

Tropes and Time

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The paper deals with a general ontological question concerning existence and time as well as with a more specific reconstruction of temporal features of existents against the background of trope philosophy. Both questions hang together. I shall defend the following theses:

- T1 Time is dependent on Existence (and not *vice versa*).
 T2 Temporal order can be explained without recurring to relations.

It is widely held that time as well as space are criteria of things being real. Whenever something is in space and time, it is said to exist. On this conception time is either construed as independent of or prior to existence *or* time and existence are understood as being interdependent. On another conception, recently presented by Erwin Tegtmeier (1997), time and existence are completely independent of each other. The task of the first section will be a refutation of these two conceptions.

In the second I shall propose a different conception, and finally in the third section, I shall defend both theses by discussing one of the phenomenal features of time, namely that of temporal order, against the background of trope ontology. Is it possible to explicate temporal order, i.e. McTaggart's B series of time, without relations? *Prima facie*, this seems to be impossible, as trope ontology does not have relations at its disposal. Relations, however, seem necessary in order to reconstruct temporal order.

1. **Existence and Time**

Let me start with a short explication of the first thesis. To say that time is dependent on existence and not *vice versa* is to say that existence is logically and metaphysically prior to time. The logical argument runs as follows:

- (a) Anybody who claims that existence is dependent on time or that time is prior to existence, has already implicitly admitted that existence is prior, namely *the existence* of time.
- (b) If time were prior to or independent of existence, it would exist apart from existence itself, which is not possible.
- (c) Therefore, in order to avoid circularity or impossibility, time can only be dependent on existence and not *vice versa*.

The metaphysical argument is briefly that

- (a) Existence or being is the most basic term of ontology.
- (b) Existence is not an entity *sui generis* along with other entities and has therefore not a categorial but rather a transcategorial ontological status.
- (c) Therefore, time is reconstructible by one or more categories of being and/or by further transcategorials.

I think that these arguments are sound although one could say something more at least on dependence and on transcategorials, which I shall in due course.

Nevertheless, in the history of time philosophy there has been a tendency somehow to *presuppose* time (and space) or to set it apart from existence. This tendency has sometimes been such that time is regarded as (at least) one of the very *criteria* of existence. I will just name two positions which are still prevalent in recent philosophy and, though different, represent the first conception to be rejected. Version A of this conception might be called the *Existential View of Time*, while version B is the *Transcendental View of Time*.

On version A, things which are supposed to be real, are (at least partly) identified by their *temporal location*. They are said to exist, generally, “in time”, or to be, individually, “at a time”. Even if one does not take the linguistic meaning of the prepositions “in” and “at” all too literally, the image of time as a space-like container or a set of positions seems to prevail. As is the case with many nominalist ontologies, trope ontology in some of its versions also presupposes time (and space) in this sense and uses them as criteria of real existence. Moreover, and perhaps more important, temporal and spatial location are regarded as the individuators *par excellence*. Ever since Donald Williams construed particular properties or tropes as “the elements of being” in 1953, all real and individual, because they are located in space and time, there has not been much reflection on time in the field of trope philosophy. Keith Campbell, who more recently got philosophers on the track of trope philosophy, relies even more heavily on physicalist determinations, although he, unfortunately, chose “abstract particulars” as a description of these spatio-temporally located entities (Campbell 1990). Although I think that language use as well as physics can teach us a lot about time and further our understanding of temporal phenomena, I reject the view that time (as well as space) can be employed as *criteria* of existence. After all, it cannot be excluded that there are a-temporal existents. This rejection seems to imply the rejection of time (and space) as sources of individuation – a consequence which some philosophers might regard as totally misled. What else, they would probably ask, will do the necessary work of individuation, if not temporal (and spatial) determination? Or, even more to the point, what are the individuating conditions of tropes, if they are not “their” times and places of occurrence? Therefore, the existential view of time involves two different assumptions which are not always separated: (a) the

assumption that time is a *criterion of existence*, and (b) that time is a *condition of individuation*. I shall try to show that both assumptions are not necessary for trope ontology.

Version B tries to supply reasons for entities to be real by stipulating necessary conditions for *knowing something as real*. Most prominent in this field has been the Kantian conception of “forms of intuition” (*Anschauungsformen*) as a transcendental precondition for things to be empirically perceivable and knowable. I think that Kant was right in one respect, and wrong in another. He was right in rejecting time as a category of being. Times are neither entities *sui generis*, nor do they fall under a specific category. However, I take the Kantian conception of time as a purely epistemic and representational device to be false, and this for at least two reasons: First, why should existence be dependent on an ideal form? Secondly, why should existence be dependent on what is perceived and known? Before making my own proposal more explicit, I shall turn to the second conception that is to be rejected.

On this conception, which has been presented recently by Erwin Tegtmeier, existence is timeless. Existence and time are construed as totally independent of each other. While existence is a univocal transcategorical term, temporal phenomena (i.e., change, duration, and temporal order) are ontologically grounded in the categories of his states-of-affairs-ontology. Therefore one might call Tegtmeier’s conception a *Categorial View of Time*. The categories he employs are a group of relations while the category of relation itself is classified as a subcategory of universals. The first group of relations consists in “earlier than”, “simultaneous with”, and “overlaps temporally”. The second group consists of “lasts longer than” and “lasts equally long as”. These two groups are supplemented by a further relation, namely that of being a temporal part (Tegtmeier 1997, § 21). On this conception, the earlier-than relation, for example, is a dyadic universal with two individuals as relata, namely, temporal parts of a thing. The obtaining of such a relation is itself a state of affairs.

The most interesting feature of Tegtmeier’s reconstruction is that he, so to speak, liberates existence from the clutches of time. And I don’t object to this liberating act. My objection concerns the categorial view of time. Temporal phenomena, or so I shall argue, are not to be grounded exclusively in *categories* of being.

2. Tropes and Temporal Modes

The crucial question is, of course, how time can be reconstructed, if it is neither a criterion of existence or a condition of individuation, nor a transcendental form, nor a category of being. The answer I propose is that time is a *mode of existence*. By a mode (Lat. *modus*) I understand - conforming to the usual meaning - a “way of being”. Entities which exist temporally, have a temporal mode. Accordingly, entities which exist a-temporally, do not.

Thus, time is real, if there are some existents which have a temporal mode. But having a temporal mode is not a criterion of existence. There might be a-temporal beings along with the temporal ones. In other words, time is dependent on at least some existents. What these existents are, i.e., what category they belong to, is, however, not determined by a mode, as it is a *transcategorical* term. Since a transcategorical term is, in principle, not restricted to a specific category of being, it can be applied to different ones, for instance, to events, facts, substances, or tropes. The Mode Approach to time is, therefore, liberal in two respects: First, it does not exclude a-temporal beings; secondly, it is not restrictive concerning the ontological categories one might consider appropriate and irreducible in one's ontological system.

The ontological framework, against which I shall test the mode approach, is, however, not very liberal. On this framework, existence is analytically reduced to one category, namely, the category of tropes. Tropes are particular properties, or, as I prefer to say, individual qualities.¹ In order to make my thesis (T1) more explicit and to show how modes work, I shall discuss some examples by which, if I am right, thesis (T2), namely, that temporal order can be explicated without recurring to relations, will be supported. Consider the sentence

(1) Mary is singing.

On the trope view, this statement is true, just in case there is an individual quality of singing which belongs to a trope complex called Mary. Singing, as everybody will concede, is something which “takes time”, i.e., a trope of singing has a temporal mode: If it exists, it will necessarily have a temporal mode. This is, however, not to say that there is a thing called “duration” which is somehow tacked to the singing. Rather, the temporal mode of duration depends on and exists with a particular quality, in this case, a particular singing.² At this junction, a consideration of the particularity of a quality might be appropriate. If temporal modes depend on particular qualities, one might ask, what it is that individuates the qualities in the first place, since it cannot be their dependent temporal modes.³ There are three possible answers: First, tropes are individual qualities in virtue of belonging to or being constitutive of an individual, e.g., Mary's singing is an individual quality in virtue of belonging to or being constitutive of the individual person Mary. Secondly, if one defines individuality as being not instantiable, the individuality of tropes is grounded in their uninstanciability, since tropes are nothing else than property instances.⁴ Thirdly, the individuality of tropes is not further analysable and has therefore to be taken as primitive. In other words, the primary individual is not a substance or trope complex, such as Mary, but the tropes which might combine in trope complexes such as Mary, and Mary being a derivative individual. All of these answers, al-

though they have somewhat different implications which I cannot discuss here, state that there is no special problem of individuation with tropes. Tropes exist, if they exist at all, as individuals, and nothing “more fundamental” is needed to account for that individuality. The error of philosophers asking for “conditions of individuation” is due to the prevailing history of ontology in which qualities are assumed to be universal and have to be “exemplified” or “instantiated” by presupposed individuals. Consider, now, the sentence

(2) 7 is a prime number.

On the model of sentence (1), this statement is true, if there exists an individual primeness included in a trope complex called 7. Primeness, however, i.e., the quality of being divisible only by the number 1, and, in our case, by the number 7, does not have a temporal mode. As everybody will concede, it would be a strange question to ask, when the specific primeness of 7 occurred for the first time and how long it will probably last. That Erastosthenes in 200 B.C. invented a method to *discover* the primeness of natural numbers, or that in the 17th century the French scholar Marin Mersenne worked out another method in order to detect the primeness of large numbers, is not a feature of primeness itself. Whereas the *discovery* of primeness is to be analysed in terms of tropes belonging to Erastosthenes and Mersenne, respectively, namely, tropes of their thinking which surely have a temporal mode, the tropes of primeness they discovered are a-temporal.

So far, I have argued that time is dependent on existence (T1), more specifically, that time is a mode of existence. Applied to trope ontology, a trope does or does not have a temporal mode, depending on the individual quality it is. Moreover, it has been argued that lacking a temporal mode is no reason for a trope to be excluded from the ontological domain. At this juncture, I’d like to make a comment on the notion of dependence and on the expression “having a temporal mode”.

Briefly, ontological dependence is a formal or internal relation between entities. My basic definition runs as follows:

(D1) a is ontologically dependent on b iff it is impossible that a exists and b does not exist.

More formally one could write the definiens: $\neg \diamond (Ea \wedge \neg Eb)$
(where a and b are trope-variables, and E is a symbol of existence)

In short, ontological dependence is reduced categorially to tropes and the transcategorials possibility and existence.⁵ The issue under discussion is, now, to understand what it means that time depends on existence, or more

precisely, that temporal modes depend on tropes. In the vein of the above definition, one could try out the following.

- (D2) A temporal mode m is ontologically dependent on a trope t iff it is impossible that m exists and t does not exist.

Although (D2) perfectly well captures the idea that a temporal feature, let's say, a particular duration, can only exist, if a particular trope exists, there is a difference to be noticed. Whereas in (D2) m and t are not on the same ontological level, because m is a *mode* and therefore a *transcategorical* term while t is a trope and therefore a *categorical* term, this asymmetry is not given in (D1), where a and b are not only both categories, but categories of the same level, namely, both tropes. How this difference affects thesis T1, namely that time depends on existence, is still to be seen. Apart from that, there seems to be a serious problem involved in (D2), or rather, there appears to be the choice between two problems. The first problem arises, when temporal modes are understood to be dependent on all and every trope that exists. Let's call it the *generality problem*. As pointed out above, there might be tropes, but no temporal modes existing along with them. In other words, not all tropes, or tropes in general, have a temporal mode. The second problem might arise, if one tries to solve the first problem by introducing a constraint. But what constraint could that be? In any event, a *circularity problem* lurks here, which in its plainest version could be stated as follows: A temporal mode is ontologically dependent on a temporal trope. Obviously, we are stuck in a dilemma.

