτα* (sc. like the physical atoms) *ἂν εἴη γενητά· εἰ γὰρ γενητά, ἐπ' ἄπειρον μεριστά. οὕτω δὲ οὐκ ἂν προέλθοι ποτὲ εἰς τέλος ἡ γένεσις. Διὸ τὸ ἅλμα τῆς γενέσεως ἀγένητόν ἐστι, κατ' αὐτήν γε τὴν συναίρεσιν τῆς προκοπῆς* (the bringing-together of the progression). *Διὸ καὶ ὃν λέγεται* (sc. the elemental step of becoming) *ὡς πρὸς τὴν σύνθετον ἐκ τῶν ἁλμάτων γένεσιν* (the becoming is a sum of elementary step-beings), *ὥσπερ καὶ τὸ ἅλμα τοῦ χρόνου νῦν ὀνομάζεται ὡς πρὸς τὸν χρόνον, ὅς ἐστιν ἐκ τῶνδε τῶν ἁλμάτων σύνθετος* (a time interval is a sum of elementary temporal quanta, the atom-unit-steps which measure the quantity of temporal extension). And if I am right, this Damascian answer is precisely in the Platonic spirit of my development in pp. 93-4 above. This is the crucial point. The formation of this world implies the injection of order and stability about which I have spoken. At the fundamental level of existence, this injection consists in the imposition of an indivisibility (in imitation of the *παντελὴς ἀμεριστότης* of the higher realities) upon what is in itself divisible indefinitely. This is part, a fundamental part, of the imposition of order upon the initial disorder. So far as the World exists (that is, forever), as long as the demiurgic activity of the higher reality is exercised on matter, these elementary atomic units (particles) of time cannot be broken down - they "were" divisible in themselves, but now they are divisible only in our thought. God's power has seized them, and the inflexible law of

his creative reason strengthens them into unbreakability: it is only thus that orderly development, indeed development at all, is made possible.

That this is the right interpretation gains some secondary confirmation through 242.14 sqq., where Damascius claims the same theory for spatial and bodily extension, something which is not necessitated by the above-mentioned essentially differing characteristic of duration vis-à-vis spatial extension (namely the non-coexistence of parts in the temporal dimension), but which obviously comes fresh from an interpretation of Timaeus, in the spirit of what I expounded above (as is evidenced by the very phrase employed, *δημιουργικαὶ τομαί*, "creative cuts", i.e. definition through marking of limits, border-drawing, delimitation of the boundary of things).

With Damascius we reach the final shoot of Strict Rationalism, the end in the ancient world of a line that starts with the Parmenidean insight[29]. Only here Strict Rationalism has grown into an immensely articulated system that can satisfy both prerequisites for ultimate knowledge: the rationalistic demand for lucidity in content and rigour in reasoning; and the pragmatic demand for full acceptance, in the appropriate modality, of all reality as given.

As for Simplicius, and his admirable Corollary, he cannot agree with the Damascian peculiarities and idiosyncrasies - as he views them. He remains a stout, most orthodox Aristotelian. See for instance 775.3-12[30]. But above all see his concluding remarks, from 798.9 onwards to the end. It is a first-class blunder of Diels, that he ascribes all these final pages from 797.36 onwards to Damascius (ending with 800.16). In fact the Damascian quotation ends with 798.9[31]. What follows is inconsistent with the Damascian positions as explained by Simplicius previously and as contained in the In Parmenidem passages contained in Damascius' interpretation of the last order of the Second Hypothesis in Parmenides; Simplicius justifies the purely Aristotelian standpoint of an absolute continuity of all extensional and durational *μεγέθη*[32]. Besides it would be awkward, indeed absurd, to say what Simplicius says in 800.19-21 *(ἀλλ' ὅτῳ ταῦτα μὴ ἀρκεῖ τῶν εἰρημένων, ἐντυγχανέτω τῷ τοῦ φιλοσόφου Δαμασκίου Περὶ χρόνου συγράμματος)* just after he has given a singularly long quotation from that same book, referred in this passage, which contained the

account of the solution of the Aristotelian *ἀπορίαι* as to the existence of time.

Simplicius viewpoint can be seen encapsulated in 798.26-799.10.

