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THE CONTENTS OF THE RECEPTACLE

I

The Receptacle of the title is, of course, the 'Receptacle of all becoming' in Plato's *Timaeus*. Plato likens it to a 'nurse', and even calls it a 'mother' (49a 5-6; 50b 5-8; d 2; e 5; 51a 3-7)).[1] He speaks of it as that *in which* its contents come to be, only in their turn to disappear from it (49e 6-7; 50d 6; cf. 52c 4; 7). He compares it to a mass of gold which someone incessantly remoulds into different shapes (50a 4-c5). He declares it completely unchanging: 'it does not depart from its own character in any way' (50b 6-8).[2] What is its character? It is the character of possessing and acquiring no character similar (50c 1-2; d 7-e1) to that of any of the objects said to enter it and disappear from it. Plato says too that it is space (*chôra*); the receptacle is what makes it true that each of those objects is *somewhere* (52a 8; b 4; cf. 52a 6). And finally, as if he had not already given us far too much to digest of this very rich subject, Plato adds that the Receptacle shakes its contents with a sort of winnowing motion, and in fact was already doing this even before the craftsman god had formed this world of ours (52d 4 – 53a7).

The question of this paper is: what is the function of this multifariously conceived entity, or principle, the Receptacle? I shall approach by asking what its contents are.

The answer seems obvious. We are told at the start of the whole discussion that the Receptacle is 'of all becoming'. In other words, its contents comprehend everything that has become or is in the realm of becoming. But the attentive reader will hesitate to accept that description in full universality. For according to the *Timaeus*, the entire physical cosmos, and the soul of this cosmos, belong among things that have come to be (28b 2 – c1; 34c 1 ff.); yet surely Plato does not mean us to think that the entire cosmos, or its soul, are 'in' the Receptacle. For it is a hallmark of things in the Receptacle that they come to be in it and pass away from it again and again; but we are told about the cosmos and its soul that they are imperishable (41a 7 – d 1; cf. 32c 3-4). Let us, then, amend Plato's sweeping characterisation so as to mean that the Receptacle is the universal container of, so to speak, ordinary things in the realm of becoming, i.e. the perceptible, mobile, mutable things of our ordinary experience.

Now there are two ways in which it could be true that the Receptacle contains all such things. (1) It is equally container of all: stars, animals, plants, bits of rock and pools of water. Just as everything in the natural universe is an image or imitation of something on the noetic level of Plato's forms, so everything in the natural universe shares the common lot of being in the Receptacle. In fact, they are all in the Receptacle precisely because they fall under the common fate of not themselves being Forms or parts of some Form. (2) The Receptacle is first and foremost container of the four so-called elements, earth, water, air and fire. Since every complex or organized corporeal entity is formed from some or all of these four primary bodies, the Receptacle, by containing the Four, indirectly contains everything else.

Interpretation (1) of universal container-hood seems particularly plausible if we fasten on the thought that the Receptacle is space or the principle of spatial locatability. For surely physical things that are not mere specimens of the Four, say organic or compound things, are just as much space-occupants, and just as locatable, as masses of earth, water, air and fire. For instance, it seems a mistake to say that an animal is somewhere in space not *per se* but indirectly because the materials of which it is made are *per se* and directly somewhere in space. For one could, with an eye on one strand in Platonic thinking, give a 'top down' explanation of animal materiality as follows: such and such an animal's soul is embodied in a body made ultimately of the Four because it is the kind of soul that needs a spatial life-style by which to express itself: for example, it needs to express itself through sense-perception of things and by otherwise absorbing and interacting with a spatial environment.[3] In this explanation, the spatiality of the Four is assumed as simply given; but so is the soul in question's *orientation* towards spatial activity. That is: directly and by its own nature this sort of soul is space-ward inclined, and hence (so goes the explanation) it takes on the corporeality necessary for its desired life. To say instead that the animal is in space only because its corporeal elements are in space suggests that *its* being in space *as a living thing* is an accidental and metaphysically unimportant fact about this sort of animal. What is suggested is a non-Platonic dualism between this soul and its body, according to which the soul has no interest of its own in the spatiality that is, presumably, an essential feature of its body simply because this is a corporeal thing and not because it is the body of a being whose soul is of a certain kind.

The first interpretation of the Receptacle's universal container-hood also fits in with a way of thinking that historically has come to seem a natural part of Platonism. According to this, for every Platonic Form *F*, and every sensible image of it *f*, being one of many possible *f*'s in the Receptacle just is what differentiates the *f* from *F*. This idea is often spelled out in terms of perfection versus imperfection: the *f*'s are like *F* except that they are imperfect versions of it; and what explains and guarantees this contrast is precisely that the *f*'s are in the Receptacle whereas *F* is separate 'itself by itself'. Since the opposition of Form and image,

being and becoming, applies, certainly in the *Timaeus*, across the whole range of natural kinds, the Receptacle is easily understood as the egalitarian repository of every kind of thing on the 'becoming' side of the contrast.

Despite these plausible and familiar considerations in favour of interpretation (1), the text of the *Timaeus* overwhelmingly supports interpretation (2). That is to say: according to Plato, the Receptacle of all becoming has received first and foremost the four so-called elements (cf. 48b 3 – c 2). It is with this in mind that we must try to understand the Receptacle's function.

If we stay at surface-level in the text there is not much to say about this function in relation to the Four beyond repeating Plato's well-known illustrations: the nurse, the gold, the odourless perfume base, the mother, the winnowing basket. We need to consider, not what (according to Plato) the Receptacle does *in rerum natura*, but what the idea of it contributes to his cosmology. I shall suggest that the forging of this idea constitutes Plato's arrival at the complex and, by his lights, new, thought that (as we might put it) certain things are ultimates *of nature*, but not *metaphysically* ultimate. It is earth, water, air and fire that stand in this ambiguous position, ultimate from one point of view, derivative from another; and the Receptacle is indispensable in both perspectives. It enables the Four to live up to their role as physical fundamentals of the world, but at the same time it ensures their metaphysical inadequacy.

II

Let us turn first to the latter aspect, the negative one, since it is probably more obvious and familiar to readers of the *Timaeus*. That is: it is obvious and familiar that the Four are 'in' the Receptacle precisely because they are incapable of autonomous being. But we must consider why Plato needs to deny them ontological autonomy. And this question divides into two: why can he not just take it for granted that the four basic physical materials are not to be regarded as absolute ultimates of reality? And: what for him is at issue here—what hangs on whether they are absolute ultimates or not?

