

# Truths and Processes: A Critical Approach to Truthmaker Theory

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**Abstract** The starting point of this paper is the idea that linguistic representation is the result of a global process: a process of interaction of a community of cognitive-linguistic agents, with one another and with the environment. I maintain that the study of truth, meaning and related notions should be addressed without losing perspective of this process, and I oppose the ‘static’ or ‘analytic’ approach, which is fundamentally based on our own knowledge of the conventional meaning of words and sentences, and the ability of using them that we have as competent speakers. I argue that the analytic perspective is responsible for five recurring difficulties in truthmaker theory: (1) the lack of attention to the difference of explanatory role between the distinct notions proposed as primary truthbearer; (2) the adscription of purely extra-linguistic truthmakers to ‘synthetic truths’, ignoring the contribution of the linguistic factor; (3) the adscription of purely linguistic truthmakers to ‘logical’ and ‘analytic truths’, ignoring the contribution of the worldly factor; (4) the difficulties in the search for minimal truthmakers; (5) the problems in the treatment of ‘negative facts’ and of other ‘logically complex facts’. I do not provide an account of how to solve these difficulties, but I do show how the ‘process model’ helps to clear up confusion regarding them.

**Keywords** Truthmaker · Negative fact · Minimal truthmaker · Truth · Meaning · Proposition · Logical atomism

## Introduction

What is the truthmaker of ‘It is raining or it is not raining’? Suppose that as a matter of fact it is not raining now. Then a possible answer is: the fact that it is not raining. However, were it to be raining the statement would be equally true. Hence another possible answer is: the logical form of the statement. Which of these two types of answer is the correct one? My interest in truthmaker theory dates from the first time that

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I came across this dilemma, and a great part of my efforts have been driven by a desire to cast light on it. We shall come back to it at the end of the section on 'The Adscription of Purely Linguistic Truthmakers'.

The term 'truthmaker' in its present use was coined in 1984, in a well-known paper by Kevin Mulligan, Peter Simons and Barry Smith. The literature on truthmakers has since seen a rapid growth, which is on the increase in the last years. This work, in turn, hinges on a tradition of previous studies – particularly those derived from the logical atomism of Russell and Wittgenstein– which, without using yet the term 'truthmaker', addressed the issue of the making true relation. In this paper I shall take into account contributions of these two periods, from the beginning of the twentieth century to 1984, and from 1984 to the present day.

Two are the tasks that I intend to do in this paper. I shall take as point of departure the idea that linguistic representation is the result of a global process, a process of interaction of a community of cognitive-linguistic agents with one another and with the environment. I maintain that the study of truth, meaning and related notions should not lose sight of such process, and I call this type of approach the 'process model'. By contrast, the most usual approach follows a 'static' or 'analytic' perspective, which is fundamentally based on our own knowledge of the conventional meaning of words and sentences, and the ability of using them that we have as competent speakers. I shall give a description of these two approaches in very vague terms, as a mere draft of something that should at a later stage be made precise and developed in detail. This will constitute the first task of the paper, to which I will devote the next section.

The second task will take up the five remaining sections, and it will consist of a revision of the weaknesses of the static approach that show up in truthmaker theory. In particular, I will go over five problems –one for each section– which I shall highlight as weak points, or symptomatic oversights, frequently detectable in the treatment of truthmakers, even among eminent authors. Thus, I will start by examining the confusion regarding the choice of primary truthbearer, and the lack of attention to the difference of explanatory power between the distinct notions proposed to play that role. The section after that will be devoted to the nature of the truthmaking relation, and to the tendency to assign purely extra-linguistic truthmakers to 'synthetic truths', ignoring the contribution of the linguistic factor. The subsequent section will deal with the opposite case: that in which the worldly factor is overlooked in favour of the linguistic factor, as it often happens with 'logical' and 'analytic truths'. Then I will devote a section to delving into the mystery surrounding the search for minimal truthmakers. Finally, in the last section of the paper I will address the hurdle of the so-called 'negative facts', and of the rest of 'logically complex facts'. I will not provide an account of how to solve these difficulties, but I will show how the process model helps to clear up confusion regarding them. Perhaps none of these five objections will have on its own enough persuasive power to make us abandon the static approach, but I hope that the sum of them, added to the outline of the process model, will provide grounds to raise the doubt.

## The Process Model Versus the Static Model

In this paper I will rely on a metaphor between the phenomenon of truth and meaning, and the existence of a river. It is not an exact comparison, but I believe it provides an adequate image of the vision that I want to transmit. In a river there is a visible part, made up by the channel and by the flow of water streaming through it. However, we do not get an understanding of how a river works by paying attention only to the part that we see: the part that we see gives us a too narrow image of what is going on. The river is only the tangible part of a much more complex phenomenon, of a circular character, which is called 'hydrologic cycle' (or 'water cycle'): water streaming through the river discharges into the sea, there it evaporates making up the clouds, and from these it precipitates on the mountains in the form of rain, feeding again with water the riverbed.

In a similar way, I believe, truth, meaning, and linguistic representation must be contemplated from the perspective of a global process: a process of interaction of a community of cognitive-linguistic agents in such a way that, in order for meaning to occur, and in order for truth to occur, certain concordances have to turn up, certain cyclical adjustments, without which meaning disappears. What would happen, for instance, if all the things that a person told me looked to me as plain falsehoods, arbitrary and erratic, to which I was unable to find any sense or any connection with reality? E.g.: *It is raining* – when I see that it is not raining at all–, *snow is green*, *snow is blue*, *pigs can fly*, *but they cannot fly*... , and so on. Communication with that person would be impossible: the words in her mouth at length would cease to have a meaning intelligible to me, and I would probably stop listening to her, I would probably cut off my linguistic interaction with that person.<sup>1</sup>

It is possible that I disagree with part of what my interlocutor says and there continues to be understanding, there continues to be linguistic communication. However, if the disagreement is absolute with everything she says, then the disagreement becomes lack of understanding. The communication element which we call 'meaning' ceases to exist: it simply vanishes. In the same way, it is possible that part of the water that runs down a river does not get to the sea, and nevertheless the river continues to exist, the hydrologic cycle does not break because of that. However, if we were to systematically take away all the water that runs down a river and store it in containers, then we would be putting the river at risk of drying up, of disappearing as such –were it not for the massive amount of water existing in the seas, and coming to them from other rivers.

This connection between truth and meaning is only an example in point of the host of variables involved in the process which gives life to linguistic communication. Other variables to be taken into account are: the nature of the cognitive-linguistic agents, their cognitive equipment and capacity, their motor capacity, their phonation capacity, their physical needs, their patterns of community interaction, the environment in which they live, their ways of interaction with that environment at an individual level, their ways of interaction with that environment at the level of collective action, etcetera, etcetera, etcetera. To the approach to truth and meaning that pays attention to this global process, considered under the perspective of the entire cycle, I will refer as the 'process model'.