## NOTES

1. The expression is Simplicius', *Commentary in Physica,* 142.16 sqq. (Diels) (= Xenocrates Fr. 47), where he unsuccessfully tries to apply it to Xenocrates' position. If I am right in distinguishing (a) from (b) in the way I do, it is clear that Simplicius' defense is inapplicable to a Xenocratean type of doctrine, but could be promoted by an Atomist, when appropriately modified.
   All the Neoplatonists so far as it is known (*pace* Damascius) took for granted the Aristotelian position on the matter (in this as in so many other topics). It is very instructive to observe the various types of rescue operation undertaken by them on behalf of Xenocrates - always on an Aristotelian understanding of the whole question. See Porphyrius apud Simplicius *In Phys.* 140, 6 sqq. Diels (=Xenocrates Fr. 45); Proclus, *In Timaeum*, p. 215e (=Xenocrates Fr. 46) and Syrianus, *In Metaph.*, 902b18 Usener (=Xenocrates Fr. 46). In Heinze's *Xenocrates* pp. 173-8 one can find collected all important passages on the matter.
2. *Σώματα* may be mathematical, without matter (a mathematical cube for instance) or physical, complete bodies. Some of the ancients did not pay much regard to this distinction, it would seem, but most of them expressly utilized it.
3. Aristotle's notorious dictum hits the mark in this respect: Xenocrates (who is meant without being mentioned) treats of *μαθηματικά, οὐ μαθηματικῶς* (*Metaphysica*, 1080b28).
4. There is absolutely nothing in the *Περὶ ἀτόμων γραμμῶν* which could not come from Aristotle. Indeed unless one sees some really powerful argument for doubting its authenticity, one should rather consider it as his own.
5. Already this seems to invite further comment. If I am right Damascius may be said to deny, in a sense, this very assertion. See below.
6. Cf. e.g. 231a24: *ἀδύνατον ἐξ ἀδιαιρέτων εἶναί τι συνεχές, οἷον γραμμὴν ἐκ στιγμῶν.*
7. Aristotle distinguishes habitually (and here, too) that which is in continuation of another *(συνεχές)* from that which is in touch with another *(ἅπτεται)*, and both from that which is numerically consecutive or next after another *(ἐφεξῆς)* - and the argument in (2) is pursued as to both the

members of the first division, but the complication is really irrelevant as to the structure of the argument here. What is important, though, is why, then, does Aristotle think that the distinction employed here between *συνεχές* and *ἁπτόμενον* can help us understand the essential nature of the continuum as against that of a whole with consecutive parts in contact with each other. The passage in question runs thus (Z, 231a 21-3): *εἰ δ' ἐστὶ συνεχὲς καὶ ἁπτόμενον καὶ ἐφεξῆς, ὡς διώρισται πρότερον* (v. 227a10-13; 216b23; 34; 227a1), *συνεχῆ μὲν ὧν τὰ ἔσχατα ἕν, ἁπτόμενα δ' ὧν ἅμα, ἐφεξῆς δ' ὧν μηδὲν μεταξὺ συγγενές* etc. Now how can the assumed fact that in the case of a continuum, parts which are in continuation of each other have their appropriate ends coalescing, whereas in the corresponding situation with consecutive parts of a whole in contact with each other, their appropriate ends are (merely) coinciding, how can this disparity be supposed to account for the specific nature of the continuum? Is it that the continuum is more cohesive than the Whole-with-parts-in-touch? (Cf. 227a21-7). That it is "unbreakable", since the ends of its parts do not simply coincide, but are "one"? Presumably, Aristotle's idea is that once the parts have suffered *σύμφυσις* of their ends, there is no way of separating them any more than any other possible parts of the whole-entity, even those produced by cuts within the initial parts. But how would even this help us in arguing against the supposition, say, of indivisible, atomic lines? We may accept that there is a fusion of them into an ordinary line, with their ends in *σύμφυσις*, not merely touching. One suspects that it is against such a Xenocratean view that Aristotle introduces the distinction between *συνεχές* and *ἁπτόμενον*. But a problem does not disappear when you name it.

