

FACTS AND STATES OF AFFAIRS: FROM ONTOLOGICAL LOGIC
TO LANGUAGE USE

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Abstract

We argue that it is possible to differentiate facts from states of affairs ontologically and that it those differences are reflected in language use. We propose a platonist ontology, based on Chateaubriand (2001 and 2005), hierarchized in levels and types. It contains (starting from level 0) concrete objects as the most basic entities, logical and non logical properties, facts, states of affairs, among others. While some current philosophers (as Chateaubriand, 2001 and Armstrong, 1997) treat facts and states of affairs as synonyms, we argue that it is possible to defend that they are different and that this differentiation is advantageous. We try to show that –once we have differentiated through an ontological logic (cf. Chateaubriand, 2001) facts from states of affairs– it is possible to relate those arguments to language use and we try to show that the ontological differences are reflected on the structures used to identify those entities.

Keywords: Chateaubriand. Facts. Language in Use. Ontological Hierarchy. Ontological Logic. States of Affairs.

Resumo

Neste trabalho, argumentamos que é possível diferenciar fatos de estados de coisas ontologicamente e que é possível ver essas diferenças refletidas na linguagem em uso. Propomos uma ontologia platonista, baseada em Chateaubriand (2001 e 2005), hierarquizada em níveis e tipos. Ela contém (começando no nível 0) objetos concretos como as entidades mais básicas, propriedades lógicas e não lógicas, fatos, estados de coisas, entre outros. Enquanto alguns filósofos atuais (como Chateaubriand 2001 e Armstrong 1997) tratam fatos e estados de coisas como sinônimos, argumentamos que é possível defender que fatos são diferentes de estados de coisas e que essa diferenciação é vantajosa. Tentamos mostrar que –uma vez sejam diferenciados a traves de uma lógica ontológica (cf. Chateaubriand 2001) fatos de estados de coisas– é possível relacionar tais argumentos com a linguagem em uso e tentamos mostrar que as diferenças ontológicas propostas vêm-se

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refletidas nas estruturas utilizadas para identificar essas entidades.

Palavras-chave: Chateaubriand. Estados de Coisas. Fatos. Hierarquia ontológica. Linguagem em uso. Lógica ontológica.

Introduction

In this paper, we will work with Chateaubriand's notion of state of affairs and we will try to defend that it is possible, within his ontology, to further divide the ontology into facts and states of affairs. We will argue that it is not only possible to recognize the differences between these entities, but that it is also advantageous for his ontology because it allows us to differentiate further between what is related to an object and what is related to a property.

We will work only with Chateaubriand's ontology and will not enter into different discussions about facts and states of affairs. We will not discuss if they are obtained, if they are not, if they are situations of states of affairs or not. We will assume, in a russellian tradition, that facts or states of affairs (as used by Chateaubriand, 2001) are entities in the world, and in a fregean tradition, that they are identified by true statements. Russell's idea that when we are speaking of facts we are talking about "(...) the kind of thing that makes a proposition true or false" (Russell, 1918, p. 6), or –in a more modern fashion– the idea that facts or states of affairs are the truth-makers of propositions, that they are the things in the world that "(...) will ensure, make true, underlie, serve as the ontological ground for the truth that a is F" (Armstrong, 1997, p. 116), is assumed more or less directly in this paper.

This paper is organized as follows: firstly, we introduce the logic-ontological delimitation between facts and states of affairs we propose which is based –as we stated– in Chateaubriand's proposal; secondly, we will relate the differences that were proposed in the previous section to language use, in this section we will try to show that the complexities the entities have are reflected in the linguistic structures we use; and finally we will present some final remarks.

A logic-ontological delimitation between facts and states of affairs

The distinction we propose is based on an ontology that takes facts to be synonyms of states of affairs and defines them as properties that are instantiated in objects or/and properties (Chateaubriand, 2001, p. 29).² We will argue that states of affairs may be differentiated from facts because they have different features. We are convinced that, in a hierarchized ontology as the one we defend, facts and states of affairs should occupy different levels, have different types, as well as different characteristics.³ In this section, we will try to show what is the distinction we propose, as well as we will try to show what are the advantages that our distinction possesses.

Facts and states of affairs are both abstract and they both result from the instantiation of a property in another entity. However, we propose that, while they do share those characteristics, there is an essential difference between them: facts result from the instantiation of a property in a concrete object or objects, while states of affairs result from the instantiation of a property in another property or properties.⁴ This difference, as we will try to show, will have a direct repercussion in their logical and ontological characteristics. Since both facts and states of affairs depend on properties, and properties also pertain to our ontology, we will first explain what we understand as a property and why we need a hierarchized ontology.

