ON THE POSITIVE AND NEGATIVE STATES OF THINGS.

Roderick M. CHISHOLM
Brown University

Introduction

Bolzano’s definition of state [Beschaffenheit] provides us with a key to understanding the basic ontological categories. He tells us that there are two kinds of things—(1) those things that are states of other things; and (2) those things that are not states of other things. He calls entities of the first sort “Beschaffenheiten” and entities of the second sort “substances”. But this is to use “Beschaffenheit” in a very narrow sense and “substance” in a very broad sense. I will put Bolzano’s distinction by saying that there are two types of things: those things that are states of other things and those things that are entia per se. We begin, then, with this definition:

D1  x is an ens per se =Df x is not a state of anything

Bolzano uses “Beschaffenheit” in two ways: in a broad and in a narrow sense. If we take the word in its broad sense, as he does in the Wissenschaftslehre, then we can say that attributes are Beschaffenheiten. But attributes, as Bolzano emphasizes, are also entia per se. The attribute blue, for example, is an eternal or abstract object and neither comes into being nor passes away. Although it is exemplified in things

2. “Alles was ist... gehört zu einer von folgenden zwei Arten: es ist und besteht entweder an etwas Anderem,... oder es ... besteht, wie man zu sagen pflegt, für sich.” Athanasia oder Gründe für die Unsterblichkeit der Seele (Sulzbach: J.G. v. Seidelschen Buchhandlung, 118), p. 283. There is a brief reference to the distinction between substance and Beschaffenheit in Bolzano’s Theory of Science Section 142; see Rolf George’s edition (Oxford Basil Blackwell, 1972), p. 189.
3. See Wissenschaftslehre, Section 80.
that are blue, it does not depend for its existence upon any contingent thing. In the Athanasia, he uses "Beschaffenheit" in its narrow sense to refer to that which is not an ens per se.

There are, therefore, three categories to be distinguished in the case of any thing x which is blue: (1) there is the contingent substance x which is blue; (2) there is the attribute being blue which x exemplifies; and (3) there is that state which is x being blue.

Why States?

The necessity for making use of the concept of the state of a thing is most clear in the case of causation. An individual thing may be said to enter into causal relations via its states. For example, we may say of a person that his good health contributes causally to his winning the race. In such a case the contributing cause is the person's being in good health and the effect is his winning the race. We may generalize and say that there exists an x such that x being in good health contributed causally to x winning a race.

The terms in our generalization — namely, "x being in good health" and "x winning a race" — can be interpreted only as referring to states of the person designated by "x". The contributing cause is neither that contingent substance which is the person nor that abstract object which is the attribute of being in good health.

The states of a thing may also play the role of "truth makers" — those things in virtue of which beliefs, sentences and assertions may be said to be true. An obvious answer to the question, "What is it in virtue of which the statement that John is standing is true?", would be: "In virtue of that state which is John standing". To be sure, we could also answer the question by saying: "In virtue of the fact that John is standing". But, as we will see, if we have the concept of a state we need not assume that there are also such things as "facts".

The Logical Properties of State

I will make use of the following locutions: (1) "x-being-F is a state of x"; (2) "x exemplifies being-F" (also written as "x has being-F"); and (3)

“x is necessarily such that it is F” (and hence also “x is possibly such that it is F”). The letter “F” in these locutions is a schema which may be replaced by any predicate. And I will make use of language that is tensed.

For simplicity, I will discuss only monadic states. It should be noted, however, that for every type of relation that holds among the members of a set of things, each of the things is in the state of standing in that relation to the other members of the set. Thus x being sad is a monadic state; x receives y is a diadic state; and x receives y from z is a triadic state. If we were attempting to construct an artificial language adequate to such relational states, we could hardly be content with the undefined locution, “x-being-F is a state of x”.

I now formulate four general principles pertaining to the logical properties of states.

A1  x-being-F is a state of x, if and only if, x is F

This formula, properly interpreted implies that states may themselves have states. For states, like everything else, have attributes.