8. And even worse! He says (231a28): *οὐ γάρ ἐστιν ἔσχατον τοῦ ἀμεροῦς οὐδέν· ἕτερον γὰρ τὸ ἔσχατον καὶ οὗ ἔσχατον*. Right as to the second phrase; but he himself always maintains that the *πέρας* is not a *μέρος* of that of which it is a *πέρας*. So nothing hinders an *ἀμερές* from having a *πέρας* - unless you project the commonsensical notion of line unto the *ἄτομος* line. What is really at work here is that we cannot imagine any magnitude, however small, which has limits and which is not further divisible; but this inability to imagine it is not due to any nonsense about its having limits, but to the strong intuition bare and blunt that whatever is extended is indefinitely divisible - that is the point of it, and that is what the doctrine of the individual atomic lines contests.
9. In Modern Mathematics, for many centuries such a useful figment was the notion of infinitesimal *(ἀπειροστόν)* - which in the past century was discarded and substituted with more scientific and correct conceptions. But

it served in the development of mathematics just as well as (perhaps, historically speaking, better than) the more correct conceptions would have helped.

10. An interesting testimony is Plutarch's treatment of the question why Plato did not give an elementary shape as the element of all *περιφερῆ σχήματα καὶ κυκλικά*, just as he did for the *εὐθύγραμμα*, while he admitted the fundamental division of all lines into *εὐθεῖαι* and *περιφερεῖς* (*Ζήτημα Ε'*, in *Platonicae Quaestiones*). He argues in effect (see §§2, 3 and, especially, 4) that the *περιφερεῖς γραμμαί* (like the circumference of a circle) are made up of small *εὐθύγραμμοι (ἄτομοι)*, and therefore need no special principle for them.
11. 53c-55c.
12. As to Xenocrates, he maintained that the mathematicals are identical with the ideal numbers and magnitudes. It is not surprising therefore (it is indeed the peculiarity of his theory) to find everywhere in his views that tension between the purely mathematical and the metaphysical viewpoints which made Aristotle say that he spoke of *μαθηματικὰ οὐ μαθηματικῶς*. In a certain sense Xenocrates goes back to primitive Pythagoreanism - but with all the subsequent elaborate techniques. It is an extremely important phenomenon of the History of Ideas in general, a type of degeneracy perhaps, whereby the entire developed apparatus of a sophisticated age is brought to bear and support elaborately a more or less "archaic" position. The most extreme example in the domain of ancient thought is Iamblichus. One should carefully distinguish this type of view from that other which reinterprets, and therefore "explains away", the old Idea in terms of the new, sophisticated consciousness. No, in the standpoint I mean, the whole of the highly perfected network of methods and results of the later age is simply used as a means, as a weapon and implement to re-establish the perhaps antiquated Idea in its very "archaic" peculiarity - not as helping to bring out the analogy or correspondence of the Idea with its modern "equivalent".
13. If I am roughly right in the above solution, then one also sees the core of truth in the Neoplatonic rescue operations signalled above (n. 1).
    This issue belongs to the crucial nexus of problems relating to the construal and relationship of ideas, ideal numbers and mathematical numbers and magnitudes in Plato's higher metaphysical doctrine, and in its reception in the Old Academy. For a systematic treatment and my solution to this famed Gordian knot, v. ApostolowPierris, *The Other Platonic Principle,* in Apostolos L. Pierris (ed.), *Aristotle on Plato: The Metaphysical Question,* Proceedings of the Symposium Philosophiae Antiquae Secundum Therense,

June 30th-July 7th, 2002, Institute for Philosophical Research, Conference Series, vol. II, pp. 239-291.