<sup>1</sup> It is true that her sentences would continue to have their conventional meaning, according to the general conventions of English. However, by the time the disagreement is so strong that I no longer admit she seriously believes what she is saying, I will tend to stop interpreting her words by reference to those general conventions. Moreover, in the limiting case, supposing that all English speakers when listening to each other perceived such extreme disagreements, the English language as a whole would be at risk of disappearing.

To the approaches to truth and meaning which are mainly based on our own mastery as competent speakers of the use of words and sentences, I will refer as the ‘static’ or ‘analytic model’.

The view I am proposing is directly inspired by Wittgenstein’s lesson according to which meanings are not mental images,<sup>2</sup> but have to do with a communal practice based on our natural coincidences.<sup>3</sup> I disagree with Wittgenstein, however, that mental processes are of no interest at all for the study of meaning.<sup>4</sup> According to the view I am proposing, meanings not only are not images or ideas, they are not static objects at all: they are processes, or better said, they are the result, the visible effect of a process. Meanings are the result of a dynamic process of interaction of the cognitive-linguistic community, between its members and with the environment. In that process, the internal operations (mental and cerebral) of the cognitive-speaking agents are present, and are relevant insofar as they are part of the way in which those agents manage to get along in that global dynamics, but many other factors take part too. The internal processes that take place in the mind (or in the brain) of the cognitive-speaker are relevant for the study of meaning, but the type of process on which the process model is based is of a much more general character.

Being the result of such a process, meanings are evanescent realities: if the process is cut off or seriously disturbed, meaning fades away –just as water stops flowing by a river if we cut off the hydrological cycle which feeds it and keeps it alive.<sup>5</sup> Meaning is not something given, it is not a reality which subsists by itself. Meaning only exists and lives on as long as there is an ongoing process from which it emanates: a process whose actors are the cognitive-linguistic agents and their environment. Without that process, meaning collapses. This is why we cannot talk about meaning without paying attention to that global process. Any attempt to delve into the nature of truth and meaning ignoring this general frame will be seriously hampered.

## Propositional Content Versus Sentential Form

One of the most notable sources of confusion in truthmaker literature, before and after 1984, is the nature of truthbearers –that is, of those entities capable of being true or

<sup>2</sup> “If the meaning of the sign ... is an image built up in our minds ... then why should the written sign plus this ... image be alive if the written sign alone was dead?” (*The Blue and Brown Books* 1989: 5; written circa 1933). See also e.g. Proudfoot (2009).

<sup>3</sup> “‘following a rule’ is a practice” (*Philosophical Investigations* 1958: I: §202; written circa 1945); “The common behaviour of mankind is the system of reference by means of which we interpret an unknown language” (ibid.: §206); “‘We are quite sure of it’ ... [means] that we belong to a community which is bound together by science and education” (*On Certainty* 1974a: §298; written circa 1951). See also e.g. Malcolm (1986: Ch. 9), Hacker (1997).

<sup>4</sup> “The psychological processes which are found by experience to accompany sentences are of no interest to us” (*Philosophical Grammar* 1974b: I: §6; written circa 1933).

<sup>5</sup> The river metaphor can be further developed along the following lines, although I will not make use of these details in the present paper. The riverbed is the sign (the sentence). The water flow is meaning, which travels through the sign when it is in use. When the sign falls into disuse, meaning stops flowing through it, leaving it as a dry riverbed. The sea is reality, into which meaning discharges when the sentence is true. When the sentence is false, meaning does not get to reality, but disperses before discharging in it. The clouds, finally, are the cognitive-speakers. Evaporation is the cognitive experience by means of which we pick up from the sea the meanings that have been laid down there, or we abstract new meanings. Henceforth water condensed into steam is reelaborated, individually and collectively, defining new contents and beliefs that we will pour into the river again, or that will precipitate creating new riverbeds, in continuous creative change.

false, and with respect to which we inquire how truthmakers make them true. Numerous candidates have been proposed to fill this role, such as sentences, utterances, statements, assertions, propositions, judgements, thoughts and beliefs, among others. However, what worries me most is not the existence of so many candidates to occupy that place in the theory, but the little importance that is generally attached to the difference of explanatory role existing between them. To see this we shall begin by revisiting Strawson's approach, whose influence in this context continues to be very present.

In his paper "Truth" of 1950, Strawson introduces a difference between statements as speech-acts and statements as abstract contents, pointing out that it is of the latter, *prima facie*, of which truth and falsehood are predicated:

"My statement" may be either what I say or my saying it ... If I say that the same statement was first whispered by John and then bellowed by Peter, uttered first in French and repeated in English ... the word "statement" has detached itself from reference to any particular speech-episode (Strawson 1950: §1: 129–130);

occasions as that on which you say of Jones "He is ill", I say to Jones "You are ill" and Jones says "I am ill" ... we all make "the same statement"; and ... it is, *prima facie*, of statements in this sense that we say that they are true or false (*ibid.*: 131–132).

This notion of statement as abstract content is what we today more commonly call –also Strawson himself<sup>6</sup>– 'proposition'. A salient feature of this notion is that it is not made up by words. In contrast to the verbal statement, which is linked to the utterance of a particular sentence in concrete circumstances, a statement in this sense is pure meaning, pure propositional content. It cannot be said that the proposition *Jones is ill* contains the word 'Jones', since –as Strawson notes– it is identical to the proposition that Jones makes when, without using that word, he says 'I am ill'. It cannot be said that the proposition *Jones is ill* is specifically English, given that the same proposition can also be stated in French –as Strawson notes–, or in other languages. We are before a *translinguistic* notion, a notion not directly linked to any sentence or to any particular language.<sup>7</sup>

Equipped with this translinguistic notion of statement as primary truthbearer, Strawson makes his 'famous triviality charge', in what has become a classical quotation in truthmaker literature:

what could fit more perfectly the fact that it is raining than the statement that it is raining? Of course, statements and facts fit. They were made for each other. If you prise the statements off the world you prise the facts off it too (Strawson 1950: §2: 137).<sup>8</sup>

<sup>6</sup> Strawson (1998: 403).

<sup>7</sup> The term 'translinguistic' appears in an approximately similar sense in Kirkham (1992: §2.3: 56), in turn inspired in Sellars (1963: §2: 641). Similar labels used in this context have been 'non-linguistic' (Quine 1970: Ch. 1: 14) and 'extra-linguistic' (Haack 1978: Ch. 6: §4: 82).

<sup>8</sup> Quoted in MacBride (2005: §5: 136), from where the phrase 'Strawson's famous triviality charge' has been taken. Also quoted in Dodd (2002: §2: 181), Morris (2005: §3: 51), Smith and Simon (2007: §4: 84), David (2009b: §5), Pendlebury (2010: §1: 137, footnote 1), Candlish and Damnjanovic (2011: §3.2), etc.