It will be helpful to have in front of us a brief sketch of the *Timaeus* cosmology so far as it relates to the concerns of this paper. Although the cosmology, that 'likely story' (29d2), is well formed, it not only possesses a beginning, middle, and end: it has at least *two* beginnings.[4] At the first of them we do not yet know that there will be another, and it is natural to assume that there will not: a beginning of something is in some sense unique to that something. Anyway, from the outset, the character named 'Timaeus' is explaining the physical world, why it is as it is, both overall and in respect of its salient contents and parts. The world is

the work of a divine mind which aims throughout at the best arrangements possible. This theme, which governs the entire cosmology, is proved at the very start. The proof rests on the doctrine that no perceptible thing can account for itself existentially: every such thing has come to be through a cause, which is assumed to be a purposeful maker. From this Timaeus argues that since our cosmos is a perceptible thing, it must have been made, and since, though perceptible, it is as good as any such thing can be (an assumption which is treated as fundamental), its maker must have made it intelligently, according to an intelligible model (28c 3 – 29b 1). This argument takes us over the threshold of the first beginning, and very soon we are launched on details of cosmology. Fascinating things are explained in demanding detail: the construction of the body of the cosmos; of its soul (since the cosmos is a living, intelligent, being); of the heavens and time; of human beings, the first of mortal animals; of certain parts of human anatomy, in particular the head and the organs of vision. Vision is said to be effected through rays of a special kind of fire issuing from the eyes. But now in mid-stream, or so it would appear, Timaeus, i.e. Plato, begins to grind to a mighty halt. He complains, in effect, that we have been proceeding without attending to the difference between causation by intelligence and by factors which are not causes strictly speaking but only auxiliaries (46c 7 – e 6). These latter factors are the four so-called elements. They cannot be causes strictly speaking because they lack intelligence: this follows from the fact that they lack soul. Plato illustrates the difference between strict cause and auxiliary factors with the example of vision: what explains vision is not the fire that makes it possible, but the good end for the sake of which it was made by divine intelligence (46e 6 – 47e 2). He then labels the respective contributions of these two kinds of factors, calling them 'what has been crafted by Intelligence' and 'what comes about by Necessity'.[5] He says that so far we have mainly been shown just the former but now we must begin all over again and come to grips with the latter. What we have to examine now, he says, is the origin or coming to be of the four materials commonly supposed elemental, of which the cosmos and its complex physical parts are made (47e 3 – 48e 1). And it is at this point that Plato introduces the Receptacle. There has to be a Receptacle, he argues, because the Four are not everlasting substances; on the contrary they are all of them, it seems, continually turning into each other. In fact, every portion of them is a transient phenomenon, a sort of passing set of qualities for which something unchanging must be postulated as subject—and this is the Receptacle (48e 1 – 50a 4).

What a textbook summary of the *Timaeus* will fail to convey is that, to put it plainly if not reverentially, Plato makes a most gigantic fuss about this second beginning and about the Receptacle. Why is that? The answer, I think, is threefold. (1) The Receptacle is brought in to make sense of the coming to be of the Four; but (2) Plato thinks it not at all plain to his audience or readers that these materials even *have* an origin; yet (3) their having an origin or not makes all the

difference not only, as perhaps seems obvious, to Platonic metaphysics but also (what may be less obvious) to Platonic cosmology.

We, located where we are in the history of thought, are quite likely to assume that in explaining that the Four have come to be, Plato is simply and straightforwardly continuing to implement the agenda implied by two grand distinctions which preface the entire cosmology: the distinction between being and becoming, and the corresponding distinction between 'understanding which involves a reasoned account and opinion which involves unreasoning sense perception' (27d 5 – 28a 4). Since earth, water, air and fire are clearly objects of sense perception, should it not have been perfectly clear all along that they belong in the realm of becoming, and so have an origin of some kind? Perhaps it should have been, but Plato, I imagine, does not think that it is so clear. So far he has been studying the things which the craftsman god, and his created subordinates who are also craftsman gods, have fashioned with a view to the best; and these things have all been represented as artefacts made from earth, water, air and fire. That is to say: so far, i.e. right from the first beginning, and through many, many close packed pages, the four materials have figured as simply *given*. Were one to be reading the *Timaeus* for the first time, taking the parts in the order in which Plato retails them, rather than selectively excerpted as in certain anthologies of Platonic philosophy, one might almost by now have forgotten Timaeus' initial contrast between intelligible being and sensible becoming; or if one remembered it, one might, looking back from more or less midway downstream, have begun to assume that Plato could never have meant the contrast exhaustively, since the four basic materials are sensible, all right, but the entire elaborate exposition so far has treated them as if they have always been about even before the cosmos itself—the world ordered as we see it now—was formed. For almost the first thing we were told was that the body of this cosmos was formed from the Four (31b 4 – 32c 4), and the same story has been given about the formation of various entities within it. So it is as if the Four have always been there even as the uncreated first divine craftsman has always been there. But if this is true, sensible earth and fire etc. are not imitations of intelligible Forms. As imitations they would have come to be, but they have not come to be. We therefore should not try to understand the natures of the Four by casting beyond them intellectually to grasp Forms which are their essences. Opinion based on unreasoned sense perception conveys all the essence they any of them possess: they 'are just what we perceive them to be' (*Parmenides*, 130d 3-4; cf. *Timaeus* 51d 7 – c 5).[6]

Would it have been at all surprising if it turned out that the Four, sensible objects though they are, fall outside Timaeus' initial dichotomy lining up intellec-

tion with being and sense perception with becoming? No; it would have been so only if Plato had already somewhere explicitly promised that there are Forms corresponding to the Four, or that there are Forms for every kind of thing. We know, however, that elsewhere, far from making such promises, he has indicated that whether there are Forms of fire and water was at some point an open question for friends of the Forms (*Parmenides*, 130b 7 – d 5).[7] That being so, it is natural to see Timaeus' initial dichotomy in terms of an alternative: *either* it is meant universally, in which case, since it cannot in this sense be taken for granted, one expects a subsequent defence of the universal scope; *or* no such defence is forthcoming, in which case one charitably assumes that the dichotomy was not meant to be universal. By the stage we have now reached in the *Timaeus* (i.e. just before the halt for the second beginning), so much ground has been covered without any sign of defence that the first-time reader would be justified in falling back on the second alternative.

Here are some further reasons why it would have been perfectly natural by this stage to be taking it for granted that the initial dichotomy was never meant to apply to the Four. Firstly, the only kind of coming to be considered so far has been that in which something complex and intricate is constructed *with a view to the good* and *out of existing known materials*, and Plato's language invites us to illustrate this from our experience of human craft. But it is hardly possible to imagine earth and water, air and fire, being similarly made out of existing materials, and it might be bewildering for the first-time reader to try to fit to their case the thought that they were made with a view to the good. In short, the model of coming-to-be that has been at work up to now is such as to render it all but unintelligible to say that fire etc. have come to be. In fact, such statements are at this point squarely unintelligible; for to make them intelligible someone would have to introduce some brand new perspective, one which the first-time reader of the *Timaeus* cannot be expected to have thought of yet.

