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Why the Cosmos Needs a Craftsman: Plato, *Timaeus* 27d5-29b1

Thomas Kjeller Johansen

Brasenose College, Oxford OX1 4AJ. UK

thomas.johansen@philosophy.ox.ac.uk

Abstract

In his opening speech, Timaeus (*Timaeus* 27d5-29b1) argues that the cosmos must be the product of a craftsman looking to an eternal paradigm. Yet his premises seem at best to justify only that the world could have been made by such a craftsman. This paper seeks to clarify Timaeus' justification for his stronger conclusion. It is argued that Timaeus sees a necessary role for craftsmanship as a cause that makes becoming like being.

Keywords

Plato – *Timaeus* – cause – craftsman – cosmos – beauty

1 Introduction

In his opening speech Timaeus argues that the cosmos must be understood as the product of a craftsman (*dēmiourgos*) looking at an eternal paradigm. The argument sets the terms whereby Timaeus' entire cosmology is to be assessed. Socrates accepts it enthusiastically (29d), and Timaeus himself is billed as a top-notch philosopher (20a). So it would be surprising if it was patently unworkable. Yet the argument seems enthymematic, and it is unclear just which premises might make it valid. This paper offers a reconstruction of the argument, arguing that the key missing premise is a claim that craftsmanship is necessary for the generation of beautiful things. It is a claim recognizable

from elsewhere in the *Timaeus* and other works by Plato, so it is not so surprising that it is not made explicit to Timaeus' insider audience.¹

2 The Structure of the Argument

Here is the key passage in full with my articulation in square brackets (*Tim.* 27d5-29b2):²

[T₁] [Stage 1] We must in my opinion begin by making the following distinctions. [A] What is that which always is, and has no becoming, and what is that which is always (28a) becoming but never in any way is? The one is apprehensible by intelligence with an account, being always the same, the other is the object of opinion together with irrational sense perception, becoming and ceasing to be, but never really being. [B] In addition, everything that becomes must do so owing to some cause; for nothing can come to be without a cause. [C] Whenever, then, the craftsman of anything keeps his eye on the eternally unchanging and uses some such thing as his pattern for the form and (b) function of his product, the result is necessarily fine; whenever he looks to something that has come to be and uses a model that has been generated, the result is necessarily not fine.

[Stage 2] [D] As for the whole heaven—let us call it that or 'the world' or any other name most acceptable to it—we must ask about it the question one has to ask to begin with about anything: whether it always was and had no origin of coming into being, or whether it has come into being, having started from some origin. The answer is that it has come into being; for it is visible, tangible and corporeal, and all such things are perceptible by the senses, and, as we saw, perceptible things are objects of opinion (c) and sense perception and come into being and are generated. [E] And it is necessary, we said, for what has come into being to have done so by some cause. To discover the maker and father of this universe is indeed a hard task, and having found him it would be impossible to tell everyone about him. [F] Let us return, then, and ask the following (29a) question about it: to which pattern did its constructor work,

1 See Socrates' praise of Timaeus', Critias' and Hermocrates' philosophical abilities at 20a-b. They are *xenoi* of Socrates (17a) and have his account of the ideal state fresh in mind from yesterday's proceedings.

2 Translation of the *Timaeus* throughout is after Lee (revised Johansen) 2008.

that which remains the same and unchanging or that which has come to be? If this world here is beautiful and its maker good, it is clear to all that he had his eye on the eternal; if the alternative (which it is blasphemy even to mention) is true, then on something that has come into being.

Clearly he had his eye on the eternal: for the world is the fairest of all things that have come into being and he is the best of causes. [G] In this way it was crafted on the pattern of what is apprehensible by reason and understanding and eternally (b) unchanging. These things being so, it is in every way necessary that this world is a likeness of something.³

The argument of the passage has a fairly clear structure. It proceeds in two stages. Stage 1 sets out some distinctions; Stage 2 applies those distinctions to the cosmos. We might see Stage 1 as providing general premises, while Stage 2 draws inferences about the cosmos from those premises.

Stage 1:

A. Being differs from becoming.

B. All becoming has a cause.

C. When a craftsman makes something come into being by looking to an eternal paradigm the outcome is necessarily fine, when he looks to a created paradigm, the outcome is necessarily not fine.

3 "Ἔστιν οὖν δὴ κατ' ἐμὴν δόξαν πρῶτον διαιρετέον τάδε· τί τὸ ὄν αἰεί, γένεσιν δὲ οὐκ ἔχον, καὶ τί τὸ γιγνώμενον μὲν αἰεί, ὄν δὲ οὐδέποτε; τὸ μὲν δὴ νοήσει μετὰ λόγου περιληπτόν, αἰεὶ κατὰ ταυτὰ ὄν, τὸ δ' αὐτὸ δόξῃ μετ' αἰσθήσεως ἀλόγου δοξαστόν, γιγνώμενον καὶ ἀπολλύμενον, ὄντως δὲ οὐδέποτε ὄν. πᾶν δὲ αὐτὸ τὸ γιγνώμενον ὑπ' αἰτίου τινὸς ἐξ ἀνάγκης γίγνεσθαι· παντὶ γὰρ ἀδύνατον χωρὶς αἰτίου γένεσιν σχεῖν. ὅτου μὲν οὖν ἂν ὁ δημιουργὸς πρὸς τὸ κατὰ ταυτὰ ἔχον βλέπων αἰεὶ, τοιοῦτ' ἂν τι προσχρῶμενος παραδείγματι, τὴν ἰδέαν καὶ δύναμιν αὐτοῦ ἀπεργάζηται, καλὸν ἐξ ἀνάγκης οὕτως ἀποτελεῖσθαι πᾶν· οὐδ' ἂν εἰς γεγονός, γεννητῷ παραδείγματι προσχρῶμενος, οὐ καλόν. ὁ δὴ πᾶς οὐρανός—ἢ κόσμος ἢ καὶ ἄλλο ὅτι ποτὲ ὀνομαζόμενος μάλιστ' ἂν δέχοιτο, τοῦθ' ἡμῖν ὀνομάσθω—σκεπτόν δ' οὖν περὶ αὐτοῦ πρῶτον, ὅπερ ὑπόκειται περὶ παντὸς ἐν ἀρχῇ δεῖν σκοπεῖν, πότερον ἦν αἰεὶ, γενέσεως ἀρχὴν ἔχον οὐδεμίαν, ἢ γέγονεν, ἀπ' ἀρχῆς τινος ἀρξάμενος. γέγονεν· ὄρατὸς γὰρ ἀπτὸς τέ ἐστιν καὶ σῶμα ἔχον, πάντα δὲ τὰ τοιαῦτα αἰσθητά, τὰ δ' αἰσθητά, δόξῃ περιληπτά μετ' αἰσθήσεως, γιγνώμενα καὶ γεννητὰ ἐφάνη. τῷ δ' αὐτὸ γενομένῳ φαμέν ὑπ' αἰτίου τινὸς ἀνάγκη εἶναι γενέσθαι. τὸν μὲν οὖν ποιητὴν καὶ πατέρα τοῦδε τοῦ παντὸς εὐρεῖν τε ἔργον καὶ εὐρόντα εἰς πάντας ἀδύνατον λέγειν· τότε δ' οὖν ἄλλοις ἐπισκεπτόν περὶ αὐτοῦ, πρὸς πότερον τῶν παραδειγμάτων ὁ τεκταινόμενος αὐτὸν ἀπηργάζετο, πότερον πρὸς τὸ κατὰ ταυτὰ καὶ ὡσαύτως ἔχον ἢ πρὸς τὸ γεγονός. εἰ μὲν δὴ καλὸς ἐστιν ὅδε ὁ κόσμος ὃς τε δημιουργὸς ἀγαθός, δῆλον ὡς πρὸς τὸ αἰδίον ἔβλεπεν· εἰ δὲ ὁ μὴδ' εἰπεῖν τι θεῖος, πρὸς γεγονός. παντὶ δὴ σαφές ὅτι πρὸς τὸ αἰδίον· ὁ μὲν γὰρ κάλλιστος τῶν γεγονότων, ὁ δ' ἄριστος τῶν αἰτίων. οὕτω δὴ γεγενημένος πρὸς τὸ λόγῳ καὶ φρονήσει περιληπτόν καὶ κατὰ ταυτὰ ἔχον δεδημιούργηται· τούτων δὲ ὑπαρχόντων αὐτῷ πᾶσα ἀνάγκη τόνδε τὸν κόσμον εἰκόνα τινὸς εἶναι.