The part of it I prefer to get rid of first is the circularity problem. That means acknowledging (D2) after all, i.e. the general ontological dependence of temporal modes on tropes. Wherever there are temporal features, they depend on tropes. But how can one save the idea that not all tropes are such that they have a temporal mode? How can one stick to the hypothesis that there might be a-temporal tropes? The solution I propose is the insight that the generality problem is indeed a "Scheinproblem", as Carnap would have called it. For, if one makes explicit that temporal modes depend *one-sidedly* on tropes, there is no need to restrict the domain of tropes. The only condition to be satisfied is that in the domain there be at least some tropes which have a temporal mode. And it is not at all controversial that this condition can be met. Nevertheless, one is tempted to see a problem here, because there is a strong tradition according to which existence is time-dependent and if one wants to say that it is just the other way round, namely, that time is existence-dependent, one might rashly jump to the conclusion that every trope has to have a temporal mode. But this conclusion fails. It is not necessary that all entities have a temporal mode in order to argue that temporal modes are in general ontologically dependent on entities. Hence the difference between the two definitions of ontological dependence is that (D1) ex-

presses either one-sided or mutual dependence, while (D2) expresses only one-sided dependence.

Having explained, however briefly, the connection between tropes and temporal modes as a type of ontological dependence, the meaning of “having a temporal mode” can now be made more explicit. A trope has a temporal mode, if the trope in virtue of its own individual quality is such that if it exists, a temporal mode will also exist. In other words, time is relative to and dependent on tropes. The “having” is therefore not the having of any old property, although it fits into that linguistic pattern, but rather a convenient and short expression of a one-sided ontological dependence.

3. Tropes and Temporal Order

Let us now discuss thesis T2. Is it really possible to explicate temporal order without invoking relations? Consider the following sentences.

- (3) Mary was singing, and now she is dancing.
- (4) Mary is singing and dancing.

By (3) a temporal order of precedence is expressed by tenses and the indexical “now” to the effect that the trope of singing is earlier than the trope of dancing. By (4) the respective tropes are said to exist simultaneously.

What has to be explained, then, if we stick to these examples, are precedence and simultaneity. If Mary first sings a tune and then dances some steps, there exist tropes of singing and tropes of dancing, all belonging to the trope complex Mary and all having their individual temporal modes. Their temporal modes, however, i.e., their individual durations, do not overlap. They are discrete. What we have, so far, are *relata*, a singing with its temporal mode and a dancing with its temporal mode. Do we need more?

The friends of relations, surely, would say that one certainly does need more. It cannot be the case, they would argue, that the order of those temporal modes be in the modes or in the *relata* themselves. Being earlier could not be essential to an individual singing. And right they are. Or better, it seems as if they were right. Although I admit that there is not such a thing as an earliness or a simultaneousness in the temporal existents, there is not such a thing as a genuine relation of precedence or simultaneity either. Rather, the *succession* of the tropes < singing, dancing > is grounded in the *discrete temporal modes* of the respective tropes, whereas their *coincidence* is grounded in the *overlapping temporal modes* of the respective tropes. From the latter, one can explicate dates or instants of time. Consider the sentence

- (5) Mary is singing at five o'clock.

Obviously, according to the previous discussion, there cannot be something like a trope of “five-o-clockishness” to be added to the trope of Mary’s singing. But if the date or instant is not a trope, what else could it be?⁶ On the Mode Approach so far, the whole of Mary’s singing is said to have a temporal mode. It exists exactly as long as Mary sings. Now, instants such as “occurring at five o’clock” are neither entities *sui generis* nor some extra-modes. I rather suggest that they are constructions in the sense Russell proposed.⁷ According to Russell an instant of time is constructed by a group of partly overlapping events, or sticking to my terminology, of partly overlapping tropes along with their temporal modes. Hence instants are constructed from a group of temporal modes we are used to call simultaneous.