It appears then that it is precisely the non-verbal nature of statements understood as pure content (i.e., the non-verbal nature of propositions), which supplies the closeness between them and the worldly items that they are due to represent (i.e. the facts). It appears then that it is the non-verbal nature of propositions which supplies the obviousness of the fitting existing between propositions and facts. However, the acknowledgement of that obviousness should not make us forget the way in which the notion of proposition (statement as pure content) was introduced in the first place: as a way of explanation relative to the verbal statements, the immediately perceptible ones. If the introduction of propositions is not accompanied by a precise account of what they consist of and of how each proposition connects to the verbal statements which express it, the explanation will be no advance at all.

Without such additional explanation, the situation we are left with is the following: in order to explain what lies beneath the truth of verbal statements, we postulate an abstract concept, non-verbal (non-sentential), that is due to encapsulate their meaning. We do so without giving a precise explanation of what this concept consists of, or of the mechanics that links it with each of the verbal statements that express it: we just appeal to the understanding that we have, as competent speakers, of the cases in which two statements mean the same.<sup>9</sup> Then we note with surprise the closeness between that abstract concept (the concept of proposition) and facts themselves, and we emphasize that when a given proposition corresponds to a given fact, that correspondence appears to be obvious. However, we are still lacking a genuine explanation of what it is that makes true each verbal statement, with its concrete words and its concrete context of utterance. The only thing that we have done in this journey is to rely on our own linguistic competence, ascertaining that we are able to understand verbal statements, and to use them, and to know when two statements mean the same thing, and to verify (with the natural limitations) when a statement is true or false.

I know that water quenches my thirst, and when I am thirsty I drink water, instead of playing a tennis game. In a certain sense it is 'obvious' to me that water quenches my thirst, while playing tennis does not. However, that is an overly simplistic explanation, an overly coarse explanation of what is going on. If I want to know more about what is happening underneath, I will have to delve into the particular features that there are in drinking water and not in playing tennis, that satiate thirst in my organism: I will have to enter into the chemical properties of water, and into my own biological constitution, going far beyond the platitude that water quenches my thirst.

<sup>9</sup> "The limit of language manifests itself in the impossibility of describing the fact that corresponds to (is the translation of) a sentence without simply repeating the sentence" (Wittgenstein, *Culture and Value* 1998: 13; written circa 1931); "When a statement is true, there is, of course, a state of affairs which makes it true ... but equally of course, we can only describe that state of affairs in words (either the same or, with luck, others)" (Austin 1950: §3a: 117). Analyses of propositions in terms of possible worlds, or in terms of 'sentences of the language of thought', are also typically dependant in an essential way on the ordinary sentences by means of which the proposition in question is characterised (e.g.: 'the set of possible worlds in which it is raining here and now', 'the sentence of the language of thought which corresponds to my judgement that it is raining here and now', etc.).

Surprisingly enough, this type of considerations have passed –and continue to pass– largely unnoticed in truthmaker literature. Thus, there are numerous contributions in which it is difficult to determine whether the entity proposed as primary truthbearer has or not a sentential form (for example Russell (1918),<sup>10</sup> Wittgenstein (1921),<sup>11</sup> Ramsey (1927),<sup>12</sup> Mulligan et al. (1984),<sup>13</sup> Morris (2005),<sup>14</sup> Cameron (2008a)<sup>15</sup> and Jacquette (2010)<sup>16</sup>). There are other authors who, at the time of selecting primary truthbearer and before a candidate list which includes sentential and non-sentential notions, minimize the importance of the notion chosen,<sup>17</sup> or lay out the discussion in a way which is supposedly indifferent to that choice.<sup>18</sup> This is something striking, at the least, given that propositions and sentences are so radically different entities. It is just as if, in approaching the study of a river, we considered irrelevant the distinction between the riverbed and the circulating water flow: *What does it matter, I am talking about 'the river', can't you see?*

Another group of authors –the most numerous one– place as primary truthbearer a non-sentential notion, generally that of proposition,<sup>19</sup> and often adding a Strawsonian remark to the effect that that the truth of other truthbearers, and in particular the truth of sentences, must be understood as derivative from the truth of propositions.<sup>20</sup> However, what goes noisily unnoticed in this context is that any explanation of the relation between the non-verbal truthbearers and their truthmakers –whatever they are– will fall into the void unless it is complemented by an explanation of the relation between the non-verbal truthbearers and the verbal truthbearers. Even in an analysis as sharp as Marian David's (2009b: §2.1), the choice of truthbearer is presented as reduced

<sup>10</sup> Compare: "A proposition ... is a sentence in the indicative ... A proposition is just a symbol" (Russell 1918: §1: 504), with: "A man believes that Socrates is dead. What he believes is a proposition" (ibid.: 507).

<sup>11</sup> Compare: "In a proposition a thought finds an expression that can be perceived by the senses" (Wittgenstein 1921: §3.1), "A proposition contains the form, but not the content of its sense" (ibid.: §3.13), with: "A proposition can be true or false in virtue of being a picture of reality" (ibid.: §4.06).

<sup>12</sup> The terms 'proposition' and 'sentence' are used indistinctly (see especially 166–168).

<sup>13</sup> "truth-makers, that in the world in virtue of which sentences or propositions are true" (Mulligan et al. 1984: §1: 289); and section 6 (particularly 315–316), where the terms 'sentence' and 'proposition' are used indistinctly.

<sup>14</sup> "Sentences and facts have the same kind of structure (propositional structure) ... propositional structure is fundamentally the structure of propositions; that is, of sentences" (Morris 2005: §3: 51).

<sup>15</sup> The terms 'sentence', 'statement' and 'proposition' appear to be used indistinctly, save by the employment of differentiated quotation signs in giving examples. A distinction is also attempted, from a hard-core analytic perspective, between an 'internal' question of truth, to be answered in view of "how our language works", and an 'external' question of truth, to be answered in view of what are "the things that there really are" (Cameron 2008a: §5: 13).

<sup>16</sup> The terms 'proposition' and 'sentence' are used indistinctly.

<sup>17</sup> Kirkham (1992: §2.4), Glanzberg (2009: §6.1), Horwich (2009: §2), Schulte (2011: §1: 414–415).

<sup>18</sup> Fox (1987: §1: 189), Read (2000: §1: 67, footnote 1), Rodríguez-Pereyra (2002: §1.3: 29, footnote 6), (Schneider 2006a: §1: 72, endnote 1), López de Sa (2009: 417, footnote 1), Lowe (2009: 201), Vision (2010: §2: 110).

<sup>19</sup> "Most truth-maker theorists hold that propositions are the primary truth-bearers" (Rami 2009: §6: 10). See indeed Küne (2003: Ch. 5: 249), Rodríguez-Pereyra (2005: §1), Liggins (2005: §1.1: 105), Hornsby (2005: 33, footnote 2), Dodd (2007: §1: 383), Mulligan (2007: §1: 51), Mumford (2007: §1: 313), Simons (2007: 67), Smith and Simon (2007: §II: 92–93), David (2009a: §1: 138), Parsons (2009: §1: 217), Schaffer (2010: §1: A3), Briggs (2012: §1), etc.