Stage 2:

D. Applying A, the cosmos is a case of becoming, because it is perceptible.

E. Applying B, the cosmos has a cause.

F. Applying C, the cosmos was caused by a craftsman looking to an eternal model (because it is beautiful and its maker was good).

G, finally, describes the eternal model in the way A described being, and emphasizes the world's status as a likeness.

How is Stage 1 supposed to help generate the conclusion at Stage 2 that the world was created by a craftsman contemplating an eternal paradigm? In particular, why should we follow Timaeus in thinking that the beauty of the cosmos requires us to think of its maker as certain kind of craftsman?

It is important to note from the outset some restrictions to the scope of A and B, since they help smooth the transition to C. First of all, B relates only to becoming, as distinguished from being in A. Further since C is said on the basis of B, there is no suggestion that causes of *being* could or should be thought of as craftsmen. So we should not worry, for example, that *Republic* 6-7 presents the Form of the Good as the cause of the other Forms without any hint that the Good is like a craftsman in that respect. Regarding the causes of Forms T1 is silent.

Secondly, T1's references to 'becoming' (*genesis*) suggest what Aristotle would call 'generation', that is, the coming into being or 'birth' of a new thing. For in A 'coming-into-being' (*gignomenon*) is contrasted with 'being destroyed' (*apollumenon*). Again, C refers to a craftsman who uses a *generated* model. Correspondingly, at Stage 2 Timaeus talks of what comes into being and is *generated* (*gennēta*). If so, we may think that Timaeus in this argument is concerned primarily with coming into being as generation. This focus on generation may help motivate the introduction of the craftsman in C: for craftsmen are causes that bring new things into being. They engage in *poiēsis*, bringing something into being that was not there before.⁴ This might also be why Timaeus at E thinks of coupling the craftsmen with the maker and father: these are causes that give birth to new things.⁵ However, we should not leap from these observations to inferring that Timaeus wants to exclude change in other 'non-substantial' categories. For, given that becoming is presented as what never really is (28a3-4), it may be that he conceives of becoming as

4 See *Sophist* 265b9-10.

5 In presenting change as complete and causation in reproductive terms, T1 is taking a page out of the *Symposium*.

involving every aspect in which something can be said to be.⁶ However, it does seem that he wants to highlight that the becoming that contrasts with being is such as *even* to undergo continuous substantial change.⁷ And this is perhaps the most striking aspect of becoming as it is described here: that it changes so much that we even want to say that it is constantly becoming a new thing.⁸

Let me return to the structure of the argument. Given that Stage 1 is in the business of setting up premises for Stage 2, there is no reason to expect any inferential connections in **A** through **C**. Accordingly, after **A**, **B** is introduced simply by 'again' (*au*), which suggests the addition of a distinct point. However, **C** seems to bear a closer relationship to **B**. For **C** talks about a craftsman that causes coming-into-being, where **B** talked of coming-into-being as having a cause. So **C** looks like a specification in some way of the sort of cause talked about in **B**. And some support for this impression comes from Timaeus' use of the connective 'so' (*oun*) at the beginning of both **C** and **F**, which may be taken to suggest an inference, or at least some continuation in thought.

B. 'Everything that comes into being has a cause'

gives a reason, then, for also saying:

C. 'Coming into being is caused by a craftsman looking either to an eternal or a generated paradigm, etc.'

However, **C** might be quantified in different ways as either:

C1. '*All* coming into being is caused by a craftsman, etc.'

or:

C2. '*Some* coming into being is caused by a craftsman, etc.'

6 As Sedley 2007, 103 n. 20 points out. There are various possible ways here in which one could think of the relationship between substantial and non substantial changes. Among others: (a) one could think of any change in any category as changing the identity of the subject and so amounting to a substantial change; (b) one could think that changes in all categories happen at the same time, so at the same time as a change in any category there will also be a change in substance; (c) one could think that a change in substance involves a changes in all other categories.

7 See Frede 1988, 39.

8 On the cogency of this idea see Frede 1988.

If one construes C in the manner of C₁ one could see it as a specification of B: all coming into being has a cause and this cause is a craftsman. C would follow, then, from B simply because all causes of coming into being are craftsmen. The corresponding lines in Stage 2, 28c3-a2, also seem to support C₁. For here Timaeus goes straight from asserting that the world as a case of coming-into-being has a cause, to asking whether its maker looked at an eternal or generated paradigm. Here it is not sufficient to say that there are some causes that are craftsmen. For now it is asserted of this particular entity, the cosmos, that it has a cause, and that *this* cause is of the crafting sort. It seems that the reader would have no logical reason (such as universal instantiation from C₁) to follow this move in the argument if there was no agreement that causes of coming into being in general are craftsmen. So C₁ might have something to be said for it.

However, the Greek of Timaeus' phrasing of C at 28a6 plainly favours C₂ ('Some coming into being is caused by a craftsman, etc.'). For this does not state:

For all X, if X comes into being, its cause is either a craftsman using an eternal model, in which case the result is necessarily fine, or it is a craftsman using a generated model, in which case the result is necessarily not fine;

but rather:

For all X, if X is caused by a craftsman looking to an eternal paradigm (ὅτου μὲν οὖν ἂν ὁ δημιουργὸς πρὸς τὸ κατὰ ταῦτα ἔχον βλέπων αἰεί), X is necessarily beautiful, and if X is caused by a craftsman looking to a created paradigm (οὗ δ' ἂν εἰς γεγονόσ), X is necessarily not beautiful.

That is, Timaeus talks simply about two cases where the cause is a craftsman without any general claim that all causes of becoming are craftsmen. So Timaeus has said nothing to exclude the possibility that some cases of coming-into-being are not caused by craftsmen. In terms of the Greek, C₂ seems on target then.

3 T₁ as an Argument from Design

If C₂ is correct, however, it leaves us with the problem of explaining why Timaeus thinks at Stage 2 that we should take the cosmos to be one of those

cases where the cause of coming into being is a craftsman.⁹ Given the focus in C, and correspondingly in F, on the beauty of the product, an obvious next step is to say that we should take the cosmos to be crafted because of its beauty. We would have then an argument from design of some sort. A familiar version of this argument would go:

- (i) The world has come into being as beautiful in a certain way;
- (ii) objects that are beautiful in this way are best explained as the products of craftsmanship;
- (iii) therefore the world is best explained as the product of craftsmanship.

On this reading, then, Timaeus' argument would be an inference to the best explanation, no more.¹⁰ The reading has the advantage that we can understand why Timaeus in C homes in on craftsmanship because it is a particularly pertinent cause of beauty, without committing him to the (perhaps) implausibly strong claim that all causes of beauty have to be craftsmen. Among causes of beauty a craftsman is just the best candidate. The problem with the reading is that Timaeus himself indicates that the argument has a stronger, demonstrative status. Not only does he claim that it is plain *to all*, given the beauty of the cosmos and the goodness of the maker, that the cause was a craftsman looking to an eternal paradigm, where some might well be thought to differ; but at the end of the passage he says: 'These things being so, it is in every way necessary (*pasa anagkē*) that this world is a likeness of something' (29b1-2). The conclusion is 'in every way necessary'.¹¹ How could it be in every way necessary if the argument was not meant to exclude that the world could have come about without a craftsman, let alone one looking at an eternal paradigm?¹²

9 Broadie 2012, 31-8 argues that the craftsman looking at an eternal paradigm is a necessary and sufficient condition for beautiful things coming into being. It is clearly sufficient, according to Timaeus, since such a craftsman is said in T1 to necessitate this outcome, but it is only necessary on the assumption that the only other possible cause is a craftsman looking at a generated paradigm. But why the cause should be a crafting intellect at all is not so obvious.

10 For this interpretation, see Johansen 2004, 75-6.

11 One might think that the necessity in question is just a matter of *necessitas consequentiae*, given premises ('These things being so') which need not themselves be necessary. In other words, the idea might seem to be that *if* it is true that the world was made by a craftsman looking at an eternal paradigm, then it follows necessarily that the world is a likeness. However, this reading would offer no justification for 'in every way'.

12 The demonstrative status of the argument to the conclusion *that* the world is a likeness contrasts here with the likely status of accounts that show *how* the world is likeness (29b3-d3).

4 **Craftsmanship as a Cause of Beauty**

The search is on, then, for a reading which allows for the argument, if successful, to have demonstrative status. Such an argument could take the form of a stronger argument from design:

- (i) The world has come to be beautiful in a certain way;
- (ii*) objects that come to be beautiful in such and such a way are all products of craftsmanship;
- (iii*) therefore the world is the product of a craftsman.

However, C again causes trouble: it does not say that all beautiful outcomes are products of craftsmanship (i.e. ii*), but rather that all products of craftsmen, when they look to an eternal paradigm, are beautiful. I want to suggest that there is nonetheless a plausible way of seeing Timaeus as committed to the claim that all causes of beautiful coming into being are craftsmen.

To see this, let us approach C again starting from the following question. Given that everything that comes into being has a cause (B), if something beautiful comes into being, what cause can it have? We would expect causes here to fall into one of the two possible categories mentioned in A, being or becoming, at least if this distinction, as it seems, is meant to be exhaustive and its terms mutually exclusive.¹³ But Timaeus in C does not apply the distinction between being and becoming directly to characterise two kinds of cause. Rather he applies it to the kinds of model a craftsman might use, where the craftsman is the cause. Yet it is clear that Timaeus is highlighting the way in which the choice of model determines the craftsman's work. Indeed he talks in C as if the model was the factor that *solely* determined the outcome: an eternal model makes the outcome beautiful, a generated one makes the outcome the opposite. It seems implied that being as such has beauty-making characteristics, while becoming as such has non-beauty-making characteristics. If we read the argument without the craftsman, the simplified thought would then

The first argument operates as a precondition of Timaeus' cosmology, the likely accounts occur *within* his cosmology.

- 13 Is it exhaustive? The description of being and becoming allows for a middle term which would be sometimes or in some way changing and sometimes not. The cosmos will become such a middle term when it is produced by making becoming a likeness of being. I take it therefore that that the descriptions are true of being and becoming, independently of and prior to the Demiurge's intervention. So at this at this stage of the account the distinction may be seen as exhaustive. See further below.

be that being causes beautiful outcomes, becoming non-beautiful ones, given that being is unchanging and becoming is always changing.

So far, then, these thoughts have left out the craftsman: being and becoming have been considered as possible causes rather craftsmen. If the model is so important in determining the outcome, what role is left for the craftsman? Consider the craftsman as a conveyor of information: when looking to being he transfers information about beauty to the product, when looking to becoming he does not.¹⁴ For only being contains information about beauty. The motivation for the craftsman may now be understood as follows. It is through craftsmen that information about beauty is transmitted from being to things that come into being. This explains the phrasing of C. Timaeus does not say that all causes of coming-into-being are craftsmen; rather he talks about those causes that are craftsmen because he is interested in causes that can determine what comes into being as beautiful, and only a cause that can transfer beauty from eternal being to becoming can do that. For to repeat: becoming as such has no beauty-making properties; beauty is a quality of being as such. So if something is going to become beautiful it has to be made like being. This is the job of the craftsman.

This notion of craftsmanship is well documented in the *Gorgias* and *Republic* 10: a craftsman causes beautiful and good things to come into being by modelling them on eternal forms. As the *Gorgias* (503d-504a) and *Laws* 10 (903c-d) intimate, crafts *as such* are concerned with making fine and good things. Timaeus' shift from talking about causes of coming-into-being in B to craftsmen-causes in C reflects that he is moving to a consideration of the beauty of the outcome. Compare on this point *Philebus* 26d7-9, where Socrates presents coming-into-being as the result of the imposition of measures on the unlimited,¹⁵ and then goes on to refer to the cause of such coming-into-being as *to dêmiourgoun*. The fact that the result is described in overtly evaluative terms may be seen as motivating referring to its cause as a 'craftsman'. The conception of craft as essentially concerned with beauty would help explain why the craftsman is brought in as the cause in C.

This claim about craft may seem to run up against the fact that Timaeus in C offers us *two* alternative exercises of craft: producing a fine outcome and producing a non-fine one.¹⁶ However, there is no indication here that these are equally appropriate exercises of the craft. In *Republic* 10, Socrates refers to the

14 The need to choose a gender-specific 'he' is suggested by the addition of 'father' at 28c3.

15 ἀλλὰ τρίτον φάθι με λέγειν, ἐν τούτῳ τιθέντα τὸ τούτων ἔκγονον ἄπαν, γένεσιν εἰς οὐσίαν ἐκ τῶν μετὰ τοῦ πέρατος ἀπειργασμένων μέτρων.

16 See Broadie 2012, 28-9.

imitator as a kind of craftsman (*dēmiourgos*) before disparaging him because of his ignorance, and continues to speak about him as ‘crafting’ images (599a7). It is consistent, then, with *Republic* 10 for Timaeus also to talk of a craftsman who looks to a generated paradigm. However, A (28a1-3) makes it clear that eternal being is grasped by knowledge and what is generated is irrational. So insofar as craftsmanship involves knowledge it should be clear, here as in the *Republic*, that a craftsman will look to an eternal paradigm rather than a generated one. If so, while a craftsman could choose a generated paradigm, and so bring about a less than beautiful product, it is clear that he would not then be acting properly *as a craftsman*.¹⁷

Why is the bad craftsman mentioned at all then? One answer is that, while only a craftsman can ensure that the outcome is beautiful, because only a craftsman can mediate properties of being to becoming, we need to specify what kind of craftsman it was to ensure that he did look to being, given that it is theoretically possible for a craftsman to misuse his craft. That is why Timaeus’ argument has to establish two objectives at the same time: not only to show the world to be the product of craftsmanship, which is a necessary condition of its having come into being in all its beauty, but also as the product of the right exercise of craftsmanship, the one that is based on a formal paradigm, and which ensures the beauty of the creation. This double target creates potential for confusion both at C and at the corresponding application F, since both seem to presuppose a positive answer to the question ‘Should the world be considered in terms of craftsmanship?’ before we try to answer the question ‘Which model did the craftsman use?’. My suggestion is that Timaeus thinks that these two questions can be handled together because he thinks it is only on the assumption that *some kind of* craftsmanship is at play that beautiful coming-into-being can be explained.¹⁸ By showing the world to have been

17 See further below.

18 It is worth noting here that Stage 2 does not spring the beauty of the cosmos on us in F only *after* we have decided to think of it as having been produced in E. For already D adverts to the beauty of the cosmos when he says: ‘As for the whole heaven (*ouranos*)—let us call it that or ‘the world (*kosmos*)’ or any other name most acceptable to it.’ For the term *kosmos* is overtly evaluative: it means a beautifully ordered whole, as Timaeus reminds us at 40a6. One should not infer from ‘or any other name most acceptable to it’ that the appellation is a matter of indifference: the point is rather for us humans to defer to the cosmos as (if) to a god to decide what is its proper name. See also *Philebus* 12c and Archer-Hind 1888, *ad loc.*: ‘The universe is a living god: Plato therefore uses the customary reverence diffidence in naming the divine: cf. Aeschylus *Agamemnon* 160: Ζεὺς ὅστις ποτ’ ἐστίν, εἰ τόδ’ αὐτῶι φίλον κεκλημένωι, τοῦτό νιν προσεννέπω.’ In this deference, then, lies again an acknowledgement of the cosmos as fine and honorable.

created by a craftsman looking to a beautiful paradigm, he has not left out other possible causes; rather he has *a fortiori* shown the world to be a product of craftsmanship.

Before considering further objections to this reading, it is worth fleshing out its key points. One is that the argument takes beauty to be an aspect of the properties that forms have as such, according A. The key characteristic of being as such mentioned in A, and repeated in C, is ‘being the same’ (*kata tauta on / ekhon*), which contrasts with the way becoming always changes. Again, at F and G it is this characteristic of being which is supposed to make it clear to all why only being can be the model of such a beautiful world. It is, then, by being made like the forms in their *changelessness*, first and foremost, that the world is made beautiful.¹⁹ It is no exaggeration to say that, as we read on in Timaeus’ account, the challenge of the divine craftsman will in large measure be how to make the world of becoming as a like the eternal paradigm as possible in terms of *being the same*. So, to give just three examples: the world body is given the motion that belongs to intelligence—the same (*kata tauta*) motion around the same spot (34a); similarly, the world soul moves round in the same manner (*kata tauta*) in place (36c), with the circle of the same (*tautou*) in charge, which thinks about what is always the same and so has understanding and wisdom (37b-c); and time itself (37c-38b) is a moving likeness of eternal sameness (*to aei kata tauta ekhon*, 38a2). The most basic manifestations of cosmic order are all cases where sameness in change has been produced in likeness of the unmoving sameness of the eternal paradigm. When Timaeus in A describes being in terms of its always being the same he has chosen *the* property which will appear most relevant to the role that being plays as a paradigm: for it is in likening becoming to the changelessness of being that the world first and foremost is made to be intelligible, ordered and, so, beautiful.

The second point to be underlined is that the contrast in A is an opposition in the properties that being and becoming have *as such*.²⁰ Being is the same

19 Santas 2010, 140 argues, similarly, that being immune to change and destruction are good-making characteristics, citing *Rep.* 381a-b (‘It is universally true, then, that that which is in the best state by nature or art or both admits least of alteration by something else’) as well as the assumption in Diotima’s speech in the *Symposium* that immortality is a great good.

20 Broadie 2012: 36 underlines the development from Stage 1 to Stage 2. At Stage 1, Timaeus refers to what comes into being as an ‘object of opinion joined with unreasoning sense-perception’. But in the echo, (i.e. my Stage 2) ‘sense-perception is no longer qualified as “unreasoning”. This verbal repetition-plus-omission surely conveys that it is no longer appropriate to call sense-perception “unreasoning”. Why so? Because Timaeus has begun to speak about this cosmos, which he is about to explain was modelled on an *intelligible* paradigm. When opinion partnered with sense-perception has *this* cosmos for its object,

and unchanging, becoming always changing. But that does not mean that becoming cannot be made like being in certain ways. Something can become ordered and be made beautiful by being made like the form. Indeed, this is the reason for introducing the craftsman in C. A craftsman is required for making becoming like being. Becoming on its own does not 'have it in it' to be or bring about something beautiful. Conversely, we shall ask later why being on its own is insufficient to cause beautiful things to come to be.

This last claim suggests that the role of craftsmen for Timaeus anticipates the Aristotelian efficient cause.²¹ Generally, for Aristotle, efficient causes are required for generation to happen, specifically, for forms to be transferred to matter. Timaeus would similarly be presupposing, in the move from B to C, that when things come into being so as to have the attributes of forms, specifically here beauty, a cause is required for the transfer of those attributes. For being and becoming, alternatively form and matter, would not as such effect that change. For Aristotle, craftsmen would be a subset of such efficient causes, those external to the subject of change, rather than internal as in natural causation. Timaeus' motivation for thinking of the cause of the cosmos as a craftsman would be, as shown in A, that there are no form-giving principles present *in* becoming as such which could transfer attributes of being, so such a principle will have to be external to becoming as such. As external, such a cause falls into the category of craft. 'Man generates man' cannot be a basic metaphysical fact, given the fundamental ontological division expressed in A. This is not to exclude, of course, that 'man generates man' can be, and is, a fact about the cosmos: Timaeus does have a theory of reproduction, of sorts (91a-d). However, such natural processes do not express the basic meta-

the partner is not radically irrational. It was called "unreasoning" in the earlier passage because (as I see it) the redeeming theme of maker and intelligible paradigm had not yet been introduced. By verbal arrangements Plato shows, not says: were it not for the eternal paradigm, cognitive responses to the cosmos would be entirely devoid of reason; given that paradigm, they can and should aspire to something better.' Like perception, becoming is described in A in terms of what is true of insofar as it is not (yet) modelled on being.

- 21 Aristotle criticises Plato's Theory of Forms in *Metaphysics* A.9, 991b2-5 for not providing an efficient cause: 'In the *Phaedo* the case is stated in this way—that the Forms are causes both of being and of becoming; yet when the Forms exist, still the things that share in them do not come into being, unless there is some efficient cause.' I cannot address this criticism here, other than to note that Aristotle here seems to be using a point of the *Timaeus* against the *Phaedo*.

physical relationship between being and becoming, but are the result of the Demiurge's mediation.²²

Finally, the need for the intervention of a craftsman for becoming to acquire beauty and order like the forms may be considered the key missing premise in Timaeus' argument. A fuller version argument would go as follows: Models divide into being and becoming, being as such is beautiful, becoming as such is not, becoming always has a cause, becoming can only become beautiful by being modelled after the forms, craftsmen are the only cause of beautiful things' coming to be in the likeness of forms, the world has come into being, the world is beautiful, therefore the world was made by a craftsman looking towards an eternal paradigm.

Now insofar as this reconstruction saddles Timaeus with an argument from design it is not one based on an inductive inference from how beautiful things have so far generally been observed to be products of craftsmanship. Nor is it an argument from an analogy between the cosmos and particular artefacts. Rather it is a deductive argument from certain general, characteristically Platonic metaphysical claims—that only being is a source of beauty, that all beautiful things that come to be must be modelled on the forms and finally, I am suggesting, that the *only* way that this can happen is through the agency of craftsmanship. This would explain why Timaeus in G presented the conclusion as necessary.

The obvious challenge to this argument is the one commonly raised since Hume against design-arguments: that it ignores possible causes of beautiful outcomes other than craftsmen. Chance here seems an obvious counter-example to the general claim that only craftsmen are responsible for the generation of beautiful things. So an atomist would insist that no design is required to explain the formation of the cosmos: given enough atoms moving in space for enough time a world like ours *will* eventually take shape. Timaeus himself seems to acknowledge that the appearances in the pre-cosmos may have participated in order by chance (69b). So ought he not allow also for the possibility that the cosmos as whole has come about by chance? I think not. Elsewhere Timaeus underlines how *everything* perceptible was characterised by disorder before the divine craftsman took action (30a2-5). His word for this state is 'inharmonious' (*plēmmelōs*), with the clear implication of lack of beauty. Later he generalises how such complete disorder and lack of measure is to be expected whenever a god is absent from something (53a7-b5). Nor is there any need to read Timaeus at 69b as saying that there were beautiful

22 Cf. the creation of the world soul (35a-b): it is only by the efforts of the Demiurge that being and becoming are mixed.

entities in the pre-cosmos, for in the same breath he says that there was nothing worthy in the pre-cosmos of the name ‘fire’, ‘water’, and so on. As earlier, in the gold analogy (50b), clearly we are here talking about fleeting appearances of fire and water which do not have the integrity of mathematically structured objects of the sort we find in the cosmos. It is to be expected that such ‘traces’ may by chance appear proportionate: indeed, to deny that the appearances in the pre-cosmos could fleetingly display the same proportions as the mathematically structured bodies in the cosmos would be to impose a limitation on their flux which would be incompatible with their state of *general* disorder. The occasional isomorphism of the appearances in the pre-cosmos with the structured objects in the cosmos actually underlines how the pre-cosmic appearances were in *complete* disarray. Recall again the point about the relationship between beauty and sameness: beauty, paradigmatically displayed by the forms, implies a degree of sameness, while Timaeus is clear that the fleeting appearances are never the same (49c-d).²³ Beauty for Timaeus carries implications of order and intelligibility, which becoming on its own cannot sustain. We should not infer from the fleeting appearances of order in the pre-cosmos, that beautiful objects, let alone a whole cosmos, could have come about by chance.

5 Adding the *aitia* to the *aitios*

Returning to T₁, my reading of the argument so far may seem, unduly, to make redundant the claim in F that the cause was the best of all. For it seems we can infer that the world was made by a craftsman looking to an eternal paradigm simply from the beauty of the cosmos. But this is not quite how Timaeus argues in F: he infers the eternal paradigm *both* from the beauty of the cosmos *and* the goodness of the maker. Timaeus, if I am right, can infer that the cause of the cosmos is a craftsman looking at an eternal paradigm from the beauty of the cosmos. However, he is here seeking at the same time to answer a supplementary question about the cause: given that a craftsman has access both to a generated model and an eternal one, why does he choose to create the world after one model rather than the other? This question is not quite answered by the earlier point that a proper craftsman looks to eternal paradigm. For somebody who has knowledge of the form might nonetheless choose to use an infe-

23 49c7-d1: οὕτω δὴ τούτων οὐδέποτε τῶν αὐτῶν ἐκάστων φανταζομένων... I argue in Johansen 2004, 122-5 that this description applies to the appearances in the pre-cosmos and to the appearances in the cosmos taken in abstraction from their mathematical structures.

rior model to create an inferior product. (Recall the Sokal hoax.) Possessing a craft does not *force* the craftsman to work in the manner prescribed by the craft. If the question, then, is ‘What was the cause of the world’s coming into being?’ it is relevant to mention also that the cause was good, and not simply in the attributive sense of ‘good craftsman’,²⁴ because without the goodness of the cause, there would be no compelling reason to think that a craftsman who was able to cause a beautiful world also in fact would do so.²⁵ But of course this is a somewhat different twist on the question ‘What was the cause of the world’s coming into being?’ from the one that produced the answer ‘A craftsman looking at an eternal paradigm’, in that it addresses not so much the issue ‘What or who was the cause?’ (answer: a craftsman looking at the beautiful paradigm) but ‘*Why* did the craftsman make the world beautiful?’ (answer: because the craftsman was good). The role in the argument of the claim that the cause was the best is then not to undermine the idea that we can infer from the beauty of the cosmos that it was caused by a craftsman, but rather to address the additional concern that we also need to explain, if the world was created by a craftsman, *why* the craftsman was motivated to create the world, given that such motivation is not given simply by the possession of a craft.

It is exactly this take on the question that Timaeus adopts when he returns to the origin of the cosmos at 29d7-30a7:

[T2] Now, let us state the reason (*aitia*) why becoming and this universe were framed by him who framed it. He was good (*agathos*), and what is good never has any particle of envy in it whatsoever; and being without envy he wished all things to be as like himself as possible. This indeed is the most proper principle (*arkhē*) of becoming and the cosmos and as it comes from wise men one would be absolutely right to accept it. God therefore, wishing that all things should be good, and so far as possible nothing be imperfect, and finding the visible universe in a state not of rest but of inharmonious and disorderly motion, brought it to order from

24 It may not be obvious that *agathos* at 29a3 is not being used attributively, but the parallel with *ei men dē kalos estin hode ho kosmos* strongly suggests a predicative use. At 29e1 *agathos* is clearly predicative.

25 Cf. *Laws* 10, 902a-b, where the Athenian asks if the gods’ hypothetical failure to make the world good in all its detail could be explained by their lack of knowledge or by their failing to be good despite their better knowledge. That these are offered as two options suggests that one can reasonably wonder whether a craftsman who knows how to make the world as good as possible will also in fact make it so. ‘Not if he is also absolutely good’ is the answer.

disorder, as he judged that order was in every way better. It is unlawful for the best to produce anything but the most beautiful.

This passage should be read in continuation of F, that is, the claim that the craftsman of the *cosmos* was the best. It is, we are now told, the goodness of the maker which motivated and constrained him to make the cosmos as good and as beautiful as possible.²⁶ It is significant that Timaeus puts this point in terms of the *aitia* of creation, whereas in T₁ he talked of the Demiurge as the *aitios*. As Michael Frede argued (1987), Plato broadly observes the distinction between the *aitios* as the thing responsible for an outcome and the *aitia* as the reason or explanation of why the *aitios* brings about the outcome. The model for the distinction is the law-court where the *aitios* is the person responsible for the crime and the *aitia* the reason why he committed it. In the *Timaeus*, this distinction between *aitios* and *aitia* may be taken to be at work when, having established that the *aitios* is a good craftsman in T₁, Timaeus goes on in T₂ to ask what the *aitia* was, that is, what his reason for creating the world was.²⁷ One might say that T₁ already strongly suggests this *aitia*, given a conception of craftsmanship as working for the best possible outcome. And there is clearly a sense in which asking of a cobbler why he made a good pair of shoes is otiose: that is what cobblers as such aim at. Yet, as I suggested, there is also a sense in which this question about the *aitia* is not superfluous, even when we have identified the cause (*aitios*) as a craftsman, since a craftsman may need further motivation to exercise his craft and exercise it in the manner that is consistent with the proper rules of the craft. In *Republic* 1, this point is recognized in the idea that a doctor who exercises his craft does not himself gain thereby, and therefore needs remuneration. T₂ directly addresses the issue by saying that the Demiurge had no envy (*phthonos*), but as all good he wanted to make the creation similarly good. So while a craftsman as such will do good *if* he acts according to his craft, it is not given that this good will in fact move him to act, i.e. that the proper end of the craft will be a reason (*aitia*) which motivates him to activate his craft. That is why the argument requires this further step to explain that the craftsman was in fact motivated to act so as to create the world as a good thing.²⁸

26 As in F, the term *themis* 'lawful' is used here regulate the way we represent the gods as only doing good in a way that recalls the law (*nomos*) at *Rep.* 2, 380a-c.

27 So Mueller 1998, 86: 'It seems clear that the demiurge is the *aition* of this cosmos and his thoughts and motives give the *aitiai* for why things are the particular way they are.'

28 Cf. Aristotle, *Metaphysics* Θ.2 and 5. Even if correct, it is therefore not sufficient here to characterise god as the craft personified; cf. Johansen 2004, 83-91.

6 Craftsmen as Intelligent Causes

The argument so far has been that Timaeus takes causes of beautiful things' coming into being to be craftsmen, because he thinks that craftsmen are required to mediate between forms and sensibles. We therefore look to a craftsman as the cause (*aitios*) of how this cosmos came into being. I have suggested that the *aitia* of the creation gives the further reason why the craftsman chooses to employ his craft for the good.

This reconstruction of Timaeus' argument depends critically on the idea that *only* craftsmen cause beautiful outcomes in the realm of becoming. The argument, so understood, allows for there to be causes of becoming other than craftsmen, as long as they are not causes of beautiful outcomes. I want now to show how this claim is borne out by Timaeus' other reflections on causation. I shall use these, moreover, to suggest that the reason why craftsmen are required is ultimately that a certain kind of reasoning, and therefore a certain kind of intelligent cause, is required in order to make a beautiful likeness of the forms.

At 46c-e, having discussed the mechanisms of vision, Timaeus clarifies their causal role by drawing a distinction between two kinds of cause (*Tim.* 46c-e):²⁹

[T3] All these are among the contributory causes which god uses as servants in shaping things in the best way possible. But they are thought of by most people not as [d] contributory causes but as causes of everything, achieving their effects by heat and cold, solidification and liquefaction, and the like. Yet they are completely incapable of having reason or intelligence; for the only existing thing which properly possesses intelligence we must call soul, and soul is invisible, whereas fire, water, earth and air have all come into being as visible bodies. So the lover of intelligence and knowledge is bound to investigate, first, causes of a rational nature, and, second, those [e] causes that occur when things that are moved by

29 Ταῦτ' οὖν πάντα ἔστιν τῶν συναιτίων οἷς θεὸς ὑπηρετοῦσιν χρήται τὴν τοῦ ἀρίστου κατὰ τὸ δυνατόν ἰδέαν ἀποτελών· δοξάζεται δὲ ὑπὸ τῶν πλείστων οὐ συναιτία ἀλλὰ αἴτια εἶναι τῶν πάντων, ψύχοντα καὶ θερμαίνοντα πηγνύντα τε καὶ διαχέοντα καὶ ὅσα τοιαῦτα ἀπεργαζόμενα. λόγον δὲ οὐδένα οὐδὲ νοῦν εἰς οὐδὲν δυνατὰ ἔχειν ἔστιν. τῶν γὰρ ὄντων ᾧ νοῦν μόνω κτᾶσθαι προσήκει, λεκτέον ψυχὴν—τοῦτο δὲ ἀόρατον, πῦρ δὲ καὶ ὕδωρ καὶ γῆ καὶ ἀήρ σώματα πάντα ὁρατὰ γέγονεν—τὸν δὲ νοῦ καὶ ἐπιστήμης ἔραστην ἀνάγκη τὰς τῆς ἔμφορος φύσεως αἰτίας πρώτας μεταδιώκειν, ὅσαι δὲ ὑπ' ἄλλων μὲν κινουμένων, ἕτερα δὲ κατὰ ἀνάγκης κινούντων γίνονται, δευτέρας. ποιητέον δὴ κατὰ ταῦτα καὶ ἡμῖν· λεκτέα μὲν ἀμφοτέρα τὰ τῶν αἰτιῶν γένη, χωρὶς δὲ ὅσαι μετὰ νοῦ καλῶν καὶ ἀγαθῶν δημιουργοὶ καὶ ὅσαι μονωθεῖσαι φρονήσεως τὸ τυχὸν ἄτακτον ἐκάστοτε ἐξεργάζονται.

some things of necessity move other things. Our procedure must be the same. We must deal with causes of both sorts, distinguishing those that with intelligence are craftsmen of what is beautiful and good from those which when deprived of wisdom on each occasion bring about a random disordered result.

In the *Phaedo*, Socrates had made the distinction between a cause (*aitia*) and that without which the cause would not be one. He was emphatic that it would be quite absurd (*lian atopon*) to call the necessary conditions the 'cause' (*Phd.* 99a). The real cause is *nous* operating for the sake of the good. Now, Timaeus may seem in our passage to make more concessions to the necessary conditions: there are two kinds of cause, he says, although the unintelligent cause is secondary to the intelligent cause. However, how much of a concession this is is not immediately clear. There are at least two different ways one could read Timaeus. One is to say that insofar as, and only insofar as, the material processes are used by the intelligent ones, do they count as causes. Their causal status is in other words dependent on their contributing to the intelligent causes. The change from the *Phaedo* on this reading would be limited: necessary material processes are granted the soubriquet 'cause', albeit still only *contributory* cause, just to the extent they become part of the workings of the proper cause, the intelligent good-orientated one.

However, another reading would say that the material processes are causes also independently of their contribution to the intelligent causes. So the intelligent cause and the unintelligent cause are equally causes; it is just that, when we want to explain phenomena such as order and goodness, we look to the intelligent cause rather than the unintelligent one. The mistake, then, lies in thinking that the necessary mechanisms are causes of everything (as Timaeus puts it: 46d) when in fact their only causal role *in bringing about good results* is as a contributing cause.

A later passage may seem to support the second kind of view (*Tim.* 68e1-69a8):³⁰

30 Ταῦτα δὴ πάντα τότε ταύτη πεφυκότα ἐξ ἀνάγκης ὁ τοῦ καλλίστου τε καὶ ἀρίστου δημιουργὸς ἐν τοῖς γιγνομένοις παρελάμβανεν, ἥνικα τὸν αὐτάρκη τε καὶ τὸν τελεώτατον θεὸν ἐγένενα, χρώμενος μὲν ταῖς περὶ ταῦτα αἰτίαις ὑπηρετούσαις, τὸ δὲ εὖ τεκταινόμενος ἐν πᾶσιν τοῖς γιγνομένοις αὐτός. διὸ δὴ χρὴ δὴ αἰτίας εἶδη διορίζεσθαι, τὸ μὲν ἀναγκαῖον, τὸ δὲ θεῖον, καὶ τὸ μὲν θεῖον ἐν ἅπασιν ζητεῖν κτήσεως ἕνεκα εὐδαίμονος βίου, καθ' ὅσον ἡμῶν ἡ φύσις ἐνδέχεται, τὸ δὲ ἀναγκαῖον ἐκείνων χάριν, λογιζόμενον ὡς ἄνευ τούτων οὐ δυνατὰ αὐτὰ ἐκείνα ἐφ' οἷς σπουδάζομεν μόνα κατανοεῖν οὐδ' αὖ λαβεῖν οὐδ' ἄλλως πως μετασχεῖν. "Ὅτ' οὖν δὴ τὰ νῦν οἶα τέκτοσιν ἡμῖν ὕλη παράκειται τὰ τῶν αἰτίων γένη διυλισμένα, ἐξ ὧν τὸν ἐπίλοιπον λόγον δεῖ συυφανθῆναι.

[T4] [e] All these things were naturally so constituted of necessity, and the maker of what is fairest and best among things that come into being took them over when he generated the self-sufficient and most complete god, using this type of cause as subordinate but himself contriving the good in things that come into being. We must therefore distinguish two types of cause, the necessary and the divine. The [69a] divine we should look for in all things for the sake of the measure of happiness in life that our nature permits, and the necessary for the sake of the divine, reflecting that without the necessary causes, those other ones, with which alone we are seriously concerned, are not to be perceived, apprehended, or in any other way attained. The two kinds of cause, which like timber for a carpenter are needed by us to construct the rest of our account, have now been prepared.

Timaeus seems here to recognize that the necessary causes are a distinct kind of cause. Of course, he gives priority to the divine cause as the one that brings about the good, and stresses the subordinate nature of the necessary causes. However, this does not seem to affect the causal standing as such of the necessary causes. One might try to argue that if the necessary causes are explanatorily secondary, then their status as causes is also correspondingly secondary, since causes are, for Plato, essentially explanatory. However, this kind of argument seems to beg the question, for if material processes are not explanatory in the way of intelligent causes, it may simply be because they constitute another kind of cause and do not offer the same kind of explanation as the intelligent cause. Recall finally that Timaeus refers to the necessary cause as the ‘wandering cause’ (48a7): if its causal status was solely dependent on its contribution to the intelligent cause, the phrase would be an oxymoron.

It seems safest, then, to recognize that for Timaeus there are two kinds of cause of coming into being, only one of which counts as intelligent. Therefore our reconstruction of T₁ was right to stay clear of the unqualified claim (C₁) that ‘all causes of coming into being are craftsmen’. What about the other key aspect of my interpretation, viz. that only craftsmen were such as to cause beautiful outcomes? T₃ emphasizes the contrast between the intelligent causes, which ‘with intelligence are *craftsmen* of what is beautiful and good’ and those ‘which when deprived of wisdom on each occasion bring about a random disordered result’ in exactly the terms we would expect, if Timaeus’ primary concern with craftsmanship was as a cause of beauty and value. The non-intelligent cause meanwhile is picked out as cause of disorder, the opposite of beauty (cf. 30a). Yet this result too is described as random (*tukhon*) in a way that suggests that the non-intelligent cause is not as such concerned with

the value of the outcome. Of the causes recognized, then, only one is such as to produce beautiful outcomes, the intelligent craftsman.

7 The Need for Craftsmanship

The other passages of the *Timaeus* that deal with causes confirm, then, that Timaeus takes causes of beautiful and good coming into being to be craftsmen and as craftsmen only. I now want to consider some further challenges to this 'only'. These objections will help clarify the basis for the claim that craftsmen are uniquely qualified to bring about beautiful things like the cosmos.

The first objection would be that we should not read too much into the word 'craftsman' (*dēmiourgos*). Perhaps 'craftsman' is used as a rhetorical or metaphorical flourish, as little more than a variant on 'cause'. We need not think of 'craftsman' literally at C in T₁ as living intelligent beings. There are passages in the *Timaeus* where *dēmiourgos* is used of non-intelligent causes. So Timaeus refers to fire as a *dēmiourgos* of inequality (59a5).³¹ Such uses show that we cannot assume that Timaeus always has in mind an intelligent cause when he talks of craftsmen. In particular, if what Timaeus really wants to bring out in C is the idea of a cause that determines how things come to be on the basis of an eternal paradigm, it may well be that the forms themselves could do this job. Perhaps then we could think of the forms themselves as 'craftsmen': we do not need a *third* entity to mediate between forms and sensibles.