Let us introduce the expression “y is a substrate of x” to express the converse of “x is a state of y”:

D1  y is a substrate of x =DF x is a state of y

We should note that a substrate, so defined, may itself be a state of some other thing. Hence a substrate need not be an ens per se.

A2  x is a state of y, if and only if, y is not a state of x

Nothing, therefore, can be a state of itself.

We distinguish states and attributes:

A3  The attribute being-F is not a state of anything

States, then, are different from attributes. Attributes, we will say, are abstract objects and therefore noncontingent things. But the states of contingent things and the contingent states of noncontingent things are contingent things.

These axioms imply that, if x-being-F is a state of x, then three different entities are involved: (1) there is the thing x, which we have called the “substrate” of the state; (2) there is the attribute, being-F, and
which we will call the "content" of the state; and (3) there is the state, x-being-F.

States are ontologically dependent upon their substrates:

A4 If x is a state of y, then x is necessarily such that it is a state of y

Even the contingent states of a thing are necessarily such that they are states of that thing. A person who is sad is not necessarily such that he is sad; but his being sad is necessarily such that it is a state of him.

Bolzano says, in Leibnizian fashion, that every state presupposes [voraussetzt] an ens per se. And one may say, more strongly, that for each state there is an ens per se which that state presupposes. The ens per se that is thus presupposed need not be the substrate of the state in question; but sooner or later, one of the substrates that fall under that state is an ens per se. I would affirm, therefore, the following axiom, suggested by Frege’s definition of the ancestral relation:

A5 If x is a state, then there is a y which is such that: y is not a state; and y belongs to every class A which contains x and the substrate of anything contained in A.

States and Changes

Following Brentano, I make two assumptions concerning temporality. The first is that everything exists only as a temporal boundary. And the second is that whatever exists is such that either it has existed or it will exist. The two assumptions together imply that temporal extension is not a dimension of anything. They also imply that any adequate description of the world be expressed in a language that is tensed.

I will not here attempt to defend these assumptions, but I will try to show how the present theory of categories may be accomodated to them.

What are we to say, then, of changes and processes?

I introduce the following concepts:

D3 x will continue in its present state of being F = Df x is F; will be F; and x will be F before it will ever be non-F

D4 x is continuing in an earlier state of being F = Df x is F; x was F; and x has never been non-F without subsequently having been F

D5 x begins to be $F = \text{Df } x$ is $F$; and $x$ is not continuing in an earlier state of being $F$

D6 $x$ ceases to be $F = \text{Df } x$ is $F$; and $x$ will not continue in its present state of being $F$

D7 $x$ begins to be $= \text{Df } x$ exists; and it is false that $x$ has existed

D8 $x$ ceases to be $= \text{Df } x$ exists; and it is false that $x$ will exist

"Beginnings" and "endings", as defined in D5 through D8, are the only states that may be said to be changes. We should note that, from the fact that a thing which has been in existence begins to be $F$, it does not follow that there occurred that "ending" which was its ceasing to be non-$F$. And from the fact that a thing which is going to continue to exist ceases to be $F$, it does not follow that there will be that "beginning" which is its beginning to be non-$F$.

Changes, then, are those states which are beginnings and endings.

What of processes? Processes, obviously, take time. How, then, can there be processes if everything exists as a temporal boundary? The answer is to say, not that there are processes, but that there are things that are undergoing processes. Processes are series of changes and/or "unchanges". To say that a thing is undergoing a certain process, therefore, is to say that it is at some stage of such a series of changes and/or unchanges. Consider the process of moving from A to B and then to C. If a thing is undergoing this process then it is now at one or another of the stages of this process. For example, it may now be such that it is continuing its motion from A to B and such that, after arriving at B, it will then move to C.

Recurrence

Are the states of a thing repeatable? According to A4, if $x$ is a state of $y$, then $x$ is necessarily such that it is a state of $y$. Hence if $x$ ceases to be a...
state of y, then x ceases to be. Therefore, strictly speaking, the states of a thing are not repeatable. But the states of a thing may be said to recur in the following sense:

D9  x-being-F recurs as a state of x =Df x was F; and x begins to be F

As Bolzano recognized, this conception of states is similar in essential respects to Aristotle's conception of accidents.