<sup>20</sup> Lewis (2001: §2: 604), Armstrong (2004: §2.6: 12), Englebretsen (2010: §1), Fumerton (2010: 91–92), etc.

nowadays to three main alternatives: public language sentences, sentences of the language of thought, and propositions. However, the three options are treated on an equal footing, without noticing that any attempt to elucidate the truth of propositions, or the truth of the ‘sentences of the language of thought’, will be lame unless it is complemented by a clarification of how these produce an effect on the truth of ordinary sentences.<sup>21</sup>

There have also been proposals that at the time of designating primary truthbearer have deliberately opted for discarding propositions, pointing to a sentential notion instead: sometimes with an attitude of lukewarm indifference,<sup>22</sup> sometimes with a marked preference,<sup>23</sup> and some other times, as in the case of Quine, from a congenital aversion to propositions.<sup>24</sup> It is precisely from Quine that the following warning arises, much in line with the considerations that I have been making in this section:

Once a philosopher ... has admitted propositions to his ontology, he invariably proceeds to view propositions rather than sentences as the things that are true or false. He feels he thereby gains directness, saving a step ... The propositionalist bypasses differences between languages; also differences of formulation within a language (Quine, *Philosophy of Logic* (1970): Ch. 1: 2–3).

More recent, and sharing with Quine his distaste for propositions, is this admonition by John Heil:

We begin with one puzzle: how are truthmakers related to true utterances, beliefs, and the like. The answer: they make true propositions expressed by those utterances and claims. But now we have traded one puzzle for three puzzles: (1) how are truthmakers related to propositions; (2) how are propositions related to utterances and claims that ‘express’ them; (3) what is the nature of a proposition? (Heil 2006: 242).

Finally, the earliest indication to this effect of which I am aware is one that comes from a non-anti-propositionalist standpoint:

There is the problem of giving an analysis of what it is for a sentence to express a statement ... Unless it is backed by a solution of at least ... [this problem], such an account as I have given of the concept of truth may not be thought to have achieved very much (Ayer 1963: Ch. 6: 186–187).<sup>25</sup>

<sup>21</sup> A similar observation can be made about this eclectic approach of Moore: “There are, therefore these three senses of the words true and false: The sense in which propositions are true or false; the sense in which acts of belief are true or false; and the sense in which anything that *expresses* a proposition is true or false ... each can be defined by reference to the others” (1953: Ch. 3: 65; text from Lectures given in 1910–1911).

<sup>22</sup> Kirkham (1992: §2.4–2.5).

<sup>23</sup> Austin (1950: §2: 113–114), Davidson (1969: 754–755), Haack and Haack (1970).

<sup>24</sup> “In inveighing against propositions in ensuing pages, I shall of course be inveighing against them always in the sense of sentence meanings” Quine (1970: Ch. 1: 2); “What are best regarded as true and false are not propositions but sentence tokens, or sentences if they are eternal” (ibid.: 14).

<sup>25</sup> I thank José López Martí for drawing my attention to this work.

## The Adscription of Purely Extra-Linguistic Truthmakers

We shall now leave the issue of truthbearers aside and focus on the nature of the truthmaking relation, although the problem that we are going to find is intimately related to the one we have just dealt with. Suppose that it is raining, and hence

It is raining (\*)

is true. Applying the proposal of Mulligan, Simons and Smith in their classic paper of 1984, we could say that the truthmaker of (\*) is the rain, understood as the raining event occurring here and now.<sup>26</sup> Moreover, according to them, that would be so as much in the case in which we take (\*) to be a proposition, as in the case in which we take it to be a sentence.<sup>27</sup> The rain makes true both the proposition that it is raining here and now, and the sentence ‘It is raining’ as uttered here and now.

Other candidates for a truthmaker of (\*) have been put forward: the fact that it is raining here and now, the property of raininess of this place at this particular time, this place qua rainy at this particular time, the world in its entirety, etc. All these share with Mulligan’s original proposal a common perspective: what makes true a proposition (or a sentence) like (\*) is something alien to (\*) itself, something that has nothing to do directly with (\*) but with how reality is:

truth is grounded ... If a certain proposition is true, then it owes its truth to something else ... What reality is like is anterior to the truth of the proposition, it gives rise to the truth of the proposition and thereby accounts for it (Rodríguez-Pereyra 2005: §4: 21).<sup>28</sup>

Such a perspective pervades the usual idiolect of truthmaker theory, to the point that it appears to accompany, as associated connotation, the very use of the term ‘truthmaker’ and related expressions:

a fact, namely, that sort of thing that makes a proposition true or false (Russell 1918: §2: 512);

whenever something is true, there must be something in the world which makes it true (Bigelow 1988: §18: 122);

<sup>26</sup> “In the main part of the paper we shall consider the claims of one class of entity, which we call *moments*, to fill ... [the] role [of truth-makers]” (Mulligan et al. 1984: §1: 289); “examples [of moments] are ... sound waves, cyclones, etc., and more generally all events, actions, processes, states, and conditions essentially involving material things” (ibid.: §2: 292).

<sup>27</sup> See footnote 13 above.

<sup>28</sup> He immediately specifies: “This is not true of all propositions ... In general analytic propositions are not grounded in reality” (Rodríguez-Pereyra 2005: §4, footnote 7). We will discuss analytic propositions in the next section.

There is something that exists in reality, independent of the proposition in question, which makes the truth true (Armstrong 2004: §2.3: 5).<sup>29</sup>

Even approaches which prioritize the entire world as primary truthmaker handle a distant and static relation between the true proposition, on the one hand, and the world on the other –that world which, considered as a whole, is supposed to ground the truth of the proposition in question.<sup>30</sup>

However, before this type of view an obvious question arises: how does the world *do* that? Let us agree, for example, that it is the rain which makes (\*) true. How does it do it? How does the rain manage to make true ‘It is raining’, but not ‘It is snowing’? How does the rain manage to make true, not only the English ‘It is raining’, but also the French ‘Il pleut’, the German ‘Es regnet’, etc.? Does the rain speak English? Does the rain speak French and German, and every other language in which it is possible to talk about the rain? This question cannot be ignored. Among the things that rain does, I can understand, for instance, how it is that rain dampens the fields. There is a physical explanation of how the rain does that, i.e. of how rain has the effect of soaking the fields, instead of setting the forest on fire. I am in a position to give a reasonable explanation of the fact that rain dampens the fields instead of setting the forest on fire.