A property is a complex abstract entity which is designated by a predicate (Chateaubriand, 2013, p. 102) which may or may not be applied to another entity. These properties allow us to identify any kind of entities (they may be concrete, like a cat, or they may be abstract, like transitivity); and so they must be understood as those that provide identity conditions (*ibidem*). Properties may be logical or non-logical. Non-logical properties are those that do not depend on logic, like *being brown*. Logical properties are

² The possible worlds alternative treats them as different entities. In it, it is commonly accepted that facts are states of affairs that are instantiated, whereas states of affairs need not be obtained (cf. Textor, 2014). It should be stated, however, that this work will not be made under the possible worlds framework and, so, this distinction will not be taken further into account.

³ We will not focus on the types of the entities on this paper.

⁴ If a concrete object is involved, no matter what property is instantiated, we will be in front of a fact.

the ones that force us to have a hierarchized ontology which can not have an upper bound. For, as Whitehead and Russell (1910) showed, if it weren't hierarchized and if it had an upper bound, logical paradoxes would arise. This means that we will use an ontology that is hierarchized in levels, in which we will have concrete objects at level 0,⁵ and abstract entities (such as properties, facts and states of affairs) starting from level 1 and up to infinity.

Facts will be level 1 entities in which a level 1 property is instantiated in level 0 objects;⁶ and states of affairs will be entities from level 2 and up in which a property of level higher or equal to 2 is instantiated in a property that is one level inferior to it (in the case of a level 2 property it will be instantiated in a level 1 property).⁷ For instance, a logical property like *Existence* that appears in level 1, may be instantiated in a level 0 object; if it appears in level 2, it may be instantiated in a level 1 property; and so on. The instantiation of *Existence1* in a level 0 object like *Katz* results in the fact $\langle \textit{Existence1}, \textit{Katz} \rangle$, while the instantiation of *Existence2* in a level 1 property like *Diversity* results in the state of affairs $\langle \textit{Existence2}, \textit{Diversity} \rangle$. The fact that we may differentiate between facts and states of affairs according to the level they occupy in our hierarchy allows us to separate those instantiations of properties in objects from those instantiations of properties in properties. This constitutes, for us, an advantage with respect to treating them as the same kind of entities.

Time is a necessary condition to distinguish properties from objects: level 0 objects may be characterized as temporal entities, while properties may be characterized as atemporal entities.⁸

If we introduce the distinction between facts and states of affairs, we may argue that

5 Neither abstract objects nor fictional objects are considered in the ontology. Only concrete and simple objects pertain to the first level of our ontology, objects like *cats*, *tables*, *bicycles*, etc.

6 There could be further discussions about the level of facts into which we will not enter that may be related to the acceptance of cumulative properties like *Diversity* that may relate, for instance, a level 0 object with a property of level 1 or higher.

7 They have to be level 2 or higher because the lowest level in which properties may combine with properties is level 2.

8 It has been argued that properties can also be temporal and thus temporality would not be a sufficient condition to distinguish objects from properties (Chateaubriand, 2001, p. 424). We will maintain, however, that properties are atemporal.

since facts are an instantiation of a property in an object, they are temporal entities; and, since states of affairs are an instantiation of a property in a property, they are atemporal entities. We could, thus, state that all properties are atemporal in this way, and what becomes temporal is the fact. Some could argue that *being mortal* is a temporal property determined by mortality, but this would be mistaking the abstract property of *being mortal* with the fact that, for instance, an object of level 0 is mortal. What makes the fact temporal is the temporal object, but the property maintains its atemporality. That is, the entity that results in the instantiation of the property in that determinate object is temporal because it depends on the temporality of the object.⁹ On the other hand, states of affairs do not depend on temporal entities, since they are the instantiation of an atemporal entity (a property) in an atemporal entity (another property). This is why they will always be atemporal, and why states of affairs like *<Existence2, Diversity>* appear to be more general than facts.

