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States versus tropes. Comments on Curt Anderson and Marcin Morzycki: 'Degrees as kinds'

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Abstract In this commentary on Anderson and Morzycki's article 'Degrees as kinds', I raise some issues about the interchangeability of concrete (or Davidsonian) states (in the sense of Maienborn 2007) and tropes (particularized properties, according to Moltmann 2009), as well as the category of concrete states as such. I will also raise some issues for Anderson and Morzycki's use of kinds of concrete states for constructing degrees and their analysis of the comparative.

Keywords State · Trope · Degree · Kind · Davidsonian state · Kimian state

In their paper 'Degrees as Kinds', Anderson and Morzycki, A/M for short, demonstrate how certain constructions in a range of languages treat kinds, manners, and degrees alike. Their proposal is to identify degrees with kinds of states, more precisely kinds of concrete states or Davidsonian states in Maienborn's (2007) sense. A/M also propose concrete states as the sorts of things that adjectival modifiers apply to. Adjectival modifiers, as noted in the literature, cannot generally be considered predicates of abstract degrees, and have been considered predicates of tropes or particularized properties in Moltmann (2009). A/M consider concrete states and tropes to be interchangeable for their purposes.

In these comments, I will raise some issues about the interchangeability of concrete states and tropes as well as the category of concrete states as such. I will also raise some issues for A/M's use of kinds of concrete states for constructing degrees and their analysis of the comparative. However, these issues will first require some clarifications regarding A/M's view as well as of the notion of a concrete state.

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1 Anderson and Morzycki's account as degrees as kinds of concrete states

A/M propose that degrees be identified with kinds of concrete states. Their main motivation comes from expressions in a range of different languages that treat degrees on a par with kinds and manners. The modifier *so* in German is such an expression, as A/M mention. I will add to A/M's generalizations that *so* goes together with the wh-word *wie* 'how', in the three below:

(1)　a.　Hans ist so groß wie Maria.
　　　　John is so tall how Mary
　　　　'John is as tall as Mary.'
　　b.　so ein Hund wie Fido
　　　　so a dog how Fido
　　　　'such a dog as Fido'
　　c.　Hans hat so gearbeitet wie Maria.
　　　　John has so worked how Mary
　　　　'John has worked like Mary.'

Example (1a) is a standard phrasal equative construction comparing what is generally regarded as degrees. Examples (1b) and (1c) are equative constructions comparing kinds in (1b) and manners in (1c). Without the *wie*-phrase, *so* can have a deictic and a discourse-related interpretation, relating to a demonstrated or previously mentioned degree, kind or manner.

On A/M's analysis, *so* in (1a) will involve reference to a kind, as informally below:

(2)　For some kind k, for some state s, *tall* (s, John) & s realizes k & *how Mary*(k)

This analysis applies to (1c) in the same way since manners are identified with kinds of events. Degrees are identified with kinds as well, certain kinds of concrete states, namely what A/M call 'degree kinds'.

Another motivation for A/M to make use of concrete states for the semantics of adjectives is the sorts of modifiers that can apply to adjectives. Modifiers of adjectives like *visibly*, *astonishingly*, *uniformly*, and *fatally* can hardly be considered predicates of abstract degrees, but apply to entities involving a particular quality and causal role. This was also one of the main motivations for using tropes instead of degrees for the semantics of adjectives in Moltmann (2009). Tropes as particularized properties in individuals involve a particular manifestation of a property in an individual, play causal roles, and act as objects of perception.

A/M do not see much of a difference between concrete states and tropes and prefer concrete states over tropes because they consider states the better established ontological category, given the widespread acceptance of the Davidsonian view of events in contemporary semantics. Whether the category of states is better established than that of tropes is of course a highly perspectival matter. Tropes were considered one of the four categories of being in Aristotle's *Categories* (substances, secondary substances, and qualities being the other three categories), and the category of tropes had subsequently been taken for granted in Aristotelian metaphysics, throughout the Middle Ages (Ockham, Aquinus), early modern philosophy (Locke, Spinoza), up to

contemporary Neo-Aristotelian metaphysics (Lowe 2006) as well as the more radical trope-based one-category ontologies (Williams 1953; Campbell 1990).