Recurrences may be counted in an obvious way. If x ceases to be F and is such that it will be F, then x will have F at least two times and x-being-F will therefore have recurred at least two times.

Russell once observed that, if an event can be said to recur, then "it follows that an 'event' is not a particular, but some universal of which there may be many instances".11 The present account of recurrence, however, does not commit us to this conclusion. For, according to D9, to say that an event recurs is simply to say that its substrate exemplifies once again that property which is the content of the event.

Contingent and Noncontingent Things

We turn now to the distinction between contingent and non-contingent things.

It is sometimes said that a contingent thing is a thing that "does not exist necessarily" — a thing that "is possibly such that it does not exist". But one may take the locution "is necessarily such that it is F" to mean the same "is necessarily such that it exists if and only if it is F". And if the locution is taken in this way, then everything may be said to "exist necessarily". Hence the mark of a contingent thing must be put more precisely.

D10  x is contingent substance =Df x is not a state of anything; and x is possibly such that it ceases to be

An alternative to the first clause of the definiens would be: "x is an ens per se". And an alternative to the second clause would be: "x is possibly such that it comes into being".

We also make use of the concept of a contingent state:

D11  x-being-F is a contingent state of x =Df x is F; and x is not necessarily such that it is F

There are, therefore, two types of contingent things: (1) contingent states; and (2) contingent substances. Noncontingent things may be in contingent states. The attribute blue, for example, may be in the contingent state of being exemplified. And if there were no contingent substances, then all noncontingent things would be in indefinitely many contingent states — for example, in the state of being such that nothing is blue.

**Events**

A subset of states may be said to constitute the class of *events*:

\[ D12 \ x \text{ is an event } =Df \text{ There is a } y \text{ such that } y \text{ is a contingent substance and } x \text{ is a contingent state of } y \]

One may object: “This is adequate to those events involving just one thing. But what of events involving a great multiplicity of things — events such as hurricanes, wars and revolutions?” If we think of heaps or aggregates of contingent substances as being themselves contingent substance, then we may say that such events are states of heaps or aggregates.

I make use, therefore, of the further undefined concept, “x is part of y”, and add the following axiom which has the same content as Lesniewski’s principle concerning “sums” of individuals:

\[ A6 \text{ If } x \text{ and } y \text{ are contingent substances and have no parts in common, then there is a contingent substance composed of } x \text{ and } y \]

This tells us, in effect, that *heaps, aggregates or sums* of substances are themselves substances.

I have said that the *substrate* of a state is the thing that is in that state. The substrate, then, of such an event as a hurricane will be an aggregate having as its parts water-particles, air-particles and ever so many other substances.

The *content* of an event is the attribute that a thing must have if the thing is to be in the state that constitutes that event.

Making use of the concepts of content and substrate, we may now set forth a *criterion of event identity*: Event A is identical with event B, if and only if, A and B have the same substrate and the same content.12

Negative Attributes and Negative States

Given our assumption that there are states, we need not also assume that there are "facts". For states may perform all the theoretical functions commonly assigned to facts. Hence we do not have the problem of explicating "negative facts".

But there are negative attributes — for example, the attribute nongreen. And therefor there are negative states — for example, this piece of paper being nongreen. Every negative state, however, is a state of some entity and, like every other state, presupposes an ens per se.

A negative state, then, has as its content a negative attribute. And what is a negative attribute? I am convinced that, to answer such a question, we must consider attributes from an intentional point of view.\(^\text{13}\)

Viewing attributes intentionally, we may say that the defining mark of an attribute is this: it is a thing which is possibly such that there is someone who attributes it to something. And we should note that attributes may be related in several different ways.

We may say that an attribute implies another attribute if the first attribute is necessarily such that, if anything has it, then something has the second attribute. And we may say that an attribute includes another attribute if the first attribute is necessarily such that whatever has it also has the second.