Secondly, everything that has come to be so far has been the soul, or the body, or some part of the body, of an animal. (Remember that for Timaeus, the cosmos itself is an immortal animal.) That there should be these living things—this intelligent living cosmos replete with less perfect living microcosms of itself—is the crafting divinity's paramount aim and achievement (cf. 37c 6 – d 1; 39e 3 – 40a 2; 41b 7 – c 6). But now let us think how in different ways animal life draws fundamentally on the existence of the four materials. They are not only constituents of animals' bodies. They also, Timaeus says, make up the regions which the kinds of animals inhabit—in which they live and characteristically move and have their being. And the two 'extreme' materials, fire and earth, are the roots of sense perceptibility, which is why the body of the cosmic animal must be made of them and their 'intermediates' air and water (31b 4 – 32c 4). Perhaps it is not farfetched to anticipate on Plato's behalf the Aristotelian thought that sense perception is of the essence of animals, and locomotion in an environment essen-

tial to almost all intra-cosmic animal species (i.e. almost all) capable of it. Granted that beautiful animal life is the ultimate cosmic objective and therefore in one sense a fundamental principle of the natural world, what could be *more* fundamental than the principles on which this all important final-cause principle so intimately depends? In this way it would, I submit, have been only too easy and natural, even if not rationally inevitable, to find oneself accepting it as a background assumption that earth, water, fire and air are indeed truly elements of Timaeus' universe, i.e. *finally ultimate* principles of everything else that is physical. In this respect, Timaeus, i.e. Plato, would be seen as the natural heir to Empedocles.[8]

I have been arguing that quite strong reasons exist in the *Timaeus* itself (in the first part) for expecting Plato to be treating the Four as finally ultimate. Mention, however, of Empedocles should switch us to even stronger reasons why Plato should do no such thing. Empedocles called his four 'roots' by the names of gods.[9] To Empedocles, that is what they were: divinities. And in the avowedly mythographical context of Plato's cosmology, the Four could hardly turn out less than divine for Plato, if he, even by default or inattention, were to let them quietly assume the character of principles entirely immune, themselves, to becoming. Gods or godlike they would be, although whether we could properly call them *blessed* becomes a different question.

To see the predicament more concretely, let us backtrack a little to take account of the position Plato wants to occupy—and surely wants to occupy legitimately—concerning the Four as constituents of the cosmos and of organisms. We must consider first what he holds, then whether what he holds is automatically self-legitimating. In two highly prominent places he states that it is of the *nature* of the Four to subserve the work of divine intelligence (46c 7-8; 68e 4-5[10]). Now, it is true that Plato calls the cosmic materials 'the Straying Cause' (48a 7). But this means not that they possess no definite characters and motions of their own, but that their characters and motions are astray in relation to the best, i.e. the best as Plato's craftsman god conceives of it, and as human science conceives of it when trying to reconstruct the aims and methods of divine craftwork. In other words, for the materials *not* to be 'straying about' would simply be for them to be tending reliably towards production of the beautiful organic formations on their own, without the guidance of intelligence. The pattern of arrangements they would exhibit if that were their tendency on their own is the path from which, in actual fact, they wander astray. However, on their own they would still be behaving in quite definite and predictable ways, according to their natures; but these ways would be random in relation to the production of beautiful organic forma-

tions as such.[11] For even if such a formation did occur under these conditions, it might just as well not have done so as far as the natures of its causes are concerned, since they by themselves are indifferent to the coming to be of beautiful organic formations. That is why, for beautiful organic formations to come into being reliably, the materials must be controlled by something entirely unlike themselves, and this is intelligence. Plato's metaphor for this control is 'persuasion' (48a 2-5; 56c 5-6).[12] Things can be forced, but not persuaded, against their nature; thus Plato implies that the Four are susceptible to being 'brought round' so that they cooperate in the divine work. Even these soul-less beings are somehow sensitive to the divine authority so as to yield to it.

This, then, is how Plato wants to present the Four. The question now is whether he may reasonably do so while allowing that they are ultimate. Surely not. Ultimacy would make them older than the cosmos (itself said to be a blessed god, 34b 8; cf. 92c 7); older too than the other created gods who act on behalf of the supreme craftsman. And the Four would be older than the world soul, since it too has been created. But greater age means superior dignity and the right to rule the younger (34b 10 – c2 ; cf *Republic* VI, 509b 9-10; *Laws* XII, 967d 6-9[13]). The Four could hardly not be seen as superlatively powerful divinities. However much Plato insists that they lack intelligence and soul, it is far from clear that his early audience or readers would accept that as a solid, conclusive, reason for denying them the status of 'divine' if at the same time the Four are held to be as primal as the divine craftsman himself. Some in Plato's culture, even in mid-fourth-century Athens, might sense no *conceptual* inconcinnity in the nightmarish thought that our world is full of, and at the mercy of, mindless, soul-less, divinities. If, however, they were challenged on the coherence of this, they might seek to evade the tension by allowing: 'Very well, let it be that they have soul and/or intelligence, but it is soul or intelligence utterly unlike any that we have anything to do with'.[14] But this hardly gives a comfortable position so far as cosmology is concerned. If the Four have souls of their own, then presumably they are animated by their own ends or purposes. Perhaps they have intelligences of a sort or sorts. If so, each must be oriented towards something that plays, for each, the role played by the good in relation to the divine craftsman. No doubt it would be a different sort of good-analogue for each. These inscrutable sovereign ends of the Four will be what drive them in the state of their own savage nature. We can no longer consider them in that state merely negatively, as simply failing by themselves to follow paths that would implement another deity's purpose, for they are governed now by their own purposes, with an authority (for all that has been said) in no way inferior to his. Far from just being that 'from which god is absent', waiting for the craftsman god to 'take them over' as if they are ownerless and looking for a master (30a 4; 68e3), the Four have always been in full charge and possession of themselves even from before the cosmos and time began. The myth-maker asks '*Why should* they subserve a project not their own?', and the metaphysician trans-

lates this into '*How can* they?' But unless they do so there cannot be a created cosmos; and unless they subserve everlastingly, there cannot be what Plato promised: a created cosmos that will last for ever (32c 3-4; 41a 7 – b6).