In what follows, I will first clarify the distinction between concrete and abstract states, which is crucial for A/M's account, but which A/M make not very explicit. Then I will raise a number of issues for their analysis. The first concerns attributing to kinds of concrete states the role of degrees; the second concerns the semantics of comparatives and equatives that A/M propose; the third concerns the ontological distinction between concrete states and tropes and differences in semantic behavior between terms referring to states and terms referring to tropes; a final issue concerns general doubts about the notion of a concrete state as such which have been put forward in the recent semantic literature.

2 The distinction between concrete states and abstract states

A/M say little about the notion of a concrete state they use, and they take it to be interchangeable with the notion of a trope for their purposes. I think the difference between tropes and concrete states is more significant than A/M take it to be. Therefore, some clarifications are needed about how the notion of a concrete state is used in the recent semantic literature.

Concrete states contrast with abstract states. The distinction between concrete and abstract states is due to Maienborn (2005, 2007), who calls the two sorts of states 'Davidsonian states' and 'Kimian states'. The distinction for her is motivated by the different behavior of two classes of stative verbs with respect to modifiers. Abstract state verbs, as I will call them, disallow a range of adverbial modifiers, displaying what Katz (2003) calls the 'Stative Adverb Gap'. They disallow location modifiers, manner modifiers, instrumentals, and comitatives. Most stative verbs belong to this class, including measure verbs such as *weigh*, verbs of comparison such as *resemble*, verbs of possession such as *own*, and mental state verbs such as *know*. Predicates describing concrete states include verbs of body position and posture (*sit, stand, sleep, kneel*) and verbs of 'internal causation' (*glow, shimmer*) (Maienborn 2005, 2007; Rothmayr 2009). The sentences below illustrate the different behavior of abstract state verbs and concrete state verbs with respect to location modifiers, manner modifiers, comitatives, and instrumentals:[1]

(3) a. ???John weighs 100 kilos in Germany.
    b. ???John owns the horse in Germany.
    c. ???John knows French in Munich.

(4) a. John was standing in the room.
    b. John slept in the house.

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[1] There are a number of verbs that allow for both an eventive and an abstract-state interpretation and thus pattern in both ways, for example *surround, obstruct* or *threaten* (Rothmayr 2009). Moreover, adverbials may become acceptable with abstract state verbs on a derivative interpretation (Maienborn 2007).

(5) a. ∗ John weighs 100 kilos with difficulty.
     b. ∗ John owns the horse with effort.
     c. ??John knows French in an unusual way.

(6) a. John was standing in an unusual way.
     b. John stood at the table with difficulty.

(7) a. ??John knows French with Mary.
     b. ??John owns the house with a pencil.

(8) a. John was standing with Sue.
     b. John was standing with a cane.

Moreover, abstract-state verbs, unlike concrete-state verbs, cannot form infinitival complements of perception verbs (Maienborn 2005, 2007):

(9) a. ???John saw Bill weigh 100 kilo.
     b. ???John saw Bill own the house.
     c. ???Mary saw John resemble his father.
     d. ???Mary heard John know French.