Another advantage may be posited regarding the difference we propose, and it is related to the recognition/proposal that there are logical and non-logical properties. On the one hand, if we were to maintain that facts are the same entities as states of affairs, an heterogeneous treatment of those entities would arise regarding the combination of logical and non-logical properties. This is due to the fact that, since we have logical and non-logical properties, we have to accept that we may have logical and non-logical facts or states of affairs (cf. Chateaubriand, 2013). They will be logical if the combination is between logical properties, and they will be non-logical if there is at least one non-logical entity involved in the combination. We would have to accept, then, that all level 1 states of affairs (or facts) would be non-logical because they combine with a level 0 object, and that only from level 2 and up we would have (in addition to non-logical facts) logical facts (for instance, one that combines *Existence2* with *Diversity1*). We consider this to be an heterogeneous treatment of the entities because entities that are always non-logical (in accordance with level 0 objects) should be treated separately from entities that may be logical or non-logical (in accordance with properties). On the other hand, the difference we propose allows us to

⁹ Note that the temporality of the fact depends on the temporality of the object and nothing else. In this sense, it pertains to the object and depends only on the object in which the property is instantiated.

make a more homogeneous treatment of the entities: facts will always be non-logical and states of affairs may be logical or non-logical. This approximates facts to level 0 objects which are also non-logical, and states of affairs to properties which may also be logical or non-logical. Our proposal lets us show that, not only are facts similar to objects from a temporality point of view, they are similar to objects in that they are not logical. It also allows us to show that, not only are states of affairs similar to properties in that they are atemporal, they are also similar to properties in that they may be logical or non-logical.

To summarize, we consider that with the difference we propose several advantages are recognized. Firstly, it is possible to differentiate facts from states of affairs according to the level they occupy in the ontological hierarchy.¹⁰ Facts are level 1 entities, while states of affairs will be entities from level 2 and up. Secondly, it is possible to differentiate facts from states of affairs in regards to its temporality. Facts are temporal entities because they are the instantiation of a property in a temporal object, while states of affairs are atemporal because they are the instantiation of an atemporal property in an atemporal property. Thirdly and lastly, the differentiation between facts and states of affairs allows us to make a more homogeneous treatment of the entities. Facts are always non-logical entities because they involve level 0 objects, while states of affairs may be logical (if they combine logical properties) or non-logical (if they involve at least one non-logical property) because they may involve logical or non-logical properties.

From ontological logic to language use

So far, we have only been talking about ontological logic. We have not given examples directly related to language. We have used language in some cases, but simply as exemplifications of the facts and states of affairs we were analyzing. However, in this section language will emerge. We will try to link the logical form of facts and states of affairs with

¹⁰ Facts may also be differentiated from states of affairs in regards to the type they have. However, this issue has not been taken into account in this paper to avoid derivative questions.

language in use.¹¹ Up to now, we have defined states of affairs and facts based on their logic-ontological characteristics. From now on, we will try to connect logic with language use. We will argue that some statements identify facts, while others identify states of affairs. We will maintain, then, the spirit of the correspondence view of truth: we will assume that the statements with which we work are true and identify one of these entities.

If we accept that the things expressed logically can also be expressed linguistically, we accept that we can theorize about reality both with language as well as with logic. What is important is to maintain the logic-ontological differences we drew between facts and states of affairs. That is, facts need to be properties that are instantiated in objects and states of affairs need to be properties that are instantiated in properties. We will use standard philosophy of language characterizations, and divide our statements in subject and predicate. And even if they may coincide with the grammatical subject and predicate, we will have to be cautious about not confusing them. We are talking about the logical notions of subject and predicate, because the grammatical notions are of no importance when we are trying to identify entities in the world/ in reality. So, even though we will use language, we will talk about statements and not sentences. This implies that there is an utterance by someone who has an intention to identify something.

We have, then, accepted that true statements identify entities in agreement with a correspondence theory of truth. After differentiating between facts and states of affairs, we no longer can state that true statements identify facts (states of affairs) alone. We have to defend that true statements may identify facts, as well as states of affairs.¹² We argue that the kinds of statements that may identify facts or states of affairs differ clearly from another. This is due to the fact that the linguistic way we have to identify properties and objects differ. For Frege (1892a), the difference was in the distinction between concept and object. The

11 Logical forms are understood here as those forms in which it is possible to “(...) separate the logical properties from the subjects of these properties -which may also be logical properties and objects” (Chateaubriand, 2005, p. 212) and also as those that allow us to separate the non-logical properties from their subjects, as to include the logical forms that once applied will individuate a fact.

12 Events could also be identified by true statements, but they have not been considered in this paper. In this instance, we will be careful not to use statements that could possibly identify events (this is we will not use statements that involve verbs of process such as *walk*, *translate*, etc.).

concepts, properties, would be identified by the predicate; while the object would be identified by the subject. However, for us to be able to identify states of affairs through statements, properties must be able to occupy the subject position. This would be a problem for Frege, but it is not a problem for the ontology we defend which is more flexible.