14. V. *Corollarium de Tempore* 795.27 sqq. Diels. Simplicius adds that no commentator supplied the want by providing the *λύσεις* of the relevant *ἀπορίαι*.
15. V. Simplicius, *Cor. de Temp.* 796.26 - cf. Damascius, *in Parmenidem* §390. This is the point of the twelfth Damascian *ἀπορία*, §378 p. 229.23-4 Ruelle: *Δυοδέκατον, πῶς ἐστιν ὁ χρόνος, ὅτε τὸ μὲν ὅσον ἐστίν οὐκ ἔστιν χρόνος* (being a limit of time as an instantaneous present), *οἷον τὸ νῦν, ὅσον δὲ χρόνος, τοῦτο οὐκ ἔστιν;* Damascius answers that this fundamental Aristotelian problem can only be solved by his theory of a durational present, an atomic measuring unit of all temporal magnitude.
16. This I infer from the fact that Damascius' solution is given by Iamblichus according to Simplicius *op.cit.* 793.22-23. But since Simplicius seems there just to recapitulate what Iamblichus said in the immediately preceding quotation, and since I also think that there Iamblichus meant to apply his remarks about the *ἀμερὲς νῦν* not to a portion of present time but to the transcendent principle of the immanent *νῦν* which, running through time as an unbroken thread, maintains the order of time *κατὰ τὸ πρότερον καὶ ὕστερον* (cf. the developments in Simplicius' commentary on the Categories) - for these reasons I am inclined to think that Iamblichus' point was different; which, on the other hand, does not exclude the possibility of Damascius being inspired by the corresponding Iamblichean doctrine, though I would connect with that the other (no doubt again related) Damascian doctrine to which Simplicus feels so much opposed, v. *op.cit.* 775.31-34, and the whole subsequent development of Simplicius' objections to the Damascian view that time exists also in its entirety, so to speak all of it together - as if not *ἐν διεξόδῳ*, not sequentially, with only the present in each case actually existing. (This aspect, by the way, is extremely useful in the treatment of the question of *αἰών* and *χρόνος* in Aristotle). See the Damascian quotation 780.20 sqq., esp. 780.33-781.13, and the following objections of Simplicius.
17. But notice that disquieting *καὶ διὰ τῶν ἐξωτερικῶν λόγων* in 217b31.
18. V. Damascius *In Parmenidem* 236.24-25: *τὸ δὲ ἀληθῶς συνεχὲς τὸ μέγεθός ἐστιν οὗ καὶ ἡ συνέχεια ὅλη ὁμοῦ οὖσα παραιτεῖται τὸν διορισμὸν. Διορισμός* here is a technical term referring to the *διωρισμένον μέγεθος* as opposed to *συνεχές*. We have a *διωρισμένον μέγεθος* where there is an *ἐφεξῆς* as Aristotle says, where between two consecutive parts there is no part of the same kind.

19. This is the deep sense of *op.cit.* 236.11-12: *ἔστιν γὰρ σύνθετος* (sc. time), *ὥς φησι Στράτων, ἐκ μερῶν μὴ μενόντων· ταύτῃ οὖν ἐκ διωρισμένων.* The lapse of time, with the flux of its parts, makes them form a discreet field, destroying temporal continuity: the passing away of each part in turn marks its boundaries by actual division. All parts of time succumb to this fate. Thus the continuity of time is broken.
    As to Strato, he was ingenious, but in the characteristic Peripatetic way. See his theory of time, apud Simplicus, 788.36 sqq.
20. See 236.13-16. After pointing out that time is not progressing through the *νῦν* for the fundamental reason explained above, Damascius adds: *Ἀλλ' ὥσπερ ἡ κίνησις προκόπτει* (sc. the time) *διαστηματικῶς, ἀλλ οὐ κατὰ σημεῖον* (not by the momentary present), *ἀλλ οἷον κατὰ ἅλματα, ὡς ἔλεγε καὶ Ἀριστοτέλης* (?!), *οὕτως ἀνάγκη καὶ τὸν χρόνον κατὰ μέτρα ὅλα προβαίνειν ἃ μετρητικὰ τῶν ἁλμάτων γίνεται τῆς κινήσεως.* Time does not strictly speaking flow but jerks its way on stepwisely, the quanta of time being these elementary intervals or steps, the natural units of time, which measure the progress of time, but also the similarly stepwise process of movement. (That Aristotle held such a view is idiosyncratic indeed, on Damascius' part). And see esp. 236.21-25 where the whole nexus is succinctly put. *«Συνεχίζεται»* means the movement is made *συνεχές;* this is done by the spatial extension of the body moving, and of the transversed distance. *«Διορίζεται»* means the movement is made *διωρισμένον μέγεθος* as well; and this is done by its being *διακοπτομένη;* for there is disappearance of the previous state and appearance of the new, hence interruption and division a parte rei, whether we wish it or not, whether we consider it thus or not. This is the (latter) passage: *ἀλλ οὕτω, φαίη τις ἄν, καὶ ἡ κίνησις ἔσται συνεχὴς καὶ διωρισμένη, ὅτι οὐδὲ ταύτης τὰ μέρη μένει* (like in the case of time); *ἢ ἀληθὲς τοῦτό ἐστι· συνεχίζεται γὰρ ὑπὸ τοῦ σώματος ἐφ' οὗ τε καὶ οὗ ἡ κίνησις, διακοπτομένη δὲ διορίζεται τοῖς ἑαυτοῖς ἅλμασιν· τὸ δὲ ἀληθῶς συνεχὲς τὸ μέγεθός ἐστιν οὗ καὶ ἡ συνέχεια ὅλη ὁμοῦ οὖσα παραιτεῖται τὸν διορισμόν.* Damascius accepts the continuity of space and body. For him the crucial factor is the coexistence or not of the parts of a putative continuum. When they coexist, they can hold together in the high cohesion of continuity. This cannot be if parts come into being and pass away continually: for this destroys their cohesion, by actually breaking it up at every moment.
21. For to this extent, I do not think that Aristotle wilfully misrepresented his adversaries when he objected to the view that a *συνεχές* cannot be made out of *ἀμερῆ.* This view was probably their view, they would not rather deny that