However, how does it come about that rain makes true a proposition? How do I explain the fact that rain makes true one particular proposition and no others? How do I explain the fact that rain makes true one particular sentence (uttered in certain circumstances) and no others?<sup>31</sup> How do I explain the fact that rain makes true various particular sentences of different languages? The same questions can be asked about the other candidates to fill the role of truthmakers that have been put forward: how does the fact that it is raining do to make true a given proposition, or a given sentence, and no others? How does the raininess of this place do to have an effect on propositions and sentences? Even with respect to the maximal truthmaker, the world as a whole, it makes sense to ask for an explanation of what particular means the world makes use of to bring about the truth of (\*), instead of bringing about the truth of its opposite.

In truthmaker literature, when confronting these difficulties, the first thing that is usually ruled out is that the truthmaking relation be a causal relation:

When introducing truth-makers it has become routine to begin with a disclaimer: that the sense in which a truth-maker “makes” something true is not the causal sense (MacBride 2013: §1).

<sup>29</sup> Similarly in Austin (1950: §3a: 117), Searle (1998: §1), Restall (2000: §1: 211), Read (2000: §1: 67), Lewis (2001: §2: 605), Parsons (2009: §1: 218), Efrid and Stoneham (2009: 210), Englebretsen (2010: §4), Textor (2012: 1), etc.

<sup>30</sup> Thus e.g. in Schaffer (2010: §1).

<sup>31</sup> I thank Alejandro Villa Torrano for his insistence on this point.

Our analogy with the explanation of how rain dampens the fields is hence discarded from the beginning. However, what other alternatives are there? The idea that truthmaking be a sort of entailment does not seem to work either:

Both terms of an entailment relation must be propositions, but the truthmaking term of the truthmaking relation is a portion of reality, and, in general at least, portions of reality are not propositions (Armstrong 2004: §2.3: 5–6).

Armstrong himself advances a certain notion of necessity as a way of elucidating the truthmaking relation.<sup>32</sup> However, that notion and other notions suggested (such as that of projection or that of explanation) have been criticized for not being precise enough, or for providing little clarification of what the postulated relation consists of.<sup>33</sup> This could drive us to the conclusion that the truthmaking relation –or any other relation on which it can be made to rest, such as true in virtue of, etc.– is a primitive relation, not amenable to analysis.<sup>34</sup> However, that conclusion would lead us again to the same impasse at which we arrived from Strawson’s triviality charge: what is ‘obvious’ is not the truthmaking of sentences, or of verbal truthbearers in general, since they are subjected to the contingency of things being said differently in different languages. What appears to be obvious is the way in which reality makes true propositions, but without a clear idea of what propositions consist of and of how they connect to sentences, the need for a further clarification is indispensable.

It is the analytic model, as I see it, which is making us withdraw attention from some of the essential ingredients of the communication process. The germ of confusion will hang over any approach that places reality as the only doer of truth, over any approach that disregards the role of the linguistic subject in the process of communication: her cognitive capacities, her communal behaviour, her interaction with the environment, the differences between distinct linguistic communities, the changes in linguistic conventions along time, etc.: all the things that fall outside the static or analytic model, under which truth and meaning appear as given realities, exclusively dependent on the very configuration of things.

In the published literature we also find some warnings that, rowing against the tide, go in a direction more or less similar to the one I am pointing at here. Some of these warnings are classics, such as Wittgenstein’s:

The reason why the use of the expression “true or false” has something misleading about it is that it is like saying “it tallies with the facts or it doesn’t”, and the very thing that is in question is what “tallying” is here (*On Certainty* (1974a): §199; written circa 1950),

<sup>32</sup> Armstrong (2004: §2.3).

<sup>33</sup> See MacBride (2013: §§1.2–1.6; §§3.6–3.8), Schnieder (2006b).

<sup>34</sup> MacBride (2013: §1) points out that “Some philosophers argue th [e] notion [in virtue of] is an unavoidable primitive”, quoting in this respect just Rodriguez-Pereyra (2006: 960–961). However, what Rodriguez-Pereyra says is: “No doubt the notion of ‘in virtue of’ is not totally transparent and there is a point in trying to elucidate it” (Rodriguez-Pereyra 2006: §2: 960, my emphasis).

while others are much more recent:

the term ‘truth-maker’ is infelicitous given that truth-bearers and the correspondence relation contribute as much to the making of truth as reality does ... Why focus on one endpoint, as it were, of the truth conglomerate? If you look at any truth as a whole you will see that it is constituted, in part, by linguistic units, and hence is language-dependent (Saka 2010: §1: 126–128).

There are also authors who, despite a declared awareness of the interlock between language, world and knowledge, at times seem to fall into the trap of the static idiolect –such is the weight of the dominant paradigm. A prominent example of this is Quine himself: on the one hand Quine reminds us, with crystal clarity,

It is obvious that truth in general depends on both language and extra-linguistic fact. The statement ‘Brutus killed Caesar’ would be false if the world had been different in certain ways, but it would also be false if the word ‘killed’ happened rather to have the sense of ‘begat’ (Quine, “Two Dogmas of Empiricism”, 1951: §4: 34).

Indeed, as we saw in our quotation from his *Philosophy of Logic*, Quine rejects propositions, and places the focus on the contingency of the different ways of formulating things, between languages and inside a given language. However, surprisingly enough, in the same *Philosophy of Logic* and just a few pages afterwards, he postulates outright, forgetting these cautions:

No sentence is true but reality makes it so. The sentence ‘Snow is white’ is true, as Tarski has taught us, if and only if real snow is really white. The same can be said of the sentence ‘Der Schnee is weiss’; language is not the point (Quine, 1970: Ch. 1: 10).

But the truth is that Tarski’s scheme, when applied to sentences (i.e., to sequences of words without a predetermined meaning), is simply false. It is false, moreover, in the two directions of the biconditional. Indeed, it would be enough that the sentence ‘Snow is white’ meant that it is raining in London, to make it possible: (a) that the sentence ‘Snow is white’ be true without snow being white (on condition of it being raining in London); and (b) that snow be white without the sentence ‘Snow is white’ being true (on condition of the weather in London being clear).

A similar tension can be found in Davidson: one the one hand he calls our attention to

the pedestrian and familiar fact that the truth of a sentence is relative to (among other things) the language to which it belongs (Davidson 1974: 11),

but later he appears to ignore himself that pedestrian fact when he states, with the typical idiolect of the analytic stance:

it is no accident that ‘Schnee ist weiss’ is true if and only if snow is white; it is the whiteness of snow that *makes* ‘Schnee ist weiss’ true (Davidson 1984: Introduction: xiv).