Katz (2003) takes the Stative Adverb Gap as evidence that stative verbs lack an event argument position entirely. By contrast, Maienborn (2005, 2007) attributes the inability of stative verbs to take the relevant modifiers and act as complements of perception verbs to the particular nature of abstract states that, for her, are the event arguments of those verbs. The motivations for her position are first that stative verbs do accept some adverbial modifiers, for example temporal modifiers, and second that abstract state verbs allow anaphoric reference to the state described (as in *John once owned a car. That did not last very long*). Maienborn argues that abstract states simply do not have the sorts of properties that the relevant modifiers would attribute, such as a spatial location, causal relations, being objects of perception, and involving a particular qualitative manifestation. The reason is, Maienborn argues, that abstract states are states as conceived on a Kimian account of events (Kim 1976). Kim's account consists in stating identity and existence conditions for events, as entities obtained from a property, an object, and a time, by a function f as below:

(10) a. For a property P, an object o, and a time t, the event $f(P, o, t)$ exists iff P holds of o at t.
      b. For properties P and P', objects o and o', and times t and t', if $f(P, o, t)$ and $f(P', o', t')$ exist, then $f(P, o, t) = f(P', o', t')$ iff $P = P', o = o', t = t'$.

This account introduces events by 'abstraction', by specifying their properties, in particular time-relative existence conditions and identity conditions. An entity introduced in that way could not have any other properties than are derivable from the way they are introduced, though of course they can be the object of mental

attitudes. This means that Kimian events could not even have the properties that concrete objects have, such as a spatial location or a particular realization, or enter causal relations. It is generally agreed that Kim's account is not particularly suited as an account of events, but it appears to give the right notion of an abstract state.

By contrast, concrete states, for Maienborn, fall under a Davidsonian conception of events (Davidson 1967), just like events themselves of course. This means that concrete states are relatively independent of the description used and thus involve a particular realization, have a location, enter causal relations, and can act as objects of perception.

An important fact is that abstract-state predicates include the combination copula *be+* adjective, for short *be* + A (Maienborn 2005, 2007). *Be* + A resists the relevant classes of modifiers and cannot form infinitival complements of perception verbs:

(11) a. ???John was hungry in front of the refrigerator.
      b. ??John was nervous in Munich.

(12)   ???John was nervous with trembling hands.

(13)   ??John was strong with difficulty.

(14)   ??John was strong with Mary.

(15) a. ???Mary saw John be hungry.
      b. ???Mary saw Sue be beautiful.

This means that the event argument of *be* + A is not the same as that of the adjective A, which must be concrete, given the range of adjectival modifiers that generally can apply.

3 Issues about degrees as kinds of concrete states

For A/M, kinds of concrete states make up degrees. But not any kind of concrete state makes up a degree, only kinds do whose property correlate is a degree property. A/M assume that degree properties are the distinguished properties of concrete states. This is, on their view, why constructions involving kind reference generally pick out degree kinds when applied to the concrete states described by adjectives.

3.1 Degrees as kinds?

A/M take constructions such as *so wie* to call for a unified account of degrees, manners, and kinds. A/M do not provide other evidence, though, that degrees or manners behave as kinds in the Carlsonian sense, namely by displaying the typical kind readings with different predicates, such as individual-level and stage-level predicates and by accepting typical kind predicates such as *widespread* or *common*.

Manners do in fact act as kinds, namely as referents of NPs with *way* or *manner*. German manner-referring terms even show a link to the *so wie*-construction in that they can be modified by *wie*-clauses:

(16)   Hans hat   in der Art und Weise gearbeitet wie Maria.
            John has worked in the way and manner   how Mary
            'John has worked like Mary.'

In die Art und Weise, wie 'in the manner in which' is of course synonymous to *so, wie*. The examples below illustrate the kind status of definite NPs with *Art* or *Weise*, allowing for typical kind predicates and displaying an existential reading with stage-level predicates:

(17)   a.   Die Art, wie Hans arbeitet, ist weitverbreitet.
               the way how John works   is widespread
               'The way in which John works is widespread.'
         b.   Maria hat noch nie die Art beobachtet, wie Hans tanzt.
               Mary has never observed the way   how John dances
               'Mary has never observed the way how John dances.'