*μεγέθη* (apart from the constitutive *ἄτομα*) are *συνεχῆ*. To be conceded, this is not certain. In any case, however, the statement in the text holds good, for irrespective of what, say, Xenocrates has thought, in effect his view was bound to be taken in this way, for most people could not suffer to alienate themselves from the fundamental intuition that extension and duration are indeed *συνεχῆ*.

22. See n. 15.
23. To be distinguished from the *ἐξαίφνης* of the 3rd Parmenidean hypothesis; the extended *νῦν* is, for Damascius, the *νῦν* occuring at the end of the 2nd hypothesis.
24. There is another Damascian doctrine which is calculated also to meet a more fundamental *ἀπορία* as regards the existence of time. For we cannot after all help asking: do really the past and the future not exist? Not at all? Is the existence status of something that did happen in the past exactly the same with something which did not happen, or even with something which might have happened but was prevented from happening? Is it not the whole time a "well-rounded whole" like the whole extension? Is it not a certain unity, and therefore a kind of existence, in the divine eyes? Such movement of thought lies perhaps at the bottom (there are, of course, "rationalistic" reasons for it, as detailed by Simplicius!) of that other peculiar Damascian view, to which Simplicius was so opposed, and according to which Time has, at a higher level, a simultaneous existence - an existence lying between eternity *(αἰών)* and time in flow, in successive realization *(χρόνος ἐν διεξόδῳ)*, time in part-after-part-succession. Cf. n. 16.
25. Here is the Damascian quotation from Simplicus de tempore, *loc.cit.*: *θαυμάζω δὲ ἔγωγε* (Damascius is speaking) *πῶς τὸν μὲν Ζήνωνος ἐπιλύονται λόγον, ὡς οὐ κατά τι ἀδιαίρετον τῆς κινήσεως ἐπιτελουμένης, ἀλλὰ καθ' ὅλον βῆμα* (i.e. stepwisely) *προκοπτούσης ἀθρούστερον* (i.e. all together as a whole at the same time), *καὶ οὐκ ἀεὶ τὸ ἥμισυ πρὸ τοῦ ὅλου, ἀλλά ποτε καὶ ὅλον καὶ μέρος οἷον ὑπεραλλομένης* (when movement jumps over and oversteps a limit by the step it takes in its progression). *οὐ συνενόησαν δὲ οἱ τὸ ἀδιαίρετον μόνον νῦν εἶναι λέγοντες τὸ αὐτὸ καὶ ἐπὶ τοῦ χρόνου συμβαῖνον ἅτε συνόντος ἀεὶ τῇ κινήσει καὶ οἷον συμπαραθέοντος, ὥστε καὶ συμβηματίζοντος ὅλῳ πηδήματι συνεχεῖ καὶ οὐ κατὰ ‹τὸ› νῦν διεξιόντος ἐπ' ἄπειρον* (time going together with movement step by step *(βῆμα)* and jump by jump *(πήδημα)*, not flowing in an infinite sucession of dimensionless presents), *καὶ ταῦτα κινήσεως μὲν οὔσης ἐναργοῦς ἐν τοῖς πράγμασι, τοῦ Ἀριστοτέλους οὕτω δεικνύντος λαμπρῶς, ὅτι οὐδὲν ἐν τῷ νῦν κινεῖται οὐδὲ μεταβάλλεται* (indeed - but Aristotle does not infer from

this what Damascius takes as rationalistically necessitated, namely that the process of movement is being constituted stepwisely, by means of jumps, of quanta of movement), ἀλλ' ἐν τούτῳ μὲν (sc. in the present, *τὸ νῦν*) *κεκίνηται καὶ μεταβέβληται* (the Diodorian position!), *μεταβάλλεται δὲ καὶ κινεῖται πάντως ἐν χρόνῳ* (the Aristotelian thesis). *τὸ γοῦν ἅλμα τῆς κινήσεως μέρος ὂν κινήσεως τὸ ἐν τῷ κινεῖσθαι, οὐκ ἐν τῷ νῦν ἔσται κινούμενον, οὐδὲ ‹ἐν› μὴ ἐνεστῶτι χρόνῳ τό γε ἐνεστώς. ὥστε ἐν ᾧ κίνησις ἡ ἐνεστῶσα, χρόνος οὗτός ἐστιν ὁ ἐνεστὼς ἄπειρος ὢν τῇ διαιρέσει ἀπείρου οὔσης. ἑκάτερον γὰρ συνεχές. πᾶν δὲ συνεχὲς ἐπ' ἄπειρον διαιρετόν.* (The Damascian thesis that the particles of time (the atoms of duration), in which the elementary steps of movement take place, are themselves divisible indefinitely as durations although undivided according to the obtaining cosmic constitution).

Damascius correctly emphasizes two relevant Aristotelian theses: that movement does not take place in the indivisible present *(τὸ νῦν);* and that the texture of movement, space and time is one and the same. But he draws the conclusion according to the principle of Strict Rationalism, whereas Aristotle follows the dictates of Empirical Rationalism.

Notice that in ll. 8-9 Damascius accepts both opposing views of Diodorus and Aristotle, by harmonizing them.

26. For what else are you saying if you deny that *κίνησις* is effected in a moment than that it requires a unit of time for a unit of movement to be realized? What else does it mean to say that the *κίνησις* takes place *συνεχῶς* and not *δι' ἀλμάτων,* than to claim that it must happen in *νῦν* after *νῦν*? Is not at work here the phantasm of the infinitisemals? But Aristotle's attitude in such matters is wonderfully and frankly confessed in a most significant passage - *Περὶ ἀτόμων γραμμῶν* 969b3-6: *ἄλλ' ἄτοπον ἴσως τὸ μὴ δυναμένους λύειν τὸν λόγον δουλεύειν τῇ ἀσθενείᾳ, καὶ προσεξαπατᾶν ἑαυτοὺς μείζονας ἀπάτας, βοηθοῦντας τῇ ἀδυναμίᾳ.* This is an explicit rejection of the principle of Strict Rationalism. If we are unable to refute an argument and solve a problem, we should not acquiese in our inability and accept its force because we cannot impugn its cogency. As long as we have intuitive or otherwise obtained certainty as to the truth of a given state of affairs, rationalistic reasoning against them (especially the one involving the detection of contradictions in their make up) is to be held as mere logical paradoxes or puzzles awaiting dissoluion. If we are unable to do just this, we should not aggravate our failure by compounding it with deceptive constructions whose only effective purpose can be to justify our weakness by proclaiming our perplexity an ontological nexus of binding value impelling convinction.

27. For a clear cut instance of such an attitude v. Damascius apud Simplicius 780.20-781.13. Here Damascius draws on the difference between the noetic Immovable Mover and the celestial Fifth Substance in order to force upon Alexander of Aphrodisias and Peripateticism a distinction between two senses of everlastingness *(τὸ ἀεί)*. He then further utilizes this distinction in order to support his characteristic theory that between true eternity and the time of this world of becoming which is always in the process of coming to be and passing away, there is an integral of time subsisting simultaneously in its entirety. This he seems to consider valid Aristotelian interpretation. Cf. for an analysis of Damascius' thesis, Simplicius, *op.cit.*, p. 779.12 sqq. For the "sane" Aristotelian-like answer provided by Simplicius, see what follows upon that passage, the Simplician criticism, that is, of the Damascian peculiarity. But Damascius in the issue at hand could not see any other alternative than the two implied in n. 26 above - see *In Parmenidem* 242.5-6: *καὶ ταύτης* (sc. rest no less than movement) *γὰρ ἡ γένεσις δι' ἁλμάτων· ἄλλως γὰρ οὐκ ἐνδέχεται προκόπτειν, εἰ κατὰ τὰ ἀδιάστατα γίγνοιτο ἡ πορεία*. A process progressing by dimensionless moments is an impossibility. No amount of dimensionless entities can create dimension and interval - exactly as Aristotle clearly saw and analysed it; another point that would have convinced Damascius that his theory captures the spirit and the presuppositions of the Aristotelian view.
28. Probably the full analysis was given in his Commentary on the Timaeus and in his treatise on *Χρόνος*.
29. It is characteristic that Damascius will even harmonize Diodorus' theory of movement with standard Aristotelianism (cf. n. 25), without explaining the Megaric standpoint away.
30. This is the orthodox passage: *ὥσπερ δὲ ἡ κίνησις οὐ κατὰ τὰ ἀμερῆ γίνεται (οὐδὲ γὰρ σύγκειται ἐκ κινημάτων οὐδὲ ἡ γραμμὴ ἐκ στιγμῶν, ἀλλὰ τὰ μὲν πέρατα καὶ τῆς γραμμῆς καὶ τῆς κινήσεως ἀμερῆ ἐστι, τὰ δὲ μέρη αὐτῶν ἐξ ὧν σύγκειται συνεχῆ ὄντα οὐκ ἔστιν ἀμερῆ ἀλλὰ μεριστά), οὕτω δὲ καὶ τοῦ χρόνου τὰ μὲν ὡς πέρατα τὰ νῦν ἀμερῆ ἐστι, τὰ δὲ ὡς μέρη οὐκέτι. συνεχὴς γὰρ ὢν ὁ χρόνος διαιρούμενα ἔχει καὶ αὐτὸς τὰ μέρη εἰς ἀεὶ διαιρετά. ὥστε κἂν ἐν συνεχεῖ ροῇ ᾖ ἥτε κίνησις καὶ ὁ χρόνος, οὐκ ἔστιν ἀνυπόστατα, ἀλλ' ἐν τῷ γίνεσθαι τὸ εἶναι ἔχει· τὸ δὲ γίνεσθαι οὐ τὸ μὴ εἶναι ἁπλῶς ἐστιν, ἀλλὰ τὸ ἄλλοτε ἐν ἄλλῳ μέρει τοῦ εἶναι ὑφίστασθαι*. Typical Aristotelianism with a touch of Timaean Platonism in the last sentence. You analyse, you keep to the ordinary, commonsensical intuition, you name the problem - you have solved it by describing its texture. Damascius would accept the earlier part of the passage, and then draw the rationalistically necessitated inference which goes counter to the common

understanding of the phenomenon. For him *ἐν τῷ γίνεσθαι τὸ εἶναι ἔχειν* is just a name for the difficulty.

31. Even Simplicius' expression in 798.9 testifies to this obvious fact: *τούτων οὖν καλῶς εἰρημένων*, i.e. these, the preceding Damascian remarks, having been well said, etc.
32. He maintains the exact opposite of the Damascian thesis, formulated in almost the Damascian terms: 798.23-26: *χρόνος δὲ ὁ σύμπας ἐστιν ἐνδελεχῶς ρέων ὥσπερ καὶ ἡ κίνησις, κἂν ἀπολαβὼν τὸν ἐνεστῶτα ὡς ἐνεργείᾳ τοῖς ἑκατέρωθεν περατούμενον ἀθρόον στήσῃ* (if time will comprise a durational present bounded in actuality by two *νῦν* at its two limits - which is in effect what for Simplicius the Damascian theory of the present amounts to - time will stand still) *ἀπωλέσας τὸ τοῦ χρόνου εἶδος ἐν τῷ γίνεσθαι* (i.e. in the flow) *τὸ εἶναι ἔχον, ὥσπερ καὶ ἡ κίνησις*. Similar remarks to those in n. 30 apply to this argument.