In fact what he promised is even more than that: it is a created cosmos whose immortal life is almost like God's existence according to the Ontological Argument, i.e. secured by its own intrinsic nature. By its own nature the creation is as beautiful and good as its maker could make it—judging by his own standard of value, of course. He named just one condition under which his world would fall apart into its materials: the condition of his no longer wanting it to exist. But being unchangeably good, and knowing himself to be so by his own unchanging standard, he knew that this would never arise. Of course, he had to know something more than this in order to know that the condition he knew would never arise was the only one under which his creation would fall apart. He also had to know that its continued existence depended on no one's good will but his own.

So far, then, I have argued (1) that up to the second beginning of the cosmology it would have been far from obvious to a first-time audience that the Four do not belong among things that 'always are'; and (2) that it would be cosmologically disastrous to assume that they do. For then their systematic subordination as constituents of that cosmos becomes impossible to accept imaginatively, let alone understand. Although none of us can conceive what it would be to *understand* how Intelligence 'persuades' Necessity, the metaphor will command its own kind of respect if, but only if, the myth is made imaginatively coherent. So Plato is under the strongest possible pressure to show, with all the force at his disposal, that the Four themselves belong to the realm of becoming, and in that sense therefore are not first principles. He must now show that he really did mean the initial contrast of intelligible being with sensible becoming to apply universally, and in particular to the materials from which things are divinely crafted as well as to the crafted things themselves. He must show that the difference between *sensible* and *intelligible* is more powerful than that between *crafted* and *materials*, so that whatever priority accrues to the Four in virtue of the latter contrast gets trumped by their derivative status as objects of sense. In short, he is not already entitled to the fully manufactured Platonism that serenely takes for granted a being/becoming dichotomy in which *everything* sensible lies in the realm of becoming. He must make that assumption good.

In announcing the second beginning he insists that the four so-called elements are not first principles at all but had an origin.[15] He then invokes the receptacle, the 'nurse as it were' of all becoming. It is a 'third kind' over and above the dual division with which we first began: that, he now says, was the division

between intelligible paradigm and sensible copy (48e 2 – 49a 1).[16] He then proceeds to insist on the perishability of the Four and their transmutability (of each into each, it seems), and from this infers their utter insubstantiality by comparison with the receptacle which holds them in being only by having them *in* it.

Plato has now got us seeing earth, water, fire and air as metaphysically unrobust. It is as if this is his sole resource for supporting the assumption that they are essentially servants rather than beings with their own complete agenda. Not surprisingly, he exaggerates the empirical mark—inter-transformational impermanence—of their metaphysical insufficiency. This has led some interpreters to take the passage as depicting a flux in which nothing retains a stable character even for a moment.[17] But the metaphysical insufficiency cannot be exaggerated, as it is not a matter of degree; and given the concerns sketched above it cannot be stated too strongly.

So Plato has got us contemplating *the fact that* the Four are metaphysically frail, which is why they could not exist except in dependence on something categorially different from them—the Receptacle. Only when *this* dependence (involving just two protagonists, the Receptacle and its contents) is established does Plato start to hint and then moves clearly to state *why* the sensible Four lack autonomous being and need the Receptacle. It is because they too, like *all* sensible things, have come to be *as copies of intelligible paradigms*, Fire itself by itself, Earth itself by itself, etc. This explanation comes interwoven with a statement of the absolute difference between understanding and true opinion. The whole is delivered with apocalyptic intensity (51b 6 – 52d 1; cf. 50c 5; d 1; 51a 1-3).[18]

So far, then, the Receptacle-motif is meant to establish the metaphysical flimsiness of the Four. It is meant to make us see a problem—how do the Four manage to *be*?—by telling us loudly and in different ways about the solution: they *are* by being in the Receptacle. What is the source of the problem? Not what brings it to our attention in the first place, i.e. their empirically observable perishing. The source is the Four's derivative status in relation to intelligible paradigms. The Receptacle, of course, does show them as 'nothing but a pack of cards'. But only when we realise that the cards are nothing but cards just because they *represent* do we see that beyond the physical Four stands a corresponding quarto of positive, determinate, realities whose fullness of being and majesty completely outclasses theirs. Plato thereby brings himself to full-fledged Platonism: not, I have argued, for its own sake alone but because only in this way is he saved from cosmological impossibilities. If the account which starts at the first beginning had not been stopped in its tracks by introduction of the Receptacle, it would have been an account containing the seeds of its own abject falsification. Had the physical Four been left in the field as finally ultimate principles, Plato's pious vision of the natural order as a thing of *immortal and complete* rational perfection would have been a vain one. For, on that condition, nature would be at best a shaky compromise of reason with irrational powers. To

ensure that a pious story was also a likely one, Plato had to create the second beginning and de-Titanize the Four.

III

The second beginning declares that a triple division must replace the old dual one (48e 2 – 49a 2). The triple division is repeated at 50c 7 – d 2. Next it is laid down that the Receptacle must be devoid of empirical form, and this is illustrated (50d 4 – 51b6).[19] The culminating passage follows (51b 6 – 52d 4). Here in non-figurative language Plato gives his fullest, most concentrated, statement of Platonism (both metaphysics and epistemology). The Receptacle is now called space (52a 6-7; cf. b 4). The culminating passage closes with yet another iteration of the triple division.[20] But now it carries a major addition: the explicit statement that this division held good '*even before the universe* [i.e. the organised cosmos] *came to be*' (52d 4).[21] That is: the original dual division of intelligible being and sensible becoming *applies to the basic materials of the cosmos too*.

This latter contrast, of original and likeness, now disappears from the argument. It surfaces again in the *Timaeus* only at the final peroration (92c 6-7). We might have expected the Receptacle too would disappear from sight after playing its part in assigning the Four to their rightful inferior place in the metaphysical scheme of things. But Plato has more work for the Receptacle. Without drawing breath, he assigns it a new function, one that is meant to ensure that the Four, cut down to size as they now are, will be equal to their role in the *natural* scheme of things. He shows us the Receptacle moving like a winnowing basket, shaken by and shaking its unevenly balanced contents so as to tend to sort them spatially into their kinds (52e-53b). Here as before the Receptacle compensates for the intrinsic inadequacy of its contents. This time, though, their problem is not ontological debility: it is kinetic.

