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Processes are occurrents that were, are, or will be happening. They endure or they perdure, i.e. they are either "fully" present at every time they happen, or they rather have temporal parts. According to Stout (2016), they endure. His argument assumes that processes may change. Then, Stout argues that, if something changes, it endures. As I show, Stout's Argument misses its target. In particular, it makes use of a notion of change that is either intuitive but illegitimate or technical but question-begging.

In "The Category of Occurrent Continuants", Stout (2016) argues that processes are both occurrents and continuants (i.e. they endure). His argument assumes that processes may change over time and seeks to show that, on this assumption, if something changes, it endures. I argue that such an argument fails: either it makes illegitimate use of an intuitive notion of change, or it makes use of a technical, but question-begging, notion of change.

According to Stout, processes are things that are, were, or will be happening. Examples include my writing this article—something that is happening right now—or the concert that was happening yesterday. Processes are described or referred to in answering the progressive question: "What is (was, will be) happening?" The basic feature of expressions describing or referring to processes is the use of the progressive aspect.

Stout contrasts processes with events. Events are things that happened or will happen. Examples include the explosion that will take place next year, and my winning the race that happened yesterday. Moreover, the basic feature of expressions describing or referring to events is the use of non-progressive aspect.[1]

1 For some objections to this way of articulating the distinction between events and processes, see Steward (2013). She further develops the framework proposed by Mourelatos (1978), according to

Events and processes both exist over time—i.e. they persist. There are two main accounts of persistence. The first one is *perdurance theory*—the thesis that things of a certain kind perdure. Intuitively, something perdures if and only if it is extended in time and has different temporal parts at different times—a different temporal part for each moment of time. The other account of persistence is *endurance theory*—the thesis that things of a certain kind endure. Intuitively, something endures if and only if it is "all" there at each moment at which it exists. Events, rather uncontroversially, perdure. However, Stout argues that, in this respect, processes differ from events: processes, he claims, endure.[2]

According to Stout, perduring entities are things that *primarily* have their properties atemporally. Such a characterization can be explained via the perdurance analysis of sentences of the form "*x* has the property of *sitting* at *t*". According to perdurance theory, the temporal qualification "at *t*" is part of the subject of the sentence, "*x* at *t*", which denotes the *t*-temporal part of *x*. In turn, the predication of the property *sitting* has no temporal connotation at all: the property is atemporally exemplified by the temporal part *x*-at-*t*.[3] This means that the exemplification of the property *sitting* by the *t*-temporal part of *x* is not relativized to times: the exemplification involves only that temporal part and the property of *sitting*. According to perdurance theory, the atemporal exemplification is basic and temporal predications, such as "sitting at *t*", are analyzed in terms of it. As a result, a sentence like "x has property *P* at time *t*" is true if and only if *x* has atemporally a *t*-temporal part that has atemporally the property *P*.

By contrast, enduring entities are things that *primarily* have their properties at times. Let me clarify such a characterization by considering "*x* has the property of *sitting* at *t*". Within endurance theory, the subject of the sentence is simply "*x*", which denotes a "three-dimensional" entity *x*. The temporal qualification belongs to the predicate which results in "having the property of *sitting* at *t*". Such a predicate must, now, be analyzed—according to Stout,

whom processes are picked out by "mass-quantified nominalizations" derived from predications with an imperfective aspect, while events are individuated by "count-quantified nominalizations" derived from predications with a perfective aspect. In this article, I won't take a stand on such a dispute, and focus instead on Stout's Argument, assuming for the sake of argument his criterion for distinguishing between events and processes.

2 For a detailed discussion of these notions, see Simons (1987), Hawley (2001), Sattig (2003), and Varzi (2003).

3 For the notion of atemporal exemplification, see Simons (1987, 122), Hawley (2001, 13–14), Sider (2001, 56), and Stout (2016, 46–47).

via a notion of exemplification which is fundamentally temporal.[4] In particular, Stout adopts the tensing the copula strategy, according to which the temporal qualification modifies the relation of exemplification (while keeping the subject *not* tensed). As a result, the previous sentence is analyzed as "x has-at-t the property of *sitting*".[5] In general, sentences containing temporal predications, such as "x has property P at time t", are true if and only if x has-at-t the property P.