Even if our friends of relations accepted the elucidation of the simultaneity case, they probably would not be convinced in the case of succession, because they surely would demand an explanation of the *order* of succession. How, they would presumably ask, can you explain that Mary’s singing takes place *before* Mary’s dancing, and not *vice versa*? *Mere* succession begs the question as to the order of the succeeding tropes.

Well, how can a trope philosopher account for the *order* of succeeding tropes? If trope *a* is succeeded by trope *b*, the temporal mode of *a* is succeeded by the temporal mode of *b*. As the respective modes m_a and m_b are individuated by the tropes they depend on, the order in the succession is established by the respective existing tropes. In other words: there is no *mere* succession. Rather, succession, at least on the trope view, has an intrinsic order, due to the individual qualities which succeed each other. Whether the singing exists before the dancing as in (3) or whether they exist simultaneously as in (4), the respective temporal order is grounded in nothing other than the existing individual qualities of Mary’s singings and Mary’s dancings. Nothing has to be added. The temporal order is as real as the tropes themselves.

I admit, however, that there is a temptation to look for “more”. The desire to get hold of a clear-cut ordering device, such as a dyadic, asymmetrical universal like the earlier-than-relation, as it is usually interpreted, seems to be motivated by our highly abstract understanding of time, and, curiously enough, the reification of time along with this abstraction. We are not only used to measuring “times”, but we have all sorts of evaluations connected with time periods, be it a day, be it a century or more. A separate science has been established to study the history, i.e., the succession of existents in its most salient features and with respect to different domains of being. On this level of abstraction-*cum*-reification it seems only natural to reconstruct time ontologically by (real) universals, i.e. by invoking relations.

Although I do not deny this level of abstraction and reification of time, it is not, or at least, it should not be the very basis of time ontology. As I have tried to show, time is a mode of being. If being or existence is analysed solely in terms of tropes, i.e., individual qualities, time is a mode of tropes.

History on that basic level is an intrinsically ordered succession of individual qualities. Does this imply a determinism of history?⁸ I think, not. Because the tropes together with their temporal modes, while succeeding or overlapping each other, do not have something like necessary and in so far determinate dates. As indicated above, dates or instants of time are abstractions or constructions of overlapping temporal tropes. History is just dependent on whatever temporal tropes might emerge, but this dependence I would not call determinism. Of course, there are, on this conception, no purely temporal intervals in which literally nothing occurs. Rather, the universe is bursting with succeeding and overlapping tropes, although we usually prefer not to mention them, even if we knew them all, and have therefore the natural impression that there might be pure intervals.⁹ But intervals are abstractions from temporal modes which are relative to and dependent on qualitative individual existents, such as tropes.¹⁰

Notes

- ¹ For more details cf. Trettin (2000).
- ² This would be a nice occasion to introduce the term “supervenience”, but I prefer to talk of dependence *simpliciter*.
- ³ Thanks to Marianne Schark for her insistence on that question.
- ⁴ Cf. Gracia (1988), 43-56.
- ⁵ Further details are discussed in my essay „Ontologische Abhängigkeit in der Tropentheorie“ (2001).
- ⁶ I owe this question to Niko Strobach.
- ⁷ Russell (1914), 106-132.
- ⁸ I owe this question to Uwe Meixner.
- ⁹ This statement has to serve here as a short answer to one of Jonathan Lowe’s questions.
- ¹⁰ Thanks to the participants of the GAP conference in Bielefeld, especially to Jonathan Lowe, Uwe Meixner, Marianne Schark and Niko Strobach for valuable questions and comments as well as to Louise Röska-Hardy for her stylistic corrections of my English.

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