German *wie*-phrases can in fact also modify kind terms of the sort of bare plurals and mass nouns:

(18)   a.   Hunde wie Fido
               dogs   how Fido
               'dogs like Fido'
         b.   Wasser wie in Paris sollte   man nicht trinken.
               water   how in Paris should one not   drink
               'Water like in Paris one should not drink.'

Degrees in contrast to manners do not seem to behave like kinds when acting as referents of degree-referring terms. Terms like *the degree of John's success* and *the extent of Mary's anger* do not act as kind terms, displaying kind-related readings of predicates:

(19)   a.   The degree of John's success is common.
         b.   ???I have never witnessed the degree of John's success.

(20)   a.   ???The extent of Mary's anger is widespread
         b.   I have never encountered the extent of Mary's anger.

Note also that in German, degree-referring terms do not take *wie*-clauses, but only *zu dem*-clauses, unlike kind-referring and manner-referring terms:

(21)   a.   ???der Grad, wie hart Hans arbeitet
                  the degree how hard John works
         b.   ???das Maß,   wie   Hans sich rächt
                  the measure how / to which John revenges himself
                  'the measure to which John revenges himself'
         c.   das Maß,   zu dem   Hans sich rächt
                  the measure to which John revenges himself
                  'the measure to which John revenges himself'

In fact, *the degree of John's success* and *the extent of Mary's anger* more plausibly refer to entities particular to John and Mary, namely tropes of a certain sort, 'quantitative tropes' (Campbell 1990; Moltmann 2009, 2013a, 2013b). One particular degree term of the same sort is *the number of planets*, which, as I argued in Moltmann (2013a, 2013b), refers to a number trope, a plurality 'reduced to' the one respect of how many in the plurality there are. Numbers might also be viewed as 'kinds of pluralities', kinds whose instances are pluralities of a certain number. But this is not how natural language chooses the referent of *the number of* N.

If kinds of states are not the referents of explicit degree-referring expressions, this puts some caution on attributing to kinds of states other roles of degrees, such as their apparent role in the semantics of comparatives.

3.2 Degree-related properties as the distinguished properties of concrete states?

One puzzle that the analysis in (2) raises is why *so* picks out only degree kinds of concrete states, a constraint that appears to generalize across languages that have the construction. A/M introduce a notion of a distinguished property of types of entities in order to derive the constraint. Degree properties, for them, are the distinguished properties of concrete states, whereas manner properties are the distinguished properties of events. *So* would be subject to the constraint that it can only apply to kinds whose property correlates are distinguished properties.

There is a serious problem with assigning degree properties to concrete states as their distinguished properties. Verbs that are supposed to describe concrete states exhibit the manner reading with German *so*, not the degree reading, in contrast to adjectives with a similar meaning:

(22)   a.   Hans lebt so wie Maria.
              John lives so how Mary
              'John lives like Mary.'
    b.   Hans ist so lebendig wie Maria.
              John is so alive   how Mary
              'John is as alive as Mary.'

(23)   a.   Hans wacht   so wie Maria.
              John stays awake so how Mary
              'John stays awake in the way Mary does.'
    b.   Hans ist so wach wie Maria.
              John is so awake how Mary
              'John is as awake as Mary.'

(24)   a.   Diese Linie krümmt sich so wie diese.
              this   line   bends   so how this
              'This line bends like this one.'

    b.   Diese Linie ist so krumm wie diese.
            this   line   is so bent   how this
            'This line is as bent as that.'

(25)   a.   Maria sieht so wie Hans.
            Maria sees so how John
            'Mary sees like John.'
    b.   Maria ist so blind wie Hans,
            Maria is so blind how John.
            'Mary is as blind as John.'

So in the a-examples compares the way the described state is realized, whereas in the b-examples *so* compares the degree to which individuals instantiate a property. Thus, (22a) describes the way John lives, whereas (22b) describes to what extent he is alive, no matter his way of living. Example (23a) describes the way John stays awake, whereas (23b) describes the degree to which he is awake. Example (24a) describes how the line is bent, whereas (24b) describes to what extent it is bent, no matter how. (25a) describes the way in which Mary can see (with glasses or contact lenses, say), whereas (25b) compares the degree of her blindness. (Example (25b) cannot compare the kind of Mary's blindness to John's, let's say color blindness as opposed to total blindness.)

    This means that the degree-related reading of *so* is not triggered by the concrete states that *so* supposedly applies to. Rather it appears to be part of the constructional meaning of the equative, involving *so* as an adjectival modifier, just as degree-relatedness belongs to be the constructional meaning of the ordinary comparative. The degree-relatedness of the comparative and the equative in fact should be traced to ordering among states (or tropes) that gradable adjectives themselves specify, as will be discussed in Sect. 4. That is, *so* as an adjectival modifier would involve kinds of states that are equivalent relative to the ordering specified by the adjectives. *So* when modifying verbs cannot pick out such kinds because verbs do not specify an ordering among concrete states (or tropes) (Moltmann 2009, 2013b).

    There is a further piece of evidence for that view and that comes from the different readings of German *wie* 'how' and *so* 'so' in the position modifying the copula and in the position modifying the adjectives:

(26)   a.   Ich bin erstaunt wie Hans talentiert ist.
            'I   am amazed how John is talented.'
    b.   Ich bin erstaunt wie Hans talentiert ist.
            'I   am amazed how talented John is.'

(27)   a.   Wie   Hans glücklich ist!
            'How John is happy!'
    b.   How happy John is!
            'How John is happy!'

(28)   a.   So ist Hans glücklich.
               so is John happy
               'That way, John is happy.'

         b.   Hans ist so glücklich.
               John is so happy
               'John is so happy.'

Whereas (26a) can describe the speaker's amazement at the kind of John's talent, (26b) can describe only amazement at the extent of John's talent. Similarly, (27a) and (28a) about the way in which John is happy, whereas (27b) is about the extent to which he is happy. German *wie* and *so* in adverbial position act as manner modifiers with *be* + A (perhaps obtaining a derivative reading since *be* + A is not supposed to have a concrete state argument). By contrast, when modifying adjectives, *wie* and *so* act as degree modifiers.

It is interesting to note that German also has comparative constructions expressing a comparison of manners, of the equative sort with *ähnlich, wie* 'similarly to' and of the comparative sort with *anders als* 'differently than' (Moltmann 2009, Fn. 13):

(29)   a.   Hans ist ähnlich   talentiert wie Maria.
               John is similarly talented how Mary
               'John is talented in a similar way as Mary.'
         b.   Hans ist anders   talentiert als   Maria.
               John is differently talented than Mary
               'John is talented in a different way than Mary.'

Here the modifiers convey relations of qualitative similarity and difference, which is not the relation of degree-related ordering that should be part of the meaning of the adjective.

To conclude, the restriction to 'degree kinds' cannot be a restriction tied to tropes or concrete states as such, nor is it a restriction on *so* or *wie* in general. Rather it needs to be traced to the contribution of the adjective in the construction in question.

3.3 The identification of degree kinds

There is also a general problem with the identification of degree kinds. A/M illustrate degree kinds of height with properties like 'being ten meters tall'. The problem is that a degree property such as being ten meters tall is individuated by a degree, the standard meter as well as the number ten. Degree properties presuppose a notion of a degree, with the measure function that goes along with it. A/M say nothing about how concrete states could make up a degree kind independently of a measurement. Now this may not be that big a problem if the claim is that degrees are needed only in the formulation of degree properties and do not play a role as objects in the semantic structure of sentence (in contrast to concrete states and kinds of them). However, it is well-known that gradable adjectives need not come with an established measure system. In fact, most adjectives don't, for example *happy, strong*, and *light*. Adjectives that come with a measure system, adjectives of size and weight, form a rather

small subclass of gradable adjectives. Given A/M's view, it remains entirely mysterious how degree kinds are identified among concrete states of happiness, strength, or lightness.