We propose that it is possible to differentiate between facts and states of affairs according to the phrase that occupies the subject position in statements that have a copulative verb or an existential one in its logical predicate.¹³ When we have statements of this kind that have its subject occupied by proper names and common underived nouns they will identify facts, while when they have its subject occupied by derived nouns or quantified phrases they will identify states of affairs.¹⁴ Some examples of facts, so that the difference becomes clear, are:¹⁵

- a) *Chomsky is Chomsky*
- Chomsky is not Frege*
- Chomsky exists*
- Chomsky is a linguist*
- The cat is brown*

And so forth. The first three statements identify facts which are composed of logical properties that are instantiated, applied to the object identified by the subject. The first would be the logical property of *Identity*, the second would be the property *Diversity* and the third the property *Existence1*. The rest are statements that identify facts which are composed of non-logical properties (*being a linguist* and *being brown*) that are instantiated in, applied to the objects identified by the different subjects in which only proper names or common underived nouns were used. In this way, we can argue that as well as we have

13 Even though the statements we use to identify facts and states of affairs may coincide with singular and general propositions, we are interested in the utterance the speaker does and not on the proposition that may be related to that utterance. This means that we are not taking propositions into account in our essay, and that we are strictly speaking about language in use.

14 Note that we also need to be very careful here in not mistaking states of affairs with events, and so the examples that we give do not contain deverbal nouns (this is, to avoid problems, we will not consider statements such as *The destruction of the building was very quick*), nor verbs of process. This issues will be investigated in the future.

15 Even though what we have here are sentences, we need to keep in mind that we are thinking about someone uttering these sentences and thus transforming them into statements.

logical forms for facts, we have statements that allow us to identify those facts.

In the case of states of affairs we have:

- b) *There are philosophers*
- All men are mortal*
- Identity is reflexive*
- Diversity exists*
- Transitivity is transitivity*

The list of examples that we gave for states of affairs is very small if compared to the infinity of states of affairs we may have. However, they are sufficient to see that even linguistically, there is a huge difference between the statements that allow us to identify facts and the statements that allow us to identify states of affairs. The first two statements identify non-logical states of affairs since there is at least one non-logical property that is involved in it, while the last three are statements that allow us to identify logical states of affairs. In the first one, we are applying the property *Existence2* to the level 1 property *being a philosopher*. In the second we are applying the level 2 logical property *Subordination* to two level 1 properties *being a men* and *being mortal*. The subjects in the first two statements were in a way or another quantified over, which distinguishes them from those identified in a). In the last three, we have logical states of affairs. The third statement identifies the state of affair composed by the level 2 property *Reflexivity* that is instantiated in the level 1 logical property *Identity*. The fourth statement identifies the logical state of affairs in which *Existence2* is instantiated in the level 1 logical property *Diversity*. The last statement identifies the logical state of affairs in which the level 2 property *Identity* is instantiated in the level 1 logical property *Transitivity*.¹⁶ The subject in all the statements that identify a logical state of affairs where occupied by derived nouns. This could somehow be seen as a reflection of the fact that properties are complex entities, and, so, no underived noun could occupy the subject position.

The following objection may be made to our proposal: if facts are properties instantiated in objects what happens with a statement like *there are two persons in this room*

¹⁶ Note that we stayed within level 2 states of affairs, this is due to the fact that once we move to level 3, second-order logic is involved, and different assumptions need to be made.

in which, according to Frege, we would have a first order property that falls under a numerical property of second order but it seems that everyone would accept that it is a fact in your sense?¹⁷ Initially, it seems that, if we accept that it is a fact, we would be contradicting ourselves because we gave a similar example (*There are philosophers*) to define states of affairs. However, it is important to note that in this statement the verb *be* is not used as a copula nor is it used in the existential sense, and that it could be analyzed in the same way as statements like *Thirteen people died in an airplane*, *Five students are arguing in the hall*. Neither of these statements may be used to identify states of affairs because they do not have copulative or existential value, nor may they be used to identify facts because in addition to not having copulative or existential value, they have subjects occupied by quantified phrases and facts may not have them as their subject. For, as we mentioned, only common underived nouns and proper names may be subjects of statements that identify facts. So, even though if, at first glance, it may appear as a possible objection, when we look at it more carefully, the objection does not follow because those statements do not respect the restrictions we proposed.