However, here again the whiteness of snow cannot do that, not by itself. It is necessary, in addition, that a set of circumstances occur: a set of circumstances which have to do with the speakers behaviour and with the singularity of their cognitive-linguistic relation with the reality of snow. Should these circumstances have been otherwise, the whiteness of snow might have had nothing to do with that particular German sentence. A similar tension can be traced down in other authors, such as Peter Simons,<sup>35</sup> Rodriguez-Pereyra<sup>36</sup> or Fraser MacBride.<sup>37</sup>

### The Adscription of Purely Linguistic Truthmakers

The analytic model has not only the consequence of obliterating, on occasions, the importance of the linguistic factor in the configuration of truth, in favour of the worldly factor. There are also occasions on which what takes place is exactly the opposite. There are occasions on which truth is attributed exclusively to the action of linguistic conventions, depriving the factual component of the share of limelight it justly deserves. That is what typically occurs in truthmaker theory when addressing ‘logical’ and ‘analytic truths’, including those whose vocabulary alludes to worldly realities:

A tautology has no truth-conditions, since it is unconditionally true ... I know nothing about the weather when I know that it is either raining or not raining (Wittgenstein 1921: §4.461);

<sup>35</sup> Compare: “the ... truth-value ... is usually the outcome of three factors: (1) the connection between the sentence itself and its linguistic meaning ... (2) the circumstances of utterance, and (3) whether things are as they are thereby said to be” (Simons 1992: §2: 159–160), with: “a truthmaker is in general something such that the proposition that it exists entails the truth in question” (Simons 2000: §5).

<sup>36</sup> Compare: “As Simons (1992: 159) says ... truth is the joint outcome of two largely independent factors: that about the language which determines what a sentence means and that about whatever it is in the world which determines that the sentence, meaning as it does, is true or false” (Rodriguez-Pereyra 2002: §2.1: 31), with: “A truthmaker is an entity that makes true a proposition” (Rodriguez-Pereyra 2005: §2: 17). In a footnote to the latter quote Rodriguez-Pereyra asks us to notice that in his 2002 book he “took sentences, rather than propositions, to be truthbearers” (2005: §1, footnote 1). However, he makes no additional observation regarding the difference brought about by this change, in view of the existing gap between the nature and the explanatory role of these two notions, and the difficulty of giving a non-trivial explanation of the connection between them.

<sup>37</sup> On the one hand MacBride highlights: “The truth of a statement is the upshot of two distinguishable factors, what the statement says about reality on the one hand, whether reality accords with what the statement says on the other” (MacBride 2013: §3.5), as well as: “To provide a full account, truth-makers cannot be anything else except entities that guarantee without further ado or qualification that the statements they make true are true; if further assistance is needed then whatever entities we’ve appealed to so far can’t be truth-makers” (ibid.: §3.6). However, he still refuses to admit that the need to explain that interaction down to the level of sentences is an unavoidable requirement of any serious explanation of the concept of truth: “unless it has already been established that a theory of truth for a language that fails to explain how its sentences are made true fails to articulate in some critical respect how reality conspires with meaning to deliver their mutual upshot, viz. truth. But this hasn’t been established –at least not yet” (ibid.: §3.5).

a truth is analytic if and only if it is true *solely* in virtue of the words or symbols (or mental contents) in which it is stated ... these facts of meaning constitute the truthmakers for analytic truths (Armstrong 1997: §10.31);

The truth of the proposition that bachelors are not married does not depend on what reality is like ... analytic propositions are not grounded in reality (Rodríguez-Pereyra 2005: §4: 21, footnote 7).<sup>38</sup>

I wonder, however: what would happen with the statement ‘It is raining or it is not raining’, if there were no atmosphere in the Earth nor in any other place of the Universe? That is, what would happen if what we know as rain had no chance of existing nor had ever existed at all? Or what would happen if the Universe had always been flooded in water in all its corners? How could we distinguish between rain and no-rain in that context? The analytic perspective has a ready answer, apparently efficacious, for these questions: if the conditions of the Universe did not allow the existence of rain, or did not allow the distinction between rain and no-rain, then by default it would not rain, in view of which the statement ‘It is raining or it is not raining’ would continue to be true. Moreover, it is alleged, it would always be possible that the physical environment evolved to a configuration akin to our present one, in which rain and no-rain alternate in a natural way. That mere possibility, it is argued from the analytic stance, would be enough to give the word ‘rain’ a similar sense to the one it has today.

However, before this type of answers I still wonder: is the non-raining we know, in an environment in which rain is a familiar phenomenon, not radically different from the non-raining of a world in which the conditions for raining, or the conditions for properly distinguishing between rain and no-rain, had never been present?<sup>39</sup> Is the meaning of ‘It is raining’, and the subsequent meaning of ‘It is raining or it is not raining’, not radically different when we are referring to a reality with which we physically relate on a regular basis, than if we were referring to a mere possibility, to a speculative chimera long way distant from the things of which we have acquaintance? The meaning of ‘It is raining’ and the meaning of ‘It is raining or it is not raining’ are not given realities, they do not constitute static entities which float in the air. They are the result of a concrete cognitive-linguistic process in which rain is an active factor –a factor whose physical interaction with the cognitive-speaking community has brought as a consequence the appearance of these meanings.

There is something I know about the weather when I know that it is raining or it is not raining: I know that climatic conditions are such that it makes sense to talk about the rain, and to distinguish between times in which it rains and times in which it does not. There cannot be truth without meaning,<sup>40</sup> and the meaning of ‘It is raining’ as well as the meaning of ‘It is raining or it is not raining’ have to do with what happens outside. They have to do with the reality that surrounds the English speaking

<sup>38</sup> Similarly in Armstrong (2004: §8.9: 109), Smith and Simon (2007: §II.7: 94), Lowe (2009: 209), Schulte (2011: §5: 428), etc.

<sup>39</sup> I thank José López Martí for drawing my attention to this point.

<sup>40</sup> “Truth presupposes meaningfulness” (Lewy 1976: Ch. 2: 15).

community, and with the material and cognitive interaction that the English speaking community maintains with it.

With respect to this point it is also possible to track down in other authors warnings that go in a direction more or less close to the one suggested here, although in this case the coincidence will be smaller and more dispersed than in the two previous sections. One of these warnings comes from Smith and Simon (2007). These authors distinguish among logical truths a special group that they call ‘impure’ logical truths: truths with existential presuppositions, and the meaningfulness of which depends on the existence of the presupposed entities:

There are logical truths which do bear specific existential presuppositions, such as ‘John is hungry or it is not the case that John is hungry’ ... We might call these judgements ‘impure’ logical truths ... These truths are made true ... by the existence of the entities named (Smith and Simon 2007: §II.7: 95).

My view is no doubt in tune with this assertion, though I would go far beyond it: the world plays a fundamental role with respect to any logical truth—at least those whose terms refer to worldly realities—, whether they contain existential presuppositions or not.<sup>41</sup>

Another contribution worth noting at this point is Simons (2007).<sup>42</sup> Although Simons is reluctant to admit a worldly factor in analytic truths, he does emphasize the way in which these truths depend on linguistic practice, thus underlining a processual and contingent aspect in the configuration of them. Indeed, Simons’s starting point in this paper is a desire to

guardedly defend the traditional empiricist claim that analytic truths are true in virtue of the meanings of the terms they contain (Simons 2005: Abstract: 67),

which he nevertheless attempts to combine with a special attention to the conventional and community dimension of meaning:

meanings are not self-subsistent abstract entities but in some sense live in the actual, concrete use of language (ibid.: 69);

meanings can be said to exist only insofar as meaningful acts of understanding exist in a community of speakers (ibid.: 76);

rather than introspecting about meanings, it is more sensible to focus attention on the terminological enforcement practices of linguistic communities (ibid.: 77).