1 Stout's Argument

Stout argues that processes persist by enduring rather than by perduring.[6] He asks to consider a fight that went on outside his house between 11.55 p.m. and 12.05 a.m. last night. The fight *was happening* at midnight. So, it is a process. Stout's description of the fight makes it intuitive to maintain that it actually changes:

> At first it was quite brutal, but after a few minutes it became less ferocious, though as if to make up for this, it got gradually more noisy until the police arrived and stopped it. On the face of it it is a thing that continues through time and has different properties at different times. (2016, 50)

Stout's Argument can now be reconstructed as follows.[7] To begin with, it immediately follows from Stout's description of the fight that:

(1) The fight is first brutal at t, and it is not brutal at t^*.

Stout further assumes the following, seemingly intuitive notion of change (2016, 45):

> (Change) Something changes if and only if this thing has a property at one time and at a later time the very same thing does not have that very property.

4 Endurance theory rejects the notion atemporal exemplification as incomplete or unintelligible. To see this, suppose that x is both sitting today and not-sitting tomorrow. Suppose also that x endures. If we adopted the notion of atemporal exemplification, we would get that x is both sitting and not-sitting. For some concerns against this standard idea, see Hansson (2007).

5 Lewis (2002) argues against the tensing the copula analysis. Again, for argument's sake, I assume with Stout that it is a workable position.

6 Stout (1997) argues for the same thesis; for a reply, see Steward (2013). The analogy between enduring objects and processes has also been recently supported by, e.g. Galton (2006).

7 For Stout's Argument, see Stout (2016, 44–50).

Further, (1) is an intuitive case of change. Indeed, given (1) and (Change), the fight changes—call this latter claim "FightChanges".

Now, in order to understand Stout's Argument, we need to be able to interpret its sentences, i.e. to give their truth-conditions. Moreover, it seems plausible to assume that the truth-conditions of sentences involving notions such as continuity over time or persistence require, implicitly or explicitly, the assumption of a *theory of persistence*. Call this assumption "A1". Clearly, in order to establish endurantism, Stout's Argument must go through irrespective of how its key assumptions are interpreted, i.e. irrespective of one's chosen theory of persistence. But this, I will argue, isn't the case.

Since processes persist either by enduring or by perduring, when interpreting (1) we must consider two cases: respectively, the perdurance and the endurance interpretation.[8] Thus, let us first interpret (1) within perdurance theory—the view according to which the fight primarily has its properties atemporally. On this interpretation, (1) intuitively entails (FightChanges). However, (Change) is incompatible with the perdurance interpretation of (1):

> *Proof 1.* Given a perdurance reading, (1) boils down to the following situation: the fight has (atemporally) a t_1-temporal part that has (atemporally) the property of *being brutal* and it has (atemporally) a successive t_2-temporal part that does not have (atemporally) the property of *being brutal*. So, the temporal part that has the property of *being brutal* is different from *the part that* does not have that property. Moreover, since any entity involved in the scenario has its properties and relations atemporally, nothing can have a property or a relation *and then* fail to have it. But, then, given (Change), nothing can change in the previous situation. However, given (1) and the implication from (1) to (FightChanges), we get that the fight changes. Contradiction. So, we need to reject one of our assumptions. Since (1) and (FightChanges) seem unassailable, we must either reject (Change) or the perdurance interpretation of (1).

Since we have (Change) by assumption, we must reject the perdurance interpretation of (1). Hence, the fight does not perdure and perdurance theory is refuted.

8 Following Stout, I narrow down my focus on the two main accounts of persistence, and set aside for present purposes theories such as the Stage View.

Let us now interpret (1) within endurance theory—the view that the fight primarily has its properties at a time. From (Change) and the endurance reading of (1), we can derive that the fight changes:

> *Proof 2.* Given an endurance reading, (1) boils down to the following situation: the fight has-at-t_1 the property of *being brutal* and it does not have-at-t_2 the property of *being brutal.* Then, the fight satisfies (Change). So, it changes.

Since, intuitively, the fight changes, and given that, with (Change) in place, it can only change on an endurance reading of (1), we must conclude that the fight endures—i.e. endurance theory provides the correct account of persistence. Or so Stout argues.

2 Against Stout's Argument

Stout's Argument is unsound. More specifically, either the argument makes an illegitimate use of an intuitive notion of change, viz. (Change), or it makes use of a theoretical, but question-begging notion of change.[9]

I think it is fair to grant that any adequate theory of persistence must account for intuitive cases of change, such as (1). But is (Change) really incompatible with a perdurantist perspective? Let us consider it again:

> (Change) Something changes if and only if this thing has a property at one time and at a later time the very same thing does not have that very property.

(Change) is a claim about *persisting* entities. So, by assumption A1, it must be interpreted within a theory of persistence—i.e. its truth-conditions must be interpreted either within perdurance theory or within endurance theory.

Let's consider the *perdurance* interpretation first. Since (Change)'s right hand-side makes temporal predications, we must now interpret it according to the *perdurance* account of temporal predication. Recall, according to this "x has property P at time t" is true if and only if x has atemporally a t-temporal

9 Crowther (2018) offers a criticism of Stout's Argument different from the one presented here. However, I don't find Crowther's argument convincing, for two main reasons. First, to the extent that he concedes that (Change) is incompatible with perdurance theory, he falls prey of the same objection I shall raise against Stout's Argument. Second, his account is an extreme version of Kim's view, according to which occurrences are property-exemplifications. As such, it faces a problem of overgeneration, which make his view implausible (see Hendrickson 2006).

part that has atemporally the property *P*. Accordingly, "*x* has property *P* at time *t* but lacks it at a later time" is interpreted as "*x* has a temporal part at time *t*, *x*-at-*t*, that has property *P* and *x* has a different temporal part at a later time *t**, *x*-at-*t**, that does not have that property". Thus, the overall perdurance truth-conditions of (Change) are as follows:

> (PerdChange) Something changes if and only if it has a temporal part at a time *t* that has a property and it has a different temporal part at a later time *t** that does not have that property.[10]

Let us now interpret (Change) within *endurance* theory. Recall, according to the endurance account of temporal predication, "*x* has property *P* at time *t*" is true if and only if *x* has-at-*t* the property *P*. Then, (Change)'s right hand-side is interpreted as "*x* has-at-*t* a property and *x* does not have-at-*t** (with $t < t^*$) that property" and the overall endurance truth-conditions of (Change) are as follows:

> (EndChange) Something changes if and only if it has-at-*t* a property and *x* does not have-at-*t** (with $t < t^*$) that property.

Depending on one's theory of persistence, (Change) can be interpreted in one of two ways: (EndChange) or (PerdChange). However, as I now argue, neither reading supports Stout's conclusion, that processes endure.

To begin with, it is now immediate to show that perdurance theory is compatible with (Change)—contra Stout's Argument—and that it can easily account for (1) as an intuitive case of change.

> *Proof 3.* Given perdurance theory, (1) boils down to the following situation: the fight has (atemporally) a t_1-temporal part that has (atemporally) the property of *being brutal* and it has (atemporally) a successive t_2-temporal part that does not have (atemporally) the property of *being brutal*. Now, under the adoption of perdurance theory, (Change) must be interpreted as (PerdChange). But, then, the fight satisfies the right-side of (PerdChange). Therefore, it changes.

Thus, perdurantism is compatible with all the assumptions in Stout's Argument, i.e. the argument fails to establish that processes endure. Given perdurantism, Stout's Argument is *unsound*: it interprets (1) within perdurance

10 On the perdurance notion of change, see Hawley (2001, 12), Sider (2001, 212) and Wasserman (2006). The reply presented here is already hinted at in a number of places—see e.g. Hawley (2001, 12), Sider (2001, 212) and Hofweber (2009, 303–11).

theory without doing the same with (Change). However, once perdurantism is assumed, it has to be applied all the way down – both to (1) *and to (Change)*.