There is also what may be called the "involvement" of attributes. Consider the four attributes: (i) being either red or round; (ii) being nonred; (iii) being possibly red; and (iv) wanting something that is red. All these attributes are intimately related to the attribute being red, yet they neither include nor imply it. Let us say that they involve the attribute red and try to say what involvement is. Once again we find the general idea suggested by Bolzano. He cites these examples: the concept of a land without mountains and that of a book without engravings. Bolzano does not use the term "involves" but puts the relationship by saying that "the

parts of the idea [die Teile der Vorstellung]” need not be “parts of the object [Teile des Gegenstandes]”.\textsuperscript{14}

The attribute of being a land without mountains may be said, in the following sense, to involve the attribute being a mountain: it is impossible for anyone to conceive it without also conceiving the attribute being a mountain. And the four attributes just cited, which involve the property being red, do so in the following sense: each is such that it is impossible for anyone to conceive it without also conceiving the attribute red.

Now we are in a position to distinguish between attributes that are positive and attributes that are negative. The distinction between positive and negative is not a function of the fact that we use negative expressions such as “non” or “not” in connection with just one of the two expressions; it is not a linguistic distinction at all. It has to do, rather, with the structure or inner nature of the attributes themselves.

Let us distinguish attributes that exclude each other from attributes that contradict each other. Red may be said to exclude yellow in that it is impossible for anything to be both red and yellow. But it is possible for a thing to be neither red nor yellow. Red contradicts nonred in that it is necessary that everything is either red or nonred and it is impossible that anything is both. Hence if two attributes contradict each other then they also exclude each other; but they may exclude each other without contradicting each other.

Now we may say what it is for an attribute to be a negative attribute.

D14 Being-F is a negative attribute $=$Df One cannot conceive an attribute that excludes being-F without conceiving an attribute that contradicts being-F

In other words, if being-F is a negative attribute, then a contradictory of being-F is involved in every attribute that excludes being-F. Red is involved in every attribute that excludes nonred; but nonred is not involved in every attribute that excludes red. (Yellow excludes being red, and a person who cannot conceive red may be able to conceive yellow).

\textsuperscript{14}. Wissenschaftslehre, Section 63; English edition, p. 79. Compare Hugo Bergmann’s Das philosophische Werk Bernard Bolzanos (Halle: Max Niemeyer, 1909), p. 48. Bergmann attempts to interpret the distinction by means of Brentano’s concepts, saying that the concept of a land without mountains contains the “in obliquo vorgestellten Begriff” of a mountain.
Are There Negative Events?

There expression "negative event" may be taken in two ways. (1) It may be taken to refer to an event "that does not occur"; or (2) it may be taken to an event having a negative content. If we take it in the first way, we need not say that there are negative events. But if we take it in the second way, we should say that there are negative events.

(1) Why would one think that there are "events that do not occur"? The reason for thinking this may be suggested by the following argument:

(1) The dam in the river prevented a serious flood. Therefore
(2) There was something that the dam prevented
(3) This something was an event. But
(4) That event did not occur. Therefore
(5) There was an event that did not occur.

Step (2) of the argument is unjustified. For (1) does not tell us that there is, or was, something that the dam prevented. It tells us only that the dam caused that negative state which was the river not being such as to flood. This negative state is not "an event that does not occur"; it is an event with a negative content.

(2) We should say, then, that there are events having negative contents. There is, for example, that event which is this piece of paper having the negative attribute of nonblue.

"But do you need to speak of such events? This paper would not have the negative attribute nonblue unless it had some positive attribute — in this case, white — which logically excludes the negative attribute. Doesn't the positive event — this piece of paper being white — serve all the theoretical purposes of the negative event?"

The objection presupposes that, if an individual has a negative attribute, then it has some positive attribute that logically excludes the contradictory of the negative attribute. But this presupposition is false. This may be seen most clearly in the case of psychological events. A person may have the negative attribute of not believing that it is raining in Graz without thereby having some positive attribute which excludes the contradictory of the negative attribute. Indeed, being such as not to be thinking is not a state that one has in virtue of any positive state that logically precludes the attribute of thinking.