The conclusion that Simons reaches, after examining the historic evolution of some representative terms of natural science (both in real and hypothetical cases), is that

<sup>41</sup> Also, to be precise, a truth with existential presuppositions is not made true by the mere existence of the entities referred: we have to appeal again to the overall perspective of the cognitive-linguistic process.

<sup>42</sup> Other contributions worth noting here are Quine’s critique of the analytic–synthetic distinction (Quine 1951: §§1–4), his view that neither logic nor mathematics is immune to revision in the light of experience (ibid.: §6), and works derived from these views such as Putnam (1971), Davidson (1974), etc.

analytic truths are those for which assent is enforced by linguistic practice in a community (ibid.: Abstract: 67),

from which he gathers that

Truth in virtue of practice is the cash value of truth in virtue of meaning (ibid.: 77).

We are now in a position to go back to the puzzle I posed at the beginning of the paper, and unmask it as a false dilemma: the truth of ‘It is raining or it is not raining’ cannot be one-sidedly attributed to a single factor, neither to the fact that it is (or it is not) raining now, nor to the logical structure or other intrinsic quality of the statement in question. The truth of ‘It is raining or it is not raining’ has to be put in the context of a complex phenomenon in which many different factors take part: the speakers, the rain, our physical and cognitive relation to rain, and the cognitive-linguistic interaction patterns of the community of speakers (or of particular subcommunities related to a particular jargon or to a particular training), that determine on what occasions we are disposed to say that it is raining, on what occasions we are disposed to say that it is not raining, and on what occasions, and who among the community of speakers, are disposed to assent to the disjunction of the two.

### The Search for Minimal Truthmakers

Apart from the case of logical and analytic truths, the usual practice in truthmaker literature is to give truthmakers, conceived as fragments of the world, the leading role. Other elements of the plot—such as the nature of propositions or the very concept of meaning—are relegated to a secondary place, and when doubts arise about them, these doubts are set aside as irrelevant.<sup>43</sup> This setting gives rise to one of the most characteristic endeavours of truthmaker theory: the search for minimal truthmakers. Under the premise that truth is something that the world ‘makes’, it becomes particularly interesting to inquire, for each given truth, what is the minimal fraction of the world which can be considered responsible for it.<sup>44</sup>

One of the most painstaking efforts to theorise about minimal truthmakers, though yet without using that word, is no doubt Wittgenstein’s *Tractatus*. Its postulated separation

<sup>43</sup> “we use the term ‘proposition’ ... without being seriously committed to abstract propositions” (Peter Simons 1992: §2: 160); “Truth attaches in the first place to propositions ... But no Naturalist can be happy with a realm of propositions” (Armstrong 1997: §8.53); “truths are (centrally) true propositions ... But what are propositions? ... They are the *content* of the belief ... what makes the belief the particular belief that it is; or else the *meaning* of the statement, what makes the statement the particular statement that it is ... To go further than this here would take us, inappropriately, deep into the philosophy of mind and the philosophy of language” (Armstrong 2004: §2.6: 12–14); “We can, and should, bracket here the difficult question what meanings *are*, though I would hope for a naturalistic account of meanings” (ibid.: §8.9: 109); “questions of meaning and sense may be avoided while attending to the project of ontological analysis” (Smith and Simon 2007: §II.7: 95). The obscurity of the notion of proposition in truthmaker literature reaches the point that it turns out to be dubious whether  $p$  and  $p \ \& \ p$  should be counted as two distinct propositions or as a single one (cf. Rodriguez-Pereyra 2009: §4: 436–437).

<sup>44</sup> “If T is a minimal truthmaker for  $p$ , then you cannot subtract anything from T and the remainder still be a truthmaker for  $p$ ” (Armstrong 2004: §2.10: 19–20). Similar formulations can be found in Mulligan et al. (1984: §3: 297), Fox (1987: §1: 190), Restall (1996: §1: 332), Simons (2000: §5: 67), David (2005: §1: 143), Mumford (2005: 263), Horwich (2009: §2: 187), Parsons (2009: §1: 219), Rami (2009: §8: 24), Rodriguez-Pereyra (2009: §3: 435), MacBride (2013: §1), etc.

between world and language is well known,<sup>45</sup> as well as how, in order to bridge the gap, Wittgenstein appeals to ‘elementary propositions’: basic pieces in terms of which propositions of ordinary language are to be analyzed, and their truth accounted for:

A proposition has one and only one complete analysis (1921: §3.25);

The simplest kind of proposition, an elementary proposition, asserts the existence of a state of affairs (ibid: §4.21);

A proposition is a truth-function of elementary propositions (ibid: §5).

The truthmaking relation is then primarily conceived as a relation between basic facts (i.e. states of affairs) and elementary propositions; while the truth of ordinary (non-elementary) propositions is regarded as derivative from its logical analysis in terms of elementary propositions, and the truth of the elementary propositions themselves.

A salient problem of this account is the difficulty of giving examples of elementary propositions, and of how ordinary propositions are to be analyzed in terms of them.<sup>46</sup> The *Tractatus* does not contain a single example of an elementary proposition, and it appears that Wittgenstein, at the time of writing it, considered the search of such examples not his concern, but a purely empirical matter.<sup>47</sup> When some years later Wittgenstein started to critically review his initial position, this difficulty began to worry him:

Can a logical product be hidden in a proposition? And if so, how does one tell, and what methods do we have of bringing the hidden element of a proposition to light? If we haven’t yet got a method, then we can’t speak of something being hidden or possibly hidden ... My notion in the *Tractatus Logico-Philosophicus* was wrong ... because I too thought that logical analysis had to bring to light what was hidden (as chemical and physical analysis does) (*Philosophical Grammar* (1974b): I, Appendix 4, A: 210; written circa 1932);

Formerly, I myself spoke of a ‘complete analysis’, and I used to believe that philosophy had to give a definitive dissection of propositions ... At the root of all this there was a false and idealized picture of the use of language (ibid.: B: 211; written circa 1936).

Many decades have elapsed since then, and yet much of the mystery of the *Tractatus* continues to be present today, in the treatment that modern truthmaker theorists give to the notion of minimal truthmaker:

<sup>45</sup> “Language disguises thought. So much so, that from the outward form of the clothing it is impossible to infer the form of the thought beneath it ... The tacit conventions on which the understanding of everyday language depends are enormously complicated” (1921: §4.002).