One may grant this point but still insist that in T₁ Timaeus must have an intelligent cause in mind rather than just the forms. One indication of this is that F refers to a single craftsman who had a choice of paradigms. It makes no sense to ascribe the formal paradigm itself with this choice, unless, that is, one is also willing to ascribe to it powers of deliberation and intellect. The choice of the eternal over the generated paradigm is indeed the first of a series of creative choices the cosmic craftsman faces, choices which will be made through deliberation about which option will make the cosmos as beautiful as possible.³² The eternal paradigm enters into the causation of the cosmos only because it is co-opted by the divine craftsman.

Another fundamental reason for thinking that forms could not, on their own, be causally responsible for the creation of the cosmos is this. It is the same reason why an intellect thinking merely about the forms would not be

31 Cf. also 76d, 80e. I am grateful to George Boys-Stones for pointing to the potential problem posed by these passages to my interpretation.

32 Next up is the choice of an intelligent animal as the model for the cosmos, 30b-31b.

adequate. Consider the question from the point of view of the *information* an intellect needs to process if its thinking is going to result in a beautiful cosmos. Of course an intellect that thinks about how to make such a world has to model it on the forms. For only in this way, thinks Plato, can the mind acquire information about what is beautiful and good. This does not mean, however, that the intellect that creates the world has to conduct a full study of the forms or that we in retracing his creation have to do so.³³ The *Timaeus* (29b-c, 59c-d) is explicit that cosmological thinking is a different exercise from thinking about the forms as such, and subject to different cognitive norms exactly because it concerns a likeness of being created in the medium of coming-into-being.

Now, to make a world in the medium of coming-into-being requires grasping not just the eternal model to the extent required to see it as a model; it also demands an understanding of how best to translate this information into the medium of coming-into-being. And this in turn requires identifying the best likenesses of eternal being in the categories that qualify coming-into-being as such, in the first instance space and time. Consider two prominent examples.³⁴ The model for the cosmos is the form of living being which is complete because it comprises all the different kinds of living being (30c-d). In imitation of the model's completeness, the Demiurge makes the world body spherical as the shape which contains within itself all existing shapes (33b). The Demiurge here chooses a spatial likeness for the sort of non-spatial completeness that characterizes the formal paradigm. Another example is time (37c-d), which has been chosen as a moving image of eternal being. Eternal being is changeless and one, whereas time, as maintained by the motions of the heavenly bodies, is moving according to number. In both these examples, the Demiurge translates features of the paradigm, completeness or eternity, into features of the cosmos, sphericity or time, by finding the attributes that best match them in the medium of coming-into-being. This sort of thinking can at most be likely: there can be no certain or demonstrative proof that *these* features are the ones that best liken the eternal paradigm in the medium of change, any more than one might *prove* that *La Traviata* is the best musical rendition of the novel *La Dame aux Camélias*.

So reasoning about the best created image of an eternal model is of a different sort from the thinking that concerns eternal entities in that it requires understanding of how best to translate a formal paradigm into a generated medium. The need for an awareness of the conditions of the medium is

33 The point is well argued by Broadie 2012, 60-83, in her opposition to what she calls the 'gateway to metaphysics' view of cosmology.

34 For a fuller account along these lines of the two examples, see Johansen 2004, 57-8.

reflected in Timaeus' account by the section known after Cornford (1937, 159) as 'the Works of Necessity' (47e-69a). Timaeus here builds up an account from the bottom up of how bodies come about and change. The account produces a notion of necessity, as attached to the motions of basic bodies and their compounds, which the Demiurge has to persuade to cooperate to produce the best possible cosmos. This section is required because we, like the Demiurge, have to understand the creative opportunities and limitations presented to the cosmic creator by the medium he has to work in, bodies subject to come into being.

Compare the *Statesman's* account of political craftsmanship.³⁵ The Eleatic Stranger places special emphasis on the point that political decisions have to be made in the medium of coming-into-being. Particularly the temporal aspect of coming into being is seen as important: the statesman must grasp the opportune moment (*ho kairos*) to act, the time that is neither too late nor too early (305d). The political craft is in this respect an instance of the wider class of arts which deal with measure in the sphere of coming into being (285a), rather than as fixed, eternal notion.

Timaeus' cosmic demiurgy is like the political craft in the *Statesman* in that it brings about goodness in the mode of change. Both are essentially productive competencies that are sensitive to the good in the medium of change. However, the cosmic craftsman works at a level further back than the statesman. The statesman presupposes a natural world characterized by change and time, and attempts to bring political order to this world as he finds it. The cosmic demiurge meanwhile is not just charged with creating order within the natural world, he has to fashion the basic characteristics of this world. So the Demiurge has to create time, while the statesman can assume it. But the fundamental similarity between political and cosmic craftsmen remains: both have the task of representing the good in a medium of change. It is because the cause of the cosmos has to be good-sensitive in this way that it not only has to be intelligent, but also intelligent in the manner of a craftsman.

The answer to the question why a mind has to think in the manner of a *craftsman* is, then, that it has to be sensitive to the good in a different way from a cause that deals just with being: specifically, it has to be sensitive to the good in the way that only an intelligence that both grasps the formal paradigm and understands how best to make a likeness of it in a fundamentally different

35 See Lane 1998, 146 on what she calls the 'dynamic aspect' of political expertise in the *Statesman*: 'In defining the authority of political expertise, the *Statesman* makes its capacity to deal with the demands of time definitive both of the content of the expertise and, by extension, of its second-order authority over productive action.'

medium, can be. And it is for this reason, too, that the forms on their own could not be causally sufficient to bring about our most beautiful (29a5) cosmos: the information required to do so is not all in the forms.

This brings us back to T1. I have tried to show how a certain view of craftsmanship underlies the argument in this passage as a cause that is uniquely able to implement goodness in the medium of coming-into-being, given that (a) any reliable information of such goodness is to be found only at the level of the forms and (b) such information has to be represented in the medium of coming-into-being in the best possible way.

There is an argument from design to be reconstructed in T1. But where in the history of philosophy such arguments have often attempted to convert the unconverted, this argument is primarily for the internal consumption of a Platonist audience, handpicked by and including Socrates himself.³⁶ Already the distinction between being and becoming in A should have warned us of the argument's peculiarly Platonic flavour. It should not surprise us, then, that Timaeus' argument also draws on a distinctly Platonic conception of craftsmanship. To the rest of us this conception only becomes clearer as we read on in the *Timaeus*: how a craftsman works as a cause emerges, as we have seen, as a topic within Timaeus' cosmology. As often in Plato, we need here to have read the whole work to understand the beginning.³⁷

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³⁶ See n. 1 above.

³⁷ An early version of this paper was delivered at the University of Leuven. I am also grateful to the editor of *Phronesis* for helpful criticism.

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