Stout might of course object that (Change) is to be interpreted as (EndChange), i.e. it should be given an *endurance* interpretation. And, he might point out, given (EndChange), Stout's Argument *is* sound.

However, the endurance interpretation of (Change) is not available to Stout: it begs the question against perdurance theory. To see this, it is sufficient to notice that perdurance theory is incompatible with (EndChange):

> *Proof 4.* Given perdurance theory, (1) boils down to the following situation: the fight has (atemporally) a t_1-temporal part that has (atemporally) the property of *being brutal* and it has (atemporally) a successive t_2-temporal part that does not have (atemporally) the property of *being brutal*. Now, any entity involved in the scenario has its properties and relations atemporally. Then, nothing can satisfy the right-side of (EndChange)—according to which the relation of exemplification is temporally modified. So, nothing can change in the previous situation. However, given (1) and the implication from (1) to (FightChanges), we get that the fight changes. Contradiction. Hence, given the previous assumptions, we must reject the perdurance interpretation of (1).

To be sure, endurance theory is compatible with (EndChange) and can account for (1) as an intuitive case of change:

> *Proof 5.* The endurance interpretation of (1) is the following: the fight has-at-t_1 the property of *being brutal* and it does not have-at-t_2 the property of *being brutal*. Now, given (EndChange) — according to which something changes if and only if it has-at-t a property and x does not have-at-t^* (with $t < t^*$) that property —, the fight satisfies the right-side of (EndChange). Therefore, it changes.

However, (EndChange) clearly begs the question against perdurance theory. Since (EndChange) provides the *endurance* truth-conditions for (Change), it presupposes endurance theory and therefore isn't neutral between endurantism and perdurantism. As a result, on such a reading, Stout's Argument is circular: it establishes what it has already assumed, viz. an endurantist account of persistence for processes. That is, Stout's Argument against per-

durantism only goes through if one *assumes* that perdurantism is false. The argument is valid but, of course, not very interesting.[11]

It might be objected that (EndChange) provides the correct characterization of change and that, for this reason, it cannot be plausibly rejected.[12]

However, the objection fails to convince. First off, (Change)—our intuitive notion of change—can be interpreted both within perdurance theory, as (PerdChange), and within endurance theory, (EndChange). Pending any argument to the effect that (EndChange), and only it, correctly accounts for change, the objection amounts to mere foot stamping.

Second, I granted that any adequate theory of persistence must account for intuitive cases of change. Now, the specific characterization of change a theory adopts is part of how it explains the required phenomena. If such a characterization helps the theory to account for cases of change, then the characterization is adequate for that theory. In other words, any specific characterization of change is relative to a particular framework of persistence. But, then, it makes poor sense to claim that (EndChange) is the "correct" characterization of change independently from a specific theory of persistence. Hence, the objection must be resisted.[13]

11 I reconstructed Stout's argument by assuming the notion of change Stout explicitly adopted, i.e. (Change) (2016, 44). Then, I showed that either his argument makes illegitimate use of (Change), or it makes use of a technical, but question beginning notion of change—i.e. (EndChange). It might be objected that Stout's argument must be reconstructed as conditional whose antecedent is the endurantist reading of (Change), i.e. (EndChange):

$$\Gamma \vDash (\mathit{EndChange}) \rightarrow (\mathit{Processes\ Endure}),$$

where Γ is the set of assumption Stout relies on (which I've granted for argument's sake). However, Stout explicitly claims that he aims to show that processes endure (2016, 42, 50)—not the conditional conclusion that processes endure if we adopt the endurantist truth-conditions of (Change). We must therefore include the antecedent of the above conditional among our assumptions:

$$\Gamma, (\mathit{EndChange}) \vDash (\mathit{Processes\ Endure}).$$

Now, this version of Stout's Argument clearly amounts to the case just considered in the main text—viz. a version that includes (EndChange) together with *Proof 4* and *Proof 5*. As a consequence, (EndChange) begs the question against perdurance theory. Since (EndChange) provides the *endurance* truth-conditions for (Change), it presupposes endurance theory and therefore isn't neutral between endurantism and perdurantism. More precisely, such a version of Stout's Argument is circular: it establishes what it has already assumed, i.e. an endurantist account of persistence for processes.