The objection could continue as follows: so, you argue that, since those statements don't follow your restrictions they are not facts nor states of affairs. What happens then with a statement like: *It is a fact that thirteen people died in an airplane* where our common sense would make us accept that we are identifying a fact? This objection may be answered as follows: even though we may study the structure of reality by studying language use, not all uses of language are a reflection of the structure of reality. We could argue that, in statements like the one just presented, we are using the phrase *a fact* as a synonym of *true* and not necessarily identifying a fact in our sense. We could argue that it is a case in which language use does not reflect the structure of reality and that the use of *fact* is simply due to the ambiguous properties of human language. We may also argue that since *fact* always appears specified by an indefinite article it may not, as Frege (1892b) showed,

¹⁷ We would like to thank Oswaldo Chateaubriand for pointing out these possible objections to our proposal.

identify an entity like a fact.¹⁸ So, even though it appeared to be another possible objection, we think that this is a clear example of when ambiguities common to human language get in our way of understanding reality. This is why we have to be extra careful when analyzing the structure of reality through language use. We have to be able to identify when the language in use is actually reflecting reality and when it is merely language in use.

We consider that is possible, in spite of these possible objections, to continue to defend that facts may be distinguished from states of affairs linguistically while being extra careful. We may, then, differentiate between these entities according to the phrase that occupies the subject position in statements as the ones analyzed in this section. If we have a common noun in a determinate phrase or a proper name in the subject position in statements like the ones given in a), we will identify a fact. If we have a quantified phrase or a derived (non-deverbal) noun in a determinate phrase in the subject position of statements like those given in b), we will identify a state of affairs. Thus, all that was defended logic-ontologically may be defended linguistically through language use: it is possible to differentiate between facts and states of affairs, because they are entities that have different characterizations. The statements that we use to identify facts are more simple than the ones we use to identify states of affairs, because the subjects of the statements that identify facts are more simple structurally than the ones that allow us to identify states of affairs.

Final remarks

We hope to have shown that differentiating facts and states of affairs is possible and relatively simple. That we may, in a hierarchized ontology, distinguish them in regards to their levels: facts are level 1 entities and states of affairs are level 2 and up entities. We hope to have shown, that it involves some natural intuitions about the characteristics of facts: since they are properties instantiated in objects they are temporal. On the other hand, states of affairs, are atemporal. We showed that differentiating facts from states of affairs allows us

¹⁸ It could, perhaps, identify a concept but this is not a discussion into which we will enter in this paper.

to maintain that facts are always non-logical, while states of affairs may be logical (if they combine logical properties) or non-logical (if they involve at least one non-logical property). Finally, we tried to show that it is possible to see connections between an ontological logic and language use, and that the complexities defended in the ontology are reflected in language use.

We would like to conclude this paper by restating that the difference we proposed on an ontological logic basis is reflected in language use. That the difference in the linguistic form of the subjects of the statements that identify facts and the ones that identify states of affairs reflects the fact that level 0 objects are simple, thus we use simple nouns; while properties are complex entities which pertain to higher levels and have complex types, and thus we use complex phrases. This allows us to argue that, in a way, the linguistic processes we possess (such as derivation and quantification) may be used to reflect the complexity of the entities pertaining to our ontology, such as properties, facts, states of affairs, among others.

References

- ARMSTRONG, D.M. 1997 *A world of states of affairs*. Great Britain: Cambridge University Press.
- CHATEAUBRIAND, O. 2001. *Logical Forms*, Part 1. Campinas: Coleção CLE.
- _____. 2005. *Logical Forms*, Part II. Campinas: Coleção CLE.
- _____. 2013. Logical truth and logical facts. In MIRCEA D. & G.
- SANDU (Eds.). *Truth*. Bucharest: The Bucharest University Press, 101-111.
- FREGE, G. 1892a. On Concept and Object. In BLACK, M. y GEACH P. (Eds.). 1960. *Translations from the Philosophical Writings of Gottlob Frege*. Oxford: Basil Blackwell, 42-55.
- _____. 1892b. On Sense and Reference. In BLACK, M. y GEACH P. (Eds.). 1960. *Translations from the Philosophical Writings of Gottlob Frege*. Oxford: Basil Blackwell, 56-68.
- RUSSELL, B. 1918. The philosophy of Logical Atomism. In B. RUSSELL, *The philosophy of Logical Atomism*. 2010 [1972]. London/ New York: Routledge, 1-110.