What the winnowing image tells us is that the contents are unable to gather themselves into separate masses with their own identities and diverse idiomatic powers. The movements that would separate them significantly, and keep them separate, do not spring from principles internal to each kind. Now such separative motions are regularly exhibited by the Four. It is true that, according to Timaeus' account, the major separation into great masses of earth, sky, sea, etc. took place before the cosmos began to be formed (53a 6-7). But observably in the world even as we now have it, smaller amounts of the Four, differing from huge tracts only in quantity, tend to rejoin the huge tracts.[22] For Plato to ascribe these regularly occurring, directed, movements to internal principles would surely have obliged him to invest the Four with souls. These would, of course, be created souls,

since it is now established that the Four themselves have come to be. But only the supreme divine craftsman would be available to create their souls. (The created gods, who include subordinate divine craftsmen, seem all to have come to be only after the body and soul of the cosmos, and in the formation of the body of the cosmos the initial major separation is already presupposed.) But the supreme divine craftsmen can hardly be supposed to create souls so different from the world-soul as these souls would have to be. The world-soul is his most distinctive creation, since the activity of its soul more than anything else is what makes the created cosmos be a 'blessed god' resembling the creator who 'wanted everything to become as much like himself as possible' (29e 2-3). But the world-soul manifests itself in circular motion. Moreover, for the Four too the craftsman would have to create immortal souls, since he cannot create what is not immortal (41a 7 – d 3);[23] thus when a parcel of fire turns into a parcel of air, its soul must metamorphose into the soul of some air, and then into the soul of some water. Yet what can it mean to say that one and the same *soul* metamorphoses unless this is just a way of speaking of its successive incarnation in different types of bodies? But if no more than that is meant, the soul's identity and nature remain the same throughout the bodily transformations from fire to air etc.. Hence it cannot be *this* soul, nor, therefore, soul at all, that in each of these materials accounts for their movements in distinctive directions. It is, I think, impossible to conceive of them as diversely ensouled in a way that accounts for those motions unless we think of the Four as everlasting beings which do not turn into each other, and which therefore lack the feature on which Plato builds his case for the metaphysical frailty that renders them fit to serve a purpose beyond themselves.

The movements that will actually take them away from each other must originate, then, from outside them: from the Receptacle. But the Receptacle, in Plato's conception, does not completely originate the movements, for the process that results in separation begins with the Receptacle's being itself moved by its contents.

> ...because it is filled with powers that are neither similar nor evenly balanced, no part of it is in balance. It sways irregularly in every direction as it is shaken by those things, and being set in motion it in turn shakes them. And as they are moved, they drift continually, some in one direction, and others in others, separating from one another (52d-e).

It is as if the different kinds of contents are no more from themselves *at rest* than from themselves engaged in significant directional motion. So, on the part of the contents, we start with as it were rudimentary movements or gestures towards movements; the receptacle registers these and is moved accordingly but in ways not merely corresponding but amplified; and the amplified versions are transmitted back to the contents, each kind so to speak catching and taking on its own amplified version. By 'amplification' I mean growth in definiteness and consistency, so that it ceases to be the case that every bit of movement in the contents

just crumbles away on the slightest encounter by something with something else that is momentarily in its way, but each instead acquires or turns into a continuous trajectory whereby the different kinds separate and start to concentrate in masses, like to like.

Let us consider how important this is for world-making. Particles of the Four can occur in minute quantities. And that, presumably, is the only way they could occur if the Receptacle did not work pre-cosmically to get them segregated into larger homogeneous masses. For if of themselves they could not separate to form the major regions of earth, sky, ocean etc., there is no reason for supposing that of themselves they would occur in sizeable portions at all, even much, much smaller ones, except by occasional chance. To make the point vivid let us turn to a somewhat mysterious moment in Plato's story. In treating of the metaphysical genesis of the Four, he likens them to the offspring (*ekgonos*), the receptacle to the mother, the Forms to the father (50d 2-4). This division is clearly meant to exclude any fourth factor (such as we find at *Philebus* 28c 4 – d8) mediating between Forms and Receptacle to produce the copies or offspring. However, it is not clear whether we are to understand the Forms here as a sort of efficient cause (cf. *hothen*[24] at 50d 3), or whether we are to see the Receptacle's total receptiveness as making it, so to speak, break out in a rash of likenesses to the Forms.[25] Either way, the use of biological as distinct from demiurgic imagery is remarkable. It suggests that at first reception the copies of the Forms occur not only in an utterly undeveloped state, but that they are physically minute. (Unable to bring himself to explain such incomplete and puny entities as products of intelligence, Plato likens the event of their origin to a well-known type of mindless reflex.) Minuteness of instances of the Four is a feature Plato is about to take to extremes in his theory that the materials we see are collocations of humanly imperceptible regular solids.[26] He has probably spent enough time in discussion with Aristotle to see that an object's geometry cannot alone account for its motion in a given direction.[27] It is also not hard to imagine Plato driven by a sort of indifference-argument such as the fifth-century atomists used in their own particle theory: since nothing in the two metaphysical parent-principles determines any collocation of copies in the receptacle, it is reasonable to suppose that each kind occurs either nowhere (which is ruled out) or as near as possible everywhere.[28] The latter means that the mixture must approximate as far as possible to one in which no two instances of the same kind are adjacent, so that each kind is instantiated over a maximal diversity of places.[29] Since there are only four kinds and six spatial directions, there would have to be some collocations of like with like, but they would be extremely small. As examples of the Four they would be completely

ineffectual. Mixed like this their qualities are imperceptible and they are unfit to be actual empirical materials of anything. What is more, they will not even be able to do much of what the Four (or anyway three of them) are by now most noted for: transforming into one another. For Plato holds that a smaller mass of one kind breaks down and transforms when engulfed by a larger mass of some other kind.(57a 3 – b 7). But there seems to be no reason why, in the primal situation, those ungestated copies of the Forms should occur often enough and in masses sized differentially enough for much transformation to happen. They really might as well not exist for all the use they are towards building the cosmos. But the Receptacle comes to the rescue. It is a wonderful *listener*. It picks up the faint signals of motion emitted by the minute flecks and spots that are everywhere in it, and returns them amplified and concentrated so as to mass the different signal-senders into definite empirical realities.

So far, then, we have seen two parts or 'moments' in the era before the divine craftsman made the first (created) living or life-connected things, i.e. the body and soul of the cosmos. First there is when the contents of the Receptacle are metaphysically generated in it. In this stage by itself we have a state of almost complete entropy. Second, there is when the shaking action has separated the kinds of particles into masses significant enough for the craftsman to make the body of the cosmos, and for his subordinates to make bodies of intra-cosmic animals. The second stage provides the Straying Cause, i.e. the materials for intelligent use. Since Plato, as we have seen, speaks of the absence from them *per se* of demiurgic ordering as if it were absence of order *tout court*, it is difficult and perhaps impossible always to be sure which pre-cosmic stage he means when he talks about things being disorderly.[30]

Another source of perplexity is his reluctance to bring on the one hand the Receptacle, on the other the geometrical structuring of the Four, under a single perspective. These two factors jointly ensure the existence of materials fit for the divine purpose. For in addition to being sufficiently separated (in fact, we might think, *before* being separated), they must have their properties and powers. The geometrical-particle theory gives an impressive explanation of (1) the inter-transformations of the Four (except for earth); (2) the existence of many more than four significantly different kinds of matter (this is due to there being different 'isotopes' of each of the Four, a fact which the geometry makes possible); and (3) a large range of empirical qualities.[31] Now, prosaically it would have been enough to say that geometrical structure, and separation/tendency to separate into kinds, are the two fundamental properties of empirical or cosmos-making matter. And Platonically we might think it natural to say that when copies of Forms of the Four were metaphysically generated in the Receptacle, what were generated were hosts of the four kinds of geometrical particles. But Plato does not want to say that. Instead he speaks as if first there were certain miserable traces or rudiments of fire, water, earth and air in the Receptacle, and then god ordered them accord-

ing to the regular solids (53a 2 – b 5).[32] But that does not make sense if, as he also holds, the qualities of the Four are due to their geometrical structures.[33] For there cannot be even rudimentary occurrences of fire, earth etc. without at least some of their qualities.[34]

This oddity cannot be due to his order of exposition. Of course it was natural to treat the different functions of the Receptacle, its great metaphysical function and then its more empirical separative one, in close succession. Thus the geometry had to come after the winnowing basket. But Plato could easily have made it clear that, as elsewhere, order of presentation does not necessarily follow order of what is presented (cf. 34b 10 c – 35a 1). He begins the geometrical passage with the words: 'It will now be my task to explain to you the structure of each and how they came to be' (53b 7-8).[35] Why could he not simply have said 'Now it will be my task to explain to you the structure of each'? True, the three-dimensional structures are probably best explained as 'coming-to-be' from triangles (this is how he does explain them), but anyone could see this to be a class-room device. Or why did he not say 'Now I must tell you about the structure they were generated [sc. metaphysically, in relation to the Receptacle] as having', and then proceed to show how that can be analysed into the triangles, and that this possibility of analysis is the same as the possibility of the transformation? Either of these would have been a natural way to convey that these structures have belonged to the contents of the Receptacle all along as the most fundamental aspect of what they as copies owe to their intelligible archetypes. But instead Plato chooses to say that the geometrical structures resulted from some kind of ordering activity which god brought to primitive traces of the Four already in the Receptacle.[36]

Here are some shots at explanation.

(A) Since (1) the separative tendency induced by the Receptacle, (2) the geometrical structure, and (3) the qualities of the Four are all essential aspects of them considered as empirical materials, the most logical thing, by ordinary standards, would have been to make these three aspects coeval and try to give them a single explanation. But Plato cannot bring himself to ascribe realisation of the geometric structures to any principle other than divine craftsman-like Intelligence ('the finest and best of causes', 68e 1-2; cf. 29a 5-6). Yet a craftsman god cannot give the Four their motions: the only way he could is by creating souls for each, and we have seen the absurdity of that. Moreover, there was no room for a craftsman in the image whereby copies were first parented into being by Forms and Receptacle. So if a craftsman comes in, he can come in only after that, i.e. when copies and Receptacle are already there. But then the separative work is already under way, so separation and geometric structure cannot be coeval. Again, craft

has to work on something having some character, even if only vestigial: another reason why the divine crafting comes on the scene after the copies do. So in the Ur-situation, for mythico-metaphysical reasons, the qualitative and dynamic aspects had to precede the geometrisation even though later, at the empirical stage, quality is made to depend on geometry. Since the latter dependence is part of what makes the geometrical theory scientifically attractive, perhaps we are simply seeing Plato torn between science and mythical metaphysics, and willing to sacrifice coherence for the sake of loyalty to both. (The *Timaeus* is too carefully crafted for one to believe that he was unaware of the incoherence.)

(B) Perhaps, however, those two loyalties are not the entire explanation. Arguably, the incoherence earns its keep by symbolising a kind of respect for the subject matter. Even if in the original 'begetting' the Receptacle did break out into regularly shaped particles, their beautiful geometry would have been quite useless—as though it had never been—until the Receptacle had done some separating work.[37] For the geometry accounts for qualities and transformations; but, as we have seen, qualities could make no impact and transformations could hardly happen as long as the kinds were utterly dispersed. It seems understandable if Plato actually preferred to deny (in effect) that the geometry was there from the start. If the divine and the Forms speak to us through beautiful natural mathematical formations (cf.46e 6 – 40), he might have thought it in a way sacrilegious to let such formations occur—either in his narrative or in the developments it depicts—at a stage when they would have made absolutely no difference for the better in their physical environment, and would have appeared quite pointless to our intellectual imagination. They would have seemed as if thrown away. As it is, there is no gap on either level in the proceedings between the display of the four regular solids themselves, and the display of their splendid battery of effects.[38]

Whether or not this is the right way to interpret the incoherence, the thought underlying the interpretation seems clearly to be part of Plato's cosmology. It is the thought that the Receptacle's shaking is benign, as the work of a mother should be. The shaking solves a problem that could not arise in connection with the work of Intelligence, which is the crafting of living things. The problem arises for inanimate things because of one of the fundamental ways they differ from things with soul. For organisms, to exist is to be alive. They cannot exist for long in a situation where their natures are blocked or muffled from activity. Either they die (if the blockage or muffling is irresistible) or they improve things either by adaptation or by altering the environment or by moving to a different one. They self-actualise in that from themselves they live up to their distinctive natures, i.e. to their corresponding Forms according to Platonism. This autonomy is particularly obvious in the unenvironed living being that is the cosmos: since nothing can block or muffle *it*, it completely from itself lives up to its Form. This is not autonomy in a sense implying dependence on nothing distinct from itself for its existence. The cosmos depends on its own matter, which in a way is distinct from it,

and it depends on the continuing approval of its maker (a bargain which both sides are guaranteed to keep). The autonomy in question is of actualisation. Given that this being exists, it from itself is as fully actual as any living being can be. In lesser and more limited ways, the same holds of the environment-dependent organisms inside the cosmos. But it does not hold of those original dots and dashes of earth, fire, water and air. Necessarily they lack soul; but soul-less they cannot die and disappear, and they cannot of themselves secure the conditions needed if it is to make a difference whether something is a dot of fire or a dot of water. The dots and dashes can be, individually, perfect replicas of their corresponding Forms, but they still need the Receptacle: first to support their bare existence, and then to dispose them so that the distinctive Four will contribute to nature and be manifest in ways that reflect distinctions among their Forms.[39]

[1]Line references to Plato are to Burnet's text.

[2]Translation by D. Zeyl (*Plato, Complete Works*, ed. John M. Cooper, Indianapolis, 1997), and elsewhere in this paper.

[3]Cf. S. Broadie, 'Soul and Body in Plato and Descartes', *Proceedings of the Aristotelian Society* 2000, 295-308.

[4]In fact, it has three. The second beginning is at 48d 4, with a prelude 47e 3 – 48d 4 announcing and emphasising the need for it; the third is at 69a 5.

[5]Not, as Zeyl, 'the things that *have* come about by Necessity'.

[6]This reasoning assumes that there is no intelligible Form (or part of one) *F* of which the following is true: something on the sensible level resembles *F* as if it had come to be in imitation of it, but did not come to be in imitation of it. I.e. every Form (or part of one) that is of the nature to be a principle for something sensible *is* a principle for something sensible. Whether this principle of non-redundancy of principles leaves the Demiurge enough to contemplate in his spare time (cf. 42e 5-6) is a question for neo-Platonists to decide in different ways, depending on whether they think (a) that the Form(s) paradigmatic for world-making can also stand in a different cognitive relation to the Demiurge (just as apparently certain rabbis held that the Torah is both the blueprint for the universe and what the Creator studies on his seventh day of rest), or (b) that there are intelligibles for contemplating which are not paradigmatic (anyway, not cosmically so).

[7]Here I assume with most scholars that *Parmenides* precedes *Timaeus*. However, the *Parm*. passage is not evidence that Plato changed his own mind between that and the *Timaeus*, since Socrates, the friend of Forms in the *Parm*., is deliberately shown as naïf there. Just as he fails to see points which an 'Eleatically' trained Platonic logician would see, so perhaps he overlooks possibilities which a Platonic cosmologist takes seriously.

[8]'...nothing is added to them [the Four], nor do they leave off, for if they were perishing continuously, they would no longer be. But what could increase this totality? And where could it come from? And how [or, where] could it perish, since nothing is empty of these? But there are just these very things, and running through one another at different times they come to be different things and yet are always and continuously the same' (DK 31B17, lines 30-35, tr. R. McKirahan).

[9]DK 31B6.

[10]These passages mark respectively the beginning and the end of the discussion of the effects of Necessity.

[11]This interpretation of the 'Straying Cause' has been very clearly argued for by Glenn R. Morrow, 'Necessity and Persuasion in Plato's *Timaeus*', pp. 421-37 in *Studies in Plato's Metaphysics*, ed. R. E. Allen, London, 1965. Without question, when Plato is speaking of the Straying Cause in general terms, he highlights its disorderliness rather than merely saying that it lacks an intelligent guidance system. This led

G. Vlastos in 1939 to see a contradiction between this disorderliness (he often calls it 'chaos') and the non-intelligent regularity of the Four: n. 2, p. 398 of his 'The Disorderly Motion in the Timaeus', pp. 379-99 in Allen, op. cit.. But Plato takes the definite natures of the materials for granted when working out details of the cosmology. His exclusive focus, from the grand mythographic perspective, on their lack of the type of order that matters to him most (i.e. for him order *par excellence*) can be explained given the main hypothesis of this paper. That is: to emphasise, from the grand perspective, the intrinsic determinate natures of the factors composing the Straying Cause, would be at odds with casting them as essentially cosmic servants.

[12]We know it must be a metaphor for him because 46d 5-7 implies that they are inanimate (though by a bad argument proving only that they *are not* souls, not that they lack them).

[13]On the natural translation, *Laws* 967d 6-9 describes soul as 'eldest of things that partake of coming-to-be'. For defence of this translation, see R. Hackforth, 'Plato's Theism' pp. 439-47 in R. E. Allen, op. cit.

[14]Cf. Xenophanes: 'God is one, greatest among gods and men, not at all like mortals in body or thought' (DK 21B23).

[15]That the Four came to be is first said rather quietly at 46d 7, where the argument emphasises not this but that they are objects of sense perception.

[16]Note that the original dual division was simply between intelligible being and sensible becoming, without immediate mention of paradigm and copy (27d 5 – 28a 4). Paradigms then came up in the context of a contrast between intelligible and sensible *paradigms* (28a 6 – 29b). That and assumptions about causation and about goodness gave an argument establishing that the sensible cosmos is a copy of an intelligible paradigm (conclusion at 29b 2). The statement at 48e 2 – 49a 1 that the original dual division *was* (*ên* at 48e 4) one of intelligible paradigm vs. sensible copy is either false (in which case we have to wonder whether it is so deliberately) or it refers summarily to the whole argument from 27d 5 to 29b2.

[17]This conflicts with the fact that 49b 1 – e 7 is clearly about the fire, water etc. that we dwellers within the created cosmos perceive (*horômen*, c 1; cf. d 4), *pace* Cornford, who takes it to be about a pre-cosmic flux of pre-geometrised fire etc. (p. 181 of *Plato's Cosmology*, reprinted Indianapolis, 1997). But the geometrical formations must be 'there already' underlying the scenario of 49b 1 – e 7, since they are supposed to explain the metamorphoses. Why Plato places the geometrical account where he does is a question needing more discussion than is possible here.

[18]The difference between understanding and true opinion is supposed to show that there must be Forms of the Four (*logo(i) de dê* at 51b 6, contrasting with the figurative passage which precedes). The argument is: (1) there must be Forms if (2) understanding differs from true opinion based on sense, and then three reasons are given for (2). But this fails to show that (2) applies to *the Four* (which the passage is plainly about: *peri autôn* (51b 7) refers to them). This would all be bluster if Plato did not have up his sleeve a theory of the Four in terms of intelligible structure. (Perhaps the voting metaphor [*psêphos*; 51d 3; 52d 2] registers the weakness of the argument.)

[19]The point here is not just that the Receptacle must be empirically characterless in order to be omni-recipient, but also, perhaps, that if it were empirical, i.e. if one of the Four, say, played the receptacle-role, nothing of the other three would be able to appear at all in it, and we should have a sensible realm consisting entirely of fire or whatever. It could not be made into an animal containing the familiar intra-cosmic animals, and the beautiful paradigm would be idle lumber.

[20]It has double emphasis: *tria trichê(i)* at 52d 4.

[21]The words echo 48b 3-4 at the start of the second beginning.

[22]See 57c 2-6 and 58a 2 – c 4. The latter makes it clear that movements of small masses of the Four towards their proper places is a permanent feature of the already formed cosmos. A process caused by the cosmic rotation (created by creating the world-soul) ensures that there is not total separation and stasis of the Four.

[23]However, see n. 34 below.

[24]Overtranslated by Archer-Hind and Cornford as 'the model'.

[25]The next stretch of text, 50d 5 – 51a 6, is entirely about receptiveness. We may be reminded of the function of the liver at 71a 3 – e 2: it helps us control the lowest part of our soul by translating 'the force of the thoughts sent down by the mind' into images received in the liver as if in a mirror. This psychophysical 'force of the thoughts' does not seem to be

something the thoughts would have on their own. It is as if elicited by the liver's receptiveness.

[26]At 91c 7 – d 5 Plato describes copulation (he has the human case mainly in mind) as the male's depositing not, as one might naively imagine it, some single or occasionally a twin *ekgonos* in the womb of the female, but as sowing there as in tilled earth 'living things too small to be visible and not yet moulded into any form'. In the first respect they are like the particles of the Four (56b 7 – c 3). 'Sowing in tilled earth' indicates a plethora of seeds. The plural verbs throughout 91c 7 – d 5 (*hekaterôn hê epithumia kai ho erôs* as subject) bring out that it is a joint male-female operation from conception to birth: there is no mere passive partner here.

[27]If Plato had implied the contrary in the *Timaeus*, Aristotle would certainly have included such a view in the target of his complaint against the obviously similar fifth-century atomism, namely that it fails to explain the natural motions of the elements (*On the Heaven* III.2, 300b8-11; *Metaphysics* I.4, 985b19-20; ibid. XII.6, 1071b33-35).

[28]At *Gen. et Corr*. 335b 18-20 Aristotle uses an indifference argument against the notion of Platonic Forms as efficient causes of sensibles: why is their generative activity intermittent rather than continuous and perpetual? Even granting that the ancients saw less analogy between the temporal and the spatial than we do, one wonders (a) why Aristotle did not add an objection with 'everywhere' instead of 'everywhen'; and (b) whether 'everywhere' was exactly what Plato does have in mind for his copies on first appearance in the Receptacle. For a close study of ancient indifference arguments, see Stephen Makin, *Indifference Arguments* (Oxford, 1993).

[29]At 51a 2 he speaks of the Receptacle as receiving the copies 'repeatedly' and 'throughout its whole self'; but the point may be that as far as possible there are no empty spaces.

[30]30a 2-6 refers to stage 2. Note *paralabôn*, echoed at 68e 3 in the conclusion to the entire discussion of the physics and chemistry of the Four. 53a 8 is unclear. This line effects the transition from the immediately preceding material about winnowing/separation to the account of how god geometrised the Four. *to men pro toutou* is usually taken as saying the same as *prin kai to pan ex autôn diakosmêthen genesthai* (7), but it could mean 'before the separation'. (Cornford amongst others tends not to distinguish these stages, and to call the entire pre-cosmic situation 'chaos'.) 69b 2 – c 3 implies two differently contrasted pre-cosmic stages: before and after the geometrisation.

[31]The power of the geometrisation to explain (2) and (3) is very important for the entire cosmology. For this gives indirect support for regarding the transformations as real. It could easily be claimed (and would have been by a philosopher like Empedocles) that parcels of the Four only appear to perish. To challenge the truth of this appearance is to challenge the datum motivating the Receptacle-doctrine.

[32]Cf. Cornford's remark that throughout the various presentations of the Receptacle in its pre-cosmic roles 'there is not a single word implying that [its contents] exist in the form of particles.' (op. cit., 200-201). By 'particles' Cornford means, I think, particles with definite shapes, not merely very small amounts. As I have argued above, reflection on the implications of the father-mother-offspring image does suggest very small amounts.

[33]There are many examples of this at 58c 5 – 62c 3 and 64a 2 – 68d 7.

[34]Whether Timaeus' story is a history of events or a depiction of a set of aspects of the cosmos in their quasi-logical or presuppositional relations, the problem is the same: traces of the Four in the Receptacle presuppose qualities, qualities presuppose geometrisation; geometrisation is described as ordering of the traces. (Another incoherence occurs when the god who can only make immortal things geometrises the Four exactly so that they can (except earth) turn into each other, hence in individual parcels perish. (Perhaps this can be remedied by treating the geometrisation as cause of the cycles. But not every cycle involving particular parcels need go on for ever: some mid-water water, e.g. might never meet the conditions of unlikeness in which its particles broke down (56e 1 – 57c 1). (The 'perpetual motion' at 58c 2-4 refers to the fact that there will always be *some* (indeed, a lot) of movement and change, both transformational and to the different regions.) A better solution is to restrict that divine limitation to living things:

the supreme god has nothing to do with *death*.)

[35]This translation departs slightly from Zeyl, who has 'what structure each acquired'. But the coming-to-be mentioned is clearly that of the structures.

[36]Richard D. Mohr (*The Platonic Cosmology* (Leiden, 1985), pp. 108-115) argues that this ordering was applied to degenerate regular solids (consisting of degenerate triangles) which were what first appeared in the Receptacle. But if Plato had meant us to think that the Receptacle is such that most of the copies that appeared in it are not merely ontologically dependent on it, but botched even as copies, he would surely have said so. The Receptacle as presented is all about its contents' metaphysical deficiency (= they are not Forms), but this by itself does not imply their imperfection as *natural* entities. Since this is not implied, it is gratuitous to assume it: the assumption makes no cosmological point. It is also possible to suppose that the first traces were copies of the Forms (i.e. they were sensible instances of fire etc.) in virtue of non-geometrical properties, and were then divinely endowed with a geometry that turned them into better copies and more perfect sensible instances. (I owe this thought to discussion with David Sedley.) But this suggestion is uncomfortable for the following reason: it seems as if the grand contrast between intelligence and necessity, or an analogue or extension of that contrast, ought to apply to the present case. But then the difference between geometrised and pre-geometrised traces ought to be more dramatic than one of mere degree. The Straying Cause in the grand contrast is not just an imperfect version of divine craft or divine craftwork. This is also a difficulty for Mohr's explanation.

[37]53e 6 – 54a 7 emphasises the beauty of the solids and their triangles.

[38]Incoherence, even unintended, about logical or causal relations is a lapse of rationality. However, the author of the *Timaeus* may well have regarded even unintended deviation from pious propriety as another such lapse—in fact, as a sort of slight to reason (especially in this discourse). (It is a kind of disrespect to reason, he might think, not to 'put it first' in everything; thus reason must have made the cosmos, hence the rational aspects of nature are divine and must be spoken of with piety.) These different kinds of lapses may be collected as failures to see or exhibit what *fits*. There seems to be no reason from Plato's point of view why, in a conflict, he should think it more required by reason to avoid the first kind of lapse than the second. On the contrary: at 27c 6 – d 1, the gods' approval of the discourse is made prior to ours. Cf. 29a 3-4.

[39]My thanks to David Sedley and Robert Sharples for helpful comments on a previous version.