12 Versions of such an objection can be found in e.g. Geach (1972, 304) and Simons (1987, 126).

13 A nontrivial consequence of this reply is that events—such as a football match that was first boring and then exciting—can also change. This is not, however, a problematic result. Indeed,

Summing up, Stout's Argument for the thesis that processes endure is based on (1), (Change), and the fact that (1) intuitively entails (FightChanges). However, as I've argued, sentences such as (1), including (Change), must be interpreted within a theory of persistence. And, as we've seen, the only interpretation of Stout's Argument in which the argument goes through is also one in which (1) and (Change) receive endurantist truth-conditions, i.e. they are interpreted on an endurantist semantics that is incompatible with perdurantism. As a result, Stout's Argument is viciously circular: it presupposes precisely what it is meant to establish, viz. that processes endure.[14*]

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References

Crowther, Thomas. 2018. "Processes as Continuants and Processes as Stuff." In *Process, Action, and Experience*, edited by Rowland Stout, 58–81. Oxford: Oxford University Press.

Galton, Antony. 2006. "On What Goes on: The Ontology of Processes and Events." In *Formal Ontology in Information Systems: Proceedings of the Fourth International Conference (Fois2006)*, edited by Brandon Bennett and Christiane Fellbaum, 4–11. Amsterdam: IOS Press.

Geach, P. T. 1972. *Logic Matters*. Blackwell.

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the thesis that events cannot change has been supported by the same kind of arguments as those examined in relation to Stout's Argument — see e.g. Simons (1987, 126) and Stout (2016, 47). These arguments essentially stand, or fall, with Stout's Argument. And, I have argued, they fall.

14 Of course, the fact that Stout's Argument fails does not entail that processes do not endure. However, the question as to whether they endure must be settled by arguments of a different kind than those discussed here.

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HANSSON, Tobias. 2007. "The Problem(s) of Change Revisited." *Dialectica* 61 (2): 265–74. doi:10.1111/j.1746-8361.2007.01113.x.

HAWLEY, Katherine. 2001. *How Things Persist*. Oxford University Press.

HENDRICKSON, Noel. 2006. "Towards a More Plausible Exemplification Theory of Events." *Philosophical Studies* 129 (2): 349–75. doi:10.1007/s11098-004-1647-9.

HOFWEBER, Thomas. 2009. "The Meta-Problem of Change." *Noûs* 43 (2): 286–314. doi:10.1111/j.1468-0068.2009.00707.x.

LEWIS, David. 2002. "Tensing the Copula." *Mind* 111 (441): 1–14. doi:10.1093/mind/111.441.1.

MOURELATOS, Alexander P. D. 1978. "Events, Processes, and States." *Linguistics and Philosophy* 2 (3): 415–34. doi:10.1007/BF00149015.

SATTIG, Thomas. 2003. "Temporal Predication with Temporal Parts and Temporal Counterparts." *Australasian Journal of Philosophy* 81 (3): 355–68. doi:10.1080/713659704.

SIDER, Theodore. 2001. *Four Dimensionalism: An Ontology of Persistence and Time*. Oxford University Press.

SIMONS, Peter. 1987. *Parts: A Study in Ontology*. Oxford University Press.

STEWARD, Helen. 2013. "Processes, Continuants, and Individuals." *Mind* 122 (487): fzt080. doi:10.1093/mind/fzt080.

STOUT, Rowland. 1997. "Processes." *Philosophy* 72 (279): 19–27. doi:10.1017/s0031819100056631.

———. 2016. "The Category of Occurrent Continuants." *Mind* 125 (497): 41–62. doi:10.1093/mind/fzv138.

VARZI, Achille C. 2003. "Naming the Stages." *Dialectica* 57 (4): 387–412. doi:10.1111/j.1746-8361.2003.tb00279.x.

WASSERMAN, Ryan. 2006. "The Problem of Change." *Philosophy Compass* 1 (1): 48–57. doi:10.1111/j.1747-9991.2006.00012.x.