Degree kinds presuppose some form of measurement and thus degrees as objects in a representation system.[2]

4 Issues concerning the semantics of gradable adjectives

The semantics of comparatives and equatives that A/M propose faces what I called the 'Problem of Direction' in the context of a similar trope-based analysis (Moltmann 2009). A/M's analysis of comparatives as in (30a) amounts, informally, to (30b):

(30)   a.   John is taller than Mary.
        b.   There is a degree kind k that is realized by a state s such that tall(s, John) and a degree kind k' that is realized by a state s' of such that tall(s', Mary) and $k' < k$.

Since (30a) does not in fact imply that John is tall or Mary is tall, *tall* in (30b) needs to be understood not as the actual positive but as conveying a more neutral concept of 'having a height'. The problem for A/M's analysis in (30b) concerns the 'greater than'-relation $<$. This problem, the Problem of Direction, arises with the application of positive and negative adjectives in a pair of polar adjectives to seemingly identical concrete state or tropes. Take the concrete states or tropes of 'strength' that are compared in (31a):

(31)   a.   John is stronger than Mary.

These states or tropes would be the very same as are compared in (31b):

(31)   b.   John is weaker than Mary.

Of course only one of the two sentences can be true. But if the comparative morpheme -*er* expresses the 'greater than'-relation in both cases and the relation compares two states or tropes as such, then (31a) would imply (31b) and vice versa. Note that this would also be the case if the comparative compares kinds of concrete states (or kinds of tropes).

For this reason, the 'greater than'-relation involved in comparatives should better be considered an ordering specified by the gradable adjective itself, as I have argued in Moltmann (2009). That is, gradable adjectives do not just describe tropes or states that are then compared as to which is 'greater than' the other. Rather gradable adjectives are fundamentally relational in nature specifying an ordering relation among tropes or states. Gradable adjectives do not just describe tropes or states of a particular sort to which a 'greater than'-relation applies that is expressed by the comparative morpheme, but rather they themselves convey a 'comparative concept' (Moltmann 2009).

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[2]Note that the trope-based account of positive and comparative adjectives in Moltmann (2009) does not deny reference to degrees as such. Rather the claim is that degrees are not involved in the semantics of constructions not involving explicit reference to them.

5 Explicit reference to states and to tropes

As already mentioned, A/M take it that the choice between concrete states and tropes is rather arbitrary for the purpose of the semantics of adjectival modifiers and for modeling degrees as kinds of particulars. Concrete states and tropes in fact appear to share the relevant properties that make them suited for the two roles: they involve a particular manifestation of a property, they are in space and time, they can enter causal relations, and they both arguably form kinds.

However, tropes and states in the way they have been discussed in the philosophical literature differ in a number of respects, and they differ not only with respect to properties attributed to them in particular philosophical contexts. Their differences are also reflected in the semantic behavior of terms making explicit reference to them. Terms for tropes generally are NPs with adjective nominalizations as head of the sort *Socrates' wisdom* or *the wisdom of Socrates* (examples of tropes throughout the philosophical literature are of that sort). By contrast, state-referring terms generally involve gerunds, as in *Socrates' being wise* or *the state of Socrates' being wise* (Moltmann 2007).

One important characteristic of tropes that they do not share with states is their similarity relations. Two tropes are similar just in case they manifest the same property and they are exactly similar if they manifest the same natural, or better fully specific property. Thus, two tropes of tallness are similar, and two tropes instantiating being two meters tall are exactly similar. The way tropes enter similarity relations was one of the main motivations for more recent trope-based nominalist theories of universals (Williams 1953; Woltersdorff 1970; Campbell 1990). Tropes permit dispensing with properties as abstract objects, namely by identifying (natural) properties with classes of exactly similar tropes and properties with classes of similar tropes. The way tropes enter similarity relations is also reflected linguistically, in the applicability of *is the same as*, which expresses close or exact similarity and not, like the *be* of identity, numerical identity. Thus (32a) states that the two pillows share a particular kind of softness; by contrast, (32b) states the identity of two distinct tropes and thus must be false:

(32) a. The softness of the first pillow is the same as the softness of the second pillow.
      b. The softness of the first pillow is the softness of the second pillow.