<sup>46</sup> “what was ... an atomic sentence might after translation into a more refined language appear as nothing of the sort” (Ramsey 1927: 167); “a statement which was absolutely specific with respect to one language might not be so with respect to another” (Ayer 1963: Ch. 6: 176).

<sup>47</sup> “I asked Wittgenstein whether, when he wrote the *Tractatus*, he had ever decided upon anything as an *example* of a “simple object”. His reply was that at the time his thought had been that he was a *logician*; and that it was not his business, as a logician, to try to decide whether this thing or that was a simpler matter or a complex thing, that being a purely *empirical* matter! It was clear that he regarded his former opinion as absurd” (Malcolm 1984: 70).

In actual philosophical investigations it can be difficult to delineate the minimal truthmaker precisely (Armstrong, *Truth and Truthmakers*, 2004: §2.10: 21);

the hunt for truthmakers is as controversial and difficult as the enterprise of metaphysics (ibid.: §2.14);

Metaphysics is not easy, and the hunt for truthmakers is not easy. One would like to get to minimal truthmakers where one can, but one may fall short in one's endeavour (ibid.: §3.7).

In parallel with the *Tractatus* case, in the whole of Armstrong's 2004 book there is not a single example of a minimal truthmaker for an ordinary proposition which is given as definitive: all examples of minimal truthmakers that appear in the book correspond to proposition schemata, or to propositions of a purely philosophical content, or else are presented under the format of a tentative approximation, of what 'could be' the minimal truthmaker for that proposition.<sup>48</sup> Moreover, as in the case of the early Wittgenstein, the task of determining the minimal truthmakers is left to natural science:

how we decide what are the true or real properties [in terms of which the minimal truthmakers are to be determined] ... My own answer is that we settle ... these matters, so far as we can do it, in the light of total science. Philosophy has to take a back seat (Armstrong 2004: §4.2: 41–42).<sup>49</sup>

In turn, that can only be done in a provisional way, relative to the best available science of the time. For a definite way to determine the minimal truthmakers, some authors point to a final stage in the development of science, in which science would be fully complete and terminated:

<sup>48</sup> Thus (my italics): "Consider the truth that a human being exists ... every human being that has ever existed, exists now or will exist in the future ... *seems to be, or to be very close to being*, a minimal truthmaker" (Armstrong 2004: §2.11); "Consider the truth < Venus is a different entity from Mars > ... For this truth, Venus + Mars *would appear to be* a minimal truthmaker" (ibid.: §4.6: 50); "Consider the mereological whole of these four men ... This whole would *seem to be* one of the ... minimal truthmakers for the truth that there are at least four men" (ibid.: §9.2: 113). By contrast, all examples of minimal truthmakers which are given as definitive correspond to proposition schemata or philosophical propositions: "if there are states of affairs, such entities as *a*'s being *F* ... the truth < *a* is *F* > has that state of affairs as unique minimal truthmaker" (ibid.: §2.13: 22); "each simple property is a minimal truthmaker for the truth < there exist simple properties >" (ibid.: §2.11); "for every truthmaker *T*, the truth < *T* exists > has *T* as its unique minimal truthmaker" (ibid.: §2.13).

<sup>49</sup> "Motion exists ... But this is compatible ... with the nature of motion being a philosophical and/or scientific mystery ... From the standpoint of truthmaker theory we can say: the exact nature of the truthmaker for < motion exists > may still be to seek, and this exact nature may be quite a surprise" (Armstrong 2004: §3.2: 28); "these problems will largely be solved *within* the natural sciences. It will be physics and cosmology that tell us the true nature of time" (ibid.: Ch. 11: 150). Similar formulations can be found in other authors: "the investigation of what makes a particular sentence true is thus fundamentally an empirical, not a philosophical one" (Mulligan et al. 1984: §3: 299–300); "we are willing to content ourselves with the question of *relative* simplicity, for example of the simplicity that is determined by the elementary sentences of the various material sciences" (ibid.: §5: 311); "Often it will require empirical research to settle what makes a statement true" (MacBride 2013: §1.1); see also Fox (1987: §5: 199), Simons (2000: §VII), Schulte (2011: §4: 425–426), etc.

One might worry whether the theory of truthmaking is doing the ontological work ... fundamental science is not complete, so we do not know what the genuine universals are (Melia 2005: §3: 76).

However, we must be aware of the formidable difficulties that this type of approach carries with it. The prospect of waiting for the ‘final science’ is a horizon so distant and hypothetical that it can only be seen as extreme science fiction, on the basis of which only a sort of ‘metaphysics fiction’ can be laid down:

Science is not a system ... which steadily advances towards a state of finality ... it can never claim to have attained truth (Popper 1935: §85: 278);

every solution of a problem raises new unsolved problems ... our knowledge can be only finite, while our ignorance must necessarily be infinite (Popper 1963: Introd.: §XVI: 28–29).

Indeed, unsolved problems in scientific theories constitute lacunae, theoretical gaps that make it impossible for the theory to conform to the kind of perfect logical shell that the determination of minimal truthmakers demands.

Moreover, even if we arrived one day to the final science stage, nothing guarantees that it will provide universals –or minimal truthmakers– in a univocal way. Even in an archetype of order and elegance such as Newtonian mechanics, it is arguable whether we should take as primitive the concept of rest, and define motion as the absence of rest, or the other way around. The empirical theory itself does not say which of the two concepts (motion and rest) is more basic than the other: it allows a conventional option between the two alternatives of logical ordering.<sup>50</sup>

### The Rejection of ‘Negative facts’ and of Other ‘Logically Complex facts’

I shall end this paper by addressing another of the great hurdles of truthmaker theory, past and present: the problem of ‘negative facts’. Since Russell acknowledged the repugnance aroused by negative facts,<sup>51</sup> the rejection of them in truthmaker literature has been overwhelming.<sup>52</sup> The treatment of negative truths has been pointed out as one

<sup>50</sup> Each of the two states (motion and rest) is the exact opposite of the other, both are relative to the reference frame, and by the law of inertia none of the two is more ‘natural’ or physically prior to the other.

<sup>51</sup> “One has a certain repugnance to negative facts ... When I was lecturing on this subject at Harvard [in 1914] I argued that there were negative facts, and it nearly produced a riot” (Russell 1919a: §3: 42); “There is implanted in the human breast an almost unquenchable desire to find some way of avoiding the admission that negative facts are as ultimate as those that are positive” (Russell 1919b: §1: 4).

<sup>52</sup> Wittgenstein (1921: §5.5151), Austin (1950: §3a: 117), Strawson (1950: §5: 154), Ayer (1963: Ch. 6: 174–175), Mulligan et al. (1984: §6: 314–315), Fox (1987: §9: 204), Lewis (1992: 216), Molnar (2000: §4), Peter Simons (2005: 255), Cheyne and Pigden (2006: §2), Kukso (2006: §8: 36), Dodd (2007: §2: 386), Rami (2009: §7: