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Institution Types and Institution Tokens: An Unproblematic Distinction?

Rico Hauswald[1]

Abstract

The distinction between institution types and institution tokens plays an important role in Francesco Guala's philosophy of institutions. In this commentary, I argue that this distinction faces a number of difficulties that are not sufficiently addressed in *Understanding Institutions*. In particular, I critically discuss Guala's comparison between the taxonomy of organisms and the taxonomy of institutions, consider the semantics of institution terms on different levels in this taxonomy, and argue for an alternative solution to the problem of how to reconcile reformism and realism about institutions like marriage.

1. Introduction

Understanding Institutions (Guala 2016, henceforth cited as "UI") aims to provide a general theory of institutions that reconciles different accounts of institutions, particularly the institutions-as-rules account and the institutions-as-equilibria account. While Guala had already presented various aspects of his views in a

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number of papers, the main innovations of the book, in my view, come in the second part, which includes an extensive examination of the implications of a unified theory of institutions for various issues in social ontology and the philosophy of the social sciences. Here, Guala brings together a number of debates that have rarely been discussed in context, such as the debates on interactive kinds, the meaning of social scientific terms, realism, and social reform. In these chapters, the great explanatory potential of his approach becomes apparent. For example, it provides an elegant explanation of "why a social category can be at the same time contingent (it is one among many possible equilibria) and stable (because it is an equilibrium)" (UI, 142) and suggests interesting new solutions to some of the theoretical problems surrounding interactive kinds—or at least a particular species of interactive kinds.[1]

Guala's theory of institutions is explicitly naturalist. This is a feature that makes it highly attractive in my view. I agree with Guala that social ontology—and philosophy in general—should be as scientifically informed as possible. In many respects, the differences between social ontology, the philosophy of the social sciences, and social kinds on the one hand and natural philosophy, the philosophy of the natural sciences, and natural kinds on the other are smaller than have often been claimed. Thus, UI is a valuable counterweight to certain excesses of constructionism and subjectivism that have prevailed in recent social philosophy.

So while I am sympathetic to the overall project, there are a couple of aspects of the book that I have not found entirely convincing or about which I would have liked to read a bit more, and, as is typically expected of a commentary, it is these aspects that I focus on. Many of the problems that I had with Guala's arguments are in some way or another related to his distinction between

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[1] I do not think that *all* interactive kinds are institutional kinds, as Guala seems to suggest (UI, 139). I do not see, for instance, that all the kinds of mental illness that are typically considered to be paradigm cases of interactive kinds can reasonably be conceived of as institutional kinds. Another reason to suppose that there can be interactive kinds which are not institutional kinds comes from the following consideration: Institutions, according to Guala, are solutions to problems of coordination. As such, they logically presuppose the participation of at least *two* individuals. Interactive kinds, on the other hand, can be characterized as kinds that are subjected to what I call kind-looping, that is, changes that come as a result of the behavior of individuals who have realized that they are instances of the kind (see Hauswald 2016). While, typically, many individuals will be involved in looping processes of this sort, the lower limit to the number of individuals that are required is *one*, not two. It is logically possible that a *solitary* individual initiates a kind-looping. (Imagine, for example, the last human survivor of an extinction event artificially changing her genome and cloning herself, and thus changing the nature of Homo sapiens.)

institution tokens and institution types. I therefore first take a closer look at possible criteria for distinguishing institution tokens and institution types and Guala's comparison between creating hierarchical orderings of institutions and creating hierarchical orderings of organisms. Second, I discuss some methodological issues, particularly concerning the division of labor between philosophers and social scientists and the semantics of terms referring to entities on different levels of Guala's hierarchical ordering of institutions. Finally, I assess his solution to the problem of how to reconcile reformism and realism in relation to institutions like marriage and present an alternative to it.

2. Types and Tokens

According to Guala, institutions and institutional entities[2] can only be understood if we properly distinguish between institution types and institution tokens. A key to understanding this distinction is the idea that we can create hierarchical orderings of institutions much like we create hierarchical orderings of organisms. To use his own example (UI, xx), the Dutch Reformed Church is a Reformed church, a Reformed church is a Protestant church, a Protestant church is a church, a church is an institution. Actually, we may proceed to even higher levels: an institution is a correlated equilibrium (if Guala is right), a correlated equilibrium is a state, a state is an occurrent, an occurrent is an individual.[3] Similar orderings can be obtained for other institutions, such as

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[2]It is not quite clear to me what Guala means by "institutional entities." He defines them as "object[s] with properties or characteristics that depend on the existence of an institution" (UI, xvii). One problem with this definition is that it turns everything into an institutional entity, as soon as there exists at least one institution *i* in the universe. The reason is that, arguably, every entity stands in some relation to *i*, such as the relation of being at such-and-such a distance from it. Every grain of sand on a different planet has the (relational) property of being at such-and-such a distance from *i*, which is a property that depends on the existence of an institution.

[3]I am not sure whether Guala would accept this extension of the ordering, but to me, it seems plausible. However, there is one thing that I found worrying when I thought about how to continue the ordering: While Guala argues that institutions are equilibria, he maintains that they are also rules—"depending on the perspective that one takes" (UI, 50), which is why he calls his account a "rules-in-equilibrium theory of social institutions." But if we consider institutions to be rules, the resulting hierarchical ordering is different from the one that we obtain when we consider institutions to be equilibria. I am not quite sure which ontological category rules belong to, but I suspect that it is not the category of states. As a consequence, an institution would belong to two ontological categories: the category of states and the category to which rules belong. I find this troublesome, as most ontological systems require an entity to belong to one and only one ontological category.

marriage, private property, and *money*, which serve as Guala's main examples. Presumably, *marriage, private property*, and *money* are on the same level of generality as *church*. The hierarchical orderings we obtain for such institutions obviously resemble the hierarchical orderings that we obtain for organisms: Fido is a dog, dogs are mammals, mammals are vertebrates, vertebrates are animals, animals are organisms, organisms are material beings, material beings are continuants, continuants are individuals.[4]

Intuitively, some of the elements in these orderings are individuals (tokens), others universals (types). Guala underscores the similarities between the orderings of organisms and institutions. While he conceives of species as individuals, he considers higher taxa to be types. Similarly, lower-order institutions (e.g., *Dutch Reformed Church, Reformed church*, and *Protestant church*) are supposed to be tokens, higher-order institutions (*church* and above) types.

If we encounter individuals or tokens at some levels and types at others, we should be aware of the different sorts of relationships that hold between the entities at these levels. These relationships include the type-subtype relation, the instantiation relation, and the part-of relation. Consider an assertion of the form "*x* is *y*" (or "all *x*s are *y*s"). If both *x* and *y* are individuals, of these three relations, only the part-of relation can hold between them (*x* is a part of *y*).[5] If *x* is an individual and *y* is a type, only the instantiation relation can hold between them (*x* is an instance of *y*).[6] Finally, if both *x* and *y* are types, the type-subtype relation can hold between them, but also the instantiation relation. For example, if marriage and higher biological taxa are types, the sentences "Marriage is a type" and "Vertebrata is a subphylum" are true, as are the sentences "Marriage is an institution" and "Vertebrates are animals." But in the first two sentences, "marriage" and "vertebrata"/"vertebrates" are *instances* of "type" and "subphylum," while in the latter two sentences, they are *subtypes* of "institution" and "animals."[7] So, if *x* is an instance of *y, x* need not necessarily be a token.

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[4]The comparison between institutions and organisms is interesting not least because it transcends the divide between social kinds and natural kinds. I should note in this context that my considerations about types and tokens apply to both natural kinds and social kinds.

[5]If species are individuals, an example would be the sentence "Fido is a dog."

[6]If "organism" is a type, an example would be the sentence "Fido is an organism."

[7]I think that this explains why, for example, if something is an instance or a subtype of *vertebrata*, it is also a subtype or an instance of *animal*, while it is not necessarily an instance or a subtype of *subphylum*. Similarly, it explains why, for example, Caesar and Cleopatra's marriage is a marriage, but it is not a type, even though marriage is (allegedly) a type.

Plausible as this may be, the question of how exactly the type-token distinction should be applied to institutions or organisms is by no means an easy one to answer, and I do not find everything that Guala tells us about it completely convincing. Note, first, that there is no consensus among adherents of the species-as-individuals thesis as to whether higher taxa are types or tokens like species. There are a number of authors who defend the view that higher taxa are individuals in the same way in which species are individuals (see, for example, Brigandt 2009). Others (like Wiley 1980) maintain that higher taxa exhibit properties of both individuals and types. I argue in Section 4 that applying the type-token distinction to higher-order institution terms like *marriage, money*, or *church* is equally difficult, and it appears that these alleged institution types exhibit some characteristics that we would expect to be characteristics of tokens.

But let us first take a look at the criteria that we can use to determine whether something is a type or a token. According to Guala (UI, xx), tokens are situated in space and time.[8] For example, species develop at a particular point in time, exist for some period, and may finally cease to exist. While this may be true, I do not see that it already provides much help in demarcating tokens from types. Consider a paradigmatic case of a type, such as a certain chemical element (if you do not believe that chemical elements are types, take whatever you believe to be a paradigmatic type). It may well be that there is a point in time when instances of this type first appeared (e.g., heavy chemical elements did not exist at the outset of the Big Bang but developed as a result of nuclear synthesis within stars and supernovae), and it may well be that there is a point in time when the last instances of that type disappear (e.g., if the universe ends in a "Big Freeze," chemical elements are expected to disappear one by one due to processes such as nuclear decay). Of course, one may hold a Platonist view, according to which a certain chemical element as a universal exists "ante rem," that is, independently of whether there are instances of it. But even for a Platonist, spatio-temporal locatedness does not seem to be a good *epistemic criterion* for distinguishing tokens from types, since it does not help distinguish situations in which instances of a preexisting type appeared for the first time in history from situations similar to those that occur in the case of evolving species. If one is an Aristotelian who holds that universals exist "in rebus," the situation is even worse: for an Aristotelian (or at least an adherent of certain versions of Aristotelianism), not only does spatio-temporal locatedness appear to be an impractical epistemic criterion, but it misrepresents the metaphysical difference between tokens and types because, in a sense, chemical elements and other types are bound to time and space just like tokens are.

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[8]"The main evidence that we are dealing with a token institution is that such entities have a history and a geographical location" (UI, xx).

If spatio-temporal locatedness is not that helpful as a criterion, what else could do a better job? I would suggest that similarity is a good candidate. It seems to be a characteristic feature of types that all of their instances share certain similarities. On the other hand, the members of a species are similar to each other too, and a species is supposed to be a token. So similarity does not seem to be a good option either. But let us have a closer look. Let H be a concept of higher generality (such as "dog" or "gold") and S_O a set of individual objects o_1, o_2, and so on, such that the sentences "o_x is H" is true for all elements of S_O. Let us assume that all the members of S_O share certain similarities. Now suppose that we are uncertain whether H is a type or a token. In other words, we have yet to determine whether the members of S_O and H are related to each other by the instantiation relation (such as in "This is gold") or the part-of relation (such as in "Fido is a dog"). How do we find out which possibility is realized? One way is to imagine a new object o_n that is similar to the members of S_O. Does this similarity *suffice* for the sentence "o_n is H" to be true? I submit that if the answer is yes, then H is a type. If H is a token, the sentence "o_n is H" is true only if o_n also stands in *other relevant relations* to the members of S_O (i.e., other than similarity). In the case of species, one might consider something like biological kinship. For example, one might imagine a living being from a distant planet that resembles a dog (it looks like a dog, behaves like a dog, etc.) but did not descend from dogs; hence, there is no biological kinship between o_n and the members of S_O. Is this creature a dog? Intuitively it is not, despite its similarity to dogs. So the crucial point seems to be that if o_n is similar to the other instances of a given type H, this similarity is *sufficient* for o_n to be an instance of H as well. On the other hand, if H is a token, similarity between o_n and other parts of H is not sufficient to turn o_n into a part of H. If H is a token, its parts may or may not be related by similarity, they are necessarily related by further relationships, such as biological kinship.

3. Some Methodological Queries

Numerous philosophers hold that ontology is concerned exclusively with the most general categories, that is, the levels of material beings, states, and above in the mentioned orderings. As Guala reminds us, ontology is concerned with "What is X?" questions. But not every "What is X?" question—or more precisely, not every answer to such a question—is an ontological one. "This is Fido" or "This is a dog" are not ontological answers to the question of someone who points to Fido and asks, "What is this?" The assertion that it is a material being and a continuant, on the other hand, most people will presumably accept as an ontological statement.

In UI, Guala is concerned with questions such as "What is marriage?" He gives two kinds of answers. The first kind includes answers such as "marriage is a correlated equilibrium (because it is an institution)" and "marriage constitutes a cluster of problems, including problems of procreation, problems of education, issues of economic cooperation, and mutual emotional and affective support" (cf. UI, 198). The second kind of answers includes statements like, "marriage is a type." While the latter answer certainly sounds like an ontological one, answers of the first sort will often not be accepted as being ontological or even philosophical answers, but will be considered social scientific ones. This is not meant as a criticism. Guala's approach is explicitly naturalist and interdisciplinary, and he has good reasons to deal extensively with social scientific theories. However, there is a set of issues about which I would have liked to read a bit more. While the social-scientific answers comprise most of the book, explicitly ontological aspects strike me as being relatively underexplored. This is regrettable, not just because these ontological aspects are interesting in their own right but also because the social-scientific answers could have benefited from a more extensive consideration of ontological issues. As an example, consider the problem that I mentioned in footnote 3: according to Guala, institutions are both equilibria and rules. However, given that rules do not belong to the same ontological category as equilibria, this seems to imply that there is no single category for institutions—which might be considered to be quite an implausible conclusion. Also, what about the relationship between the two kinds of answers that Guala gives? In the previous section, I stated that *marriage* is a subtype of *correlated equilibrium* but an instance of *type* (provided that it *is* a type). It seems to me that the book would have benefited from exploring more fully the implications of Guala's answers.

A related issue that I found to be somewhat underexplored is the division of labor between philosophers and empirical scientists. One aspect in which this division is particularly relevant is meaning. In chapters 12, 13, and 14, Guala argues for a version of externalism when it comes to the meaning of institution terms. Like our need to defer to physics and chemistry when we want to know what water is (or what the meaning of the term *water* is), we need to defer to social scientists when we want to know what marriage is (or what the meaning of the term *marriage* is) or when we want to know the meaning of other institution terms at the same level of generality, such as *church, property*, or *money*.[9] While I find this plausible, I suppose that it is true only of the social-scientific answers. An ontological answer like "marriage is a type" does not

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[9]"What money *is* . . . is not conventional at all" (UI, 176) but determined by how the world is.

seem to me to be a matter of social scientific investigation in the same way that answers like "marriage is a correlated equilibrium" or "marriage constitutes a cluster of problems, including problems of procreation, problems of education, issues of economic cooperation, and mutual emotional and affective support" may be.

And what about institution terms at other levels of generality? For example, what about institution terms at lower levels, such as "Dutch Protestant Church" or "Euro?" If the entities to which these terms refer (i.e., the Dutch Protestant Church and the Euro) are tokens or individuals, it seems that these terms are best conceived of as proper names. Proper names are directly referring expressions like natural kind terms (or "real kind terms," as one may prefer to call them). However, their semantic properties are not completely the same, so it would be interesting to learn a bit more about how lower-level institution terms function semantically.

What about institution terms at *higher* levels of generality; in particular, what about the term *institution* itself? Of course, Guala's view is that the social sciences must play a crucial role in determining what institutions are in general. After all, the theories of institutions that he discusses and wants to unify are predominantly theories that have been developed by social scientists. But is the way in which we need to defer to the empirical sciences when we want to determine the meaning of "institution" exactly the same as when we want to determine the meaning of "marriage" or "church?" There are several passages in which Guala invokes linguistic intuitions: "The pair of strategies DD [in a prisoner's dilemma] is an equilibrium, but *intuitively* it is not an institution" (UI, 51; emphasis added). And "[w]e are *reluctant to speak* of institutions" in the case of male specimens of Pararge aegeria that engage in repeated hawk-dove games (UI, 52f.).[10] If linguistic intuitions play an essential role in determining what "institution" means, there seems to be a disanalogy to the determination of the meaning of terms like *church, marriage*, or *water*. Concerning the meaning of "water," externalists deny that folk linguistic intuitions like "water is a transparent, colorless, odorless liquid" have any relevance for the question of what "water" means. So what exactly is the role that intuitions are supposed to play in determining the meaning of "institution?" How are we to solve potential conflicts between our intuitions and the unified theory of institutions? Could it be that the theory identifies something as an institution that we would not intuitively accept as an institution? Conversely, could it be that intuitively something is an institution that is not an institution according to the theory? How are we to resolve such discrepancies?

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[10]"[A]nimals do not have institutions" (UI, 52). Is this supposed to be an empirical generalization? Or a law of nature? Or a conceptual truth?

4. Reform, Realism, and Changing Kinds

In Chapter 14, Guala discusses how it is possible to be both a reformist and a realist about social institutions. He identifies a tension between realist and constructionist ambitions in Sally Haslanger's "ameliorative approach," which proposes to redefine institutions so that they better serve our goals and purposes. Realism, on the other hand, implies that we cannot freely or arbitrarily stipulate what an institution is: the world is supposed to tell us.

Being a realist about X means believing that X really exists and that the world determines (at least in part) the meaning of our concepts referring to X. Being a reformist about X means believing that X should and can be different in the future than it is today. We should note that, in general, attempting to be both a reformist and a realist about something need not be theoretically difficult. For example, suppose you are an environmental reformist who wants to reduce pollution, stop global warming, change our attitude about nature, and so on. It is not difficult at all to be a realist about these issues at the same time. There *really* is a certain level of pollution today; reformists attempt to change that level, that is, to change how we deal with the environment in such a way that there will be a new, lower, but equally real level of pollution in the future. Reformism about X requires X to be changeable, but the changeability of X is not incompatible with its reality.

I have elsewhere developed a model of changing kinds that is based on the homeostatic-property-cluster account and designed to support an ontology of interactive kinds (see Hauswald 2016). The key idea is that interactive kinds are kinds that are subject to what I call "kind-looping," that is, a sort of looping effect that needs to be distinguished from other forms, most notably, "individual-looping" and "category-looping." Kind-looping occurs when *a kind* changes as a result of the behavior of individuals who have realized that they are instances of the kind. Since interactive kinds are a species of changing kinds, a precondition for understanding the former is understanding changing kinds in general; therefore, much of my model is devoted to reconstructing the ontology of changing kinds. Here is a sketch of how I conceive of changing kinds. If, in a multidimensional space of properties (MSP), in which every dimension represents a property, all existing individuals are recorded, we observe that these individuals will be distributed neither homogeneously nor randomly. Rather, in some areas, there will be many individuals, while other areas remain empty. I call the latter areas "realization gaps," the former ones "realization accumulations." The accumulations can be identified with real kinds. Now, a change of a kind can be modeled as a movement of a realization accumulation through the MSP. For example, the evolution of biological species—a paradigmatic case of changing kinds—can be modeled

straightforwardly in this way. At a point in time t_1, the existing members of a given species occupy a certain region in the MSP. If at a later time, the species faces new environmental challenges, it will develop so that it can meet those challenges. The later specimens will not occupy the same region in the MSP as the earlier specimens. The realization accumulation has moved through the MSP.

So there seems to be no big problem in reconciling realism and reformism, neither in general nor in the particular case of real kinds. So why is there a problem in the case of marriage? I think that for Guala, the problem arises because he conceives of marriage as an abstract, ahistorical type. Entities that are located in space and time (such as species) are capable of change. Abstract entities, on the other hand, do not seem to be. So how can one be a reformist about marriage? Guala's answer draws on the fact that not all possible instances of a type need to be instantiated at a given time. Marriage may have been restricted to heterosexual couples for a long period of time. However, this does not exclude the possibility that the concept "marriage" may apply to homosexual couples as well. To exclude this possibility would be as fallacious as concluding that uranium has only isotopes ranging from 217 to 238. As Guala argues, we need theoretical physics to tell us that uranium-239 is a possible subtype of uranium. Similarly, we need a theory of institutions (and, arguably, a special theory of marriage) "to tell us which marriages *can* exist" (UI, 198).

One potential difficulty for Guala's argument is that *heterosexual marriage* could be interpreted as a kind, much like *marriage* can be. Guala's point is reminiscent of what is called "qua-problem" by Devitt (1981) and "problem of underdetermination of meaning by deixis" by Wiggins (1994). The difficulty is that an ostensive reference to a sample of instances of a certain kind (like the baptism that is invoked in some versions of semantic externalism) may be insufficient to precisely determine the meaning of a linguistic term, because the objects of the sample may be simultaneous instances of more than one kind. For example, a sample of tigers instantiates the kind *tiger*, but it also instantiates the kinds *mammal, vertebrate, predator*, and so on. As a consequence, if tigers are the only predators known to the members of a given linguistic community up to a certain point in time, and if they use the word "tiger" to refer to them, there is no fact of the matter as to whether or not they should also apply the term to other predators when they later happen to encounter such animals; they have to make a decision.[11] Similarly,

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[11]This is part of an explanation of why some natural-kind terms change their reference or are used differently by different linguistic communities. For example, "apple" was formerly used for all fruit other than berries, and "cobra" for all snakes. See Evans (1982) for a classical examination of the phenomenon of reference change in names and natural kind terms; the examples are taken from p. 390, n. 16.

introducing the term *marriage* by referencing a sample of exclusively hetero-sexual couples is underdetermined in that it is unclear to which kind it refers: the kind *heterosexual marriage* or the kind *marriage*. While homosexual couples may be instances of the latter kind, they cannot be instances of the former. So a potential opponent of Guala could insist that the meaning of the term *marriage* is not already fixed. It is open-textured (to use an expression of Friedrich Waismann). Whether homosexual couples should be included in its extension is a matter of stipulation and convention: we have to make a decision as to how we want to use the term in the future.

One way that Guala could counter this argument is as follows. While he may grant that the meaning of the term *marriage* is underdetermined and that we have to make a decision as to how we want to use it, he could insist that not all possible decisions are equally justified. Provided that the "natural" in "natural kind" is gradable, and some kinds are more natural than others, he may argue that the kind *marriage* is more natural than the kind *heterosexual marriage*. To draw on what may be an awkward analogy, while the term *marriage* is more like *predator* in that both are highly explanatory and function-ally defined concepts, "heterosexual marriage" is more like "night-active predator" in that both refer to certain special cases and have less explanatory power. However, in response, Guala's critic could insist that terms like *heterosexual marriage* or *night-active predator* should not be denied all explan-atory power. And a concept may be useful even if it has little explanatory power and naturalness. Moreover, in addition to its explanatory power, there are a variety of reasons why a certain concept may be useful to us.

Let us suppose that reformists can somehow handle the latter problem. As a preliminary conclusion to this section, we can then note that even if reform-ists about marriage may not be able to change what marriage is, they can do two things. First, they can attempt to change our conception of what marriage is. While people may have believed in the past that marriage is restricted to heterosexual couples, they may be convinced that the concept "marriage" should also apply to homosexual couples. Second, they can attempt to change the world in a way that facilitates the emergence of instantiations that have not existed in the past.

Now, while these may be legitimate ways for reformists to address mar-riage, my aim in the remainder of this section is to question the claim that marriage is an abstract ahistorical entity that is incapable of change. If it can be shown that marriage is capable of change, a reformist would potentially have a third, less problematic option, namely to change marriage itself.

According to Guala, marriage should be defined functionally. Its function is to provide solutions to certain problems of coordination, including prob-lems of procreation, education, economic cooperation, and mutual emotional

and affective support (UI, 198). These problems (or, perhaps more adequately, the corresponding functions) "constitute a 'cluster' in the Boyd-Mill sense" (UI, 198). As a consequence, there is no single function that must be fulfilled for something to count as a marriage; all that is required is that a sufficiently large subset of these functions is fulfilled.

The problems to which marriage provides solutions are quite universal. In various cultures, people need to procreate, raise their children, cooperate economically, support each other emotionally and affectively, and so on. We might say that marriage is grounded in certain anthropological fundamentals, in the biological nature that all human beings share, and in certain principles in which societies are organized. Given that they are faced with similar challenges, it is not surprising that members of different cultures have independently "invented" similar solutions. As I have argued in Section 2, it is a feature of types that something is an instance of a type by virtue of being similar to its other instances. So if different cultures have independently produced certain solutions to fundamental problems of life, and if all these solutions equally count as marriages by virtue of being similar to each other, this seems to be strong evidence that *marriage* is a type.

Suppose now that the problems to which marriage provides solutions are changing. For one, certain problems could be shaped differently than they were in the past. For example, suppose that in some future time, babies will be created only by in vitro fertilization. It can also be that certain problems disappear altogether. For example, suppose that in some future time, children will not only be created by in vitro fertilization, but also grow up solely in artificial uteri. Or suppose that, due to some advance in medicine, people will be virtually immortal and acquire no more children at all. In such scenarios, it seems to me that the problems of procreation and education may no longer be parts of the marriage-cluster. It is not just that in the imagined scenarios certain possible forms of marriage are, for contingent reasons, not instantiated; rather, marriage itself has changed. If, as I said, marriage is grounded in certain anthropological fundamentals, in the biological nature that all human beings share, and in certain societal principles, we must consider the possibility that all of these can change. The species Homo sapiens is evolving just like other species; presumably, it evolves even faster because of the immense impact of technological and cultural innovations. So should we not conceive of our social institutions as developing just like, and because, our nature and our situation in the world is developing? And since these future developments are basically unpredictable, we cannot predict how our institutions will change. Problems or functions that are now included in the marriage-cluster could become insignificant, and others may be added to the cluster, but we have not the slightest idea what they will be. For these reasons, I do not think that we

can have a theory that tells us which marriages can exist. Maybe we can have a theory that tells us which isotopes of uranium can exist. But if this is so, this only suggests that the analogy between uranium and marriage is odd.

So it seems to me that in some important respects, marriage is more like a species than an ahistorical, eternal entity. Like species, it can move through the MSP and evolve historically.[12] Perhaps to an Aristotelian, this is not yet sufficient evidence to deny marriage the status of a type; but to a Platonist it certainly is. In any case, a reformist about marriage has a third option (in addition to changing the set of instantiations and our conception of the kind): to change the kind as such.

Of course, one might ask "how far" a kind can move through the MSP without ceasing to exist. In other words, how different could a future practice be for it to still count as a marriage? (Suppose that the components of the marriage-cluster are replaced one by one with new ones.) I do not think that we can give a general answer to this question. There is also a second reason, in addition to the one I discussed with respect to the qua-problem, why I disagree with Guala when he says that the question of what money (or marriage etc.) is, is not at all conventional (UI, 176). There is necessarily a conventional element because, even if the realization gaps between the realization accumulations in the MSP help us in demarcating real kinds, it is a matter of convention as to how far the accumulations can move and how small the gaps may become before the kinds are no longer numerically the same. This is one of the reasons why Boyd maintains that even if real kinds are to some extent made by nature, they are also the "workmanship of women and men" (Boyd 1999).

5. Conclusion

I have tried to show that the distinction between institution types and institution tokens faces a number of difficulties that are not sufficiently addressed in UI. While tokens are certainly concrete entities, Platonists and Aristotelians disagree as to whether types are somehow bound to space and time as well. In any case, spatio-temporal locatedness does not seem to be a good epistemic criterion for distinguishing types from tokens.

Missing from UI is also an examination of the semantics of institution terms at different levels of generality. Presumably, determining the meaning of mid-level terms like *marriage* is different from that of lower-level terms like *Dutch Protestant Church* and that of higher-level terms like *institution*.

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[12]I suppose that similar things may be said about other institutions such as money, private property, or church. With respect to the latter, think, for example, of the historical development of religions from paleolithic forms to polytheism, monotheism, New Age religion, etc.

Finally, I have argued that a reformist about marriage or other institutional entities at similar levels of generality can pursue a third strategy: she can attempt to change marriage itself. This strategy is compatible with realism just like the other strategies. Unlike them, however, it requires marriage to be changeable. I have tried to show that it is plausible to assume that it is.

Declaration of Conflicting Interests

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