States do not enter similarity relations in the way tropes do. Two states involving the very same property, but different individuals are not considered exactly or closely similar. This is reflected in the application of *the same as* in the sentence below, which can only be false:

(33) The first pillow's being soft is the same as the second pillow's being soft.

The application of *the same as* also does not give evidence for concrete states being exactly similar in case they realize the same degree:

(34) a. John's weighing something is the same as Joe's weighing something.
      b. John's weighing fifty kilo is the same as Joe's weighing fifty kilo.

Again, such sentences just sound false. By contrast, quantitative tropes naturally enter relations of exact similarity just in case they correspond to the same degree:

(35)   John's weight is the same as Joe's.

A further indication that concrete states do not exhibit a particular connection to degrees is the inapplicability of measure predicates such as *fifty kilo*. Measure predicates are applicable to trope-referring terms, but not state-referring terms:

(36)   a.   John's weight is fifty kilo.
         b.   ???John's weighing something is fifty kilo.
         c.   ???John's weighing fifty kilo is fifty kilo.

There is another difference between tropes and concrete states, which concerns their spatial location. Concrete states should have a spatial location, since concrete state verbs allow for spatial modifiers, as in (37a). By contrast, spatial modifiers are not generally applicable to tropes, even if their bearers are located in space, as in (37b) (Moltmann 2013b):

(37)   a.   John was sitting in the room.
         b.   ???John's heaviness in the room

Tropes as referents of trope-referring terms thus differ in a number of respects from concrete states. Whereas natural language appears to make trope-referring terms systematically available in the form of adjective nominalizations, it does not really display concrete-state-referring terms. Predicates of the form *be* + A, for an adjective A, take abstract states as arguments, and gerunds of the form *John's being* A will refer to those same states (Moltmann 2007). Concrete states could only be the referents of nominalizations of concrete state verbs, if there even are any (see Sect. 6). The absence of concrete-state-referring terms should be a serious worry for a semantic approach to adjectives based on concrete states. Deverbal nominalizations serve to form terms referring to Davidsonian event argument of the underlying verb. Similarly deadjectival nominalizations should serve to form terms referring to the implicit arguments of adjectives, but these are tropes, not concrete states.[3]

6 Issues about the notion of a concrete state

There is also a general question about the need for concrete states for the semantics of verbs. Rothmayr (2009) recently argued that all verbs for which concrete states had originally been invoked count in fact either as abstract-state verbs or as eventive verbs, making a category of concrete states dispensable. Thus, Rothmayr argues that position verbs like *stand, lie* or *sit* count as abstract-state verbs when taking a location modifier (*John stood at the table*, *John sat in the corner*). On a posture reading (*John sat rather than stood*), Rothmayr argues, they in fact take an event argument, an

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[3]Not all adjective nominalizations simply pick up the trope arguments of the adjective. *Length* and *width* do; but *tallness* and *heaviness* describe more complex tropes quasi-relational tropes which instantiate the property of being greater than the contextual standard in a height trope or weight trope (Moltmann 2009).

event composed of an intention and a posture intentionally maintained. Furthermore, verbs like *glow, sparkle*, or *shimmer*, which Rothmayr calls 'verbs of inner causation', count as eventive verbs: they take events as arguments in an instrumental role. If Rothmayr's arguments are right, then concrete states are not involved in the semantics of verbs, and given that concrete states are not involved as referents of adjective nominalizations either, the conclusion appears to be that the ontology reflected in natural language is one of events, abstract states, and tropes, but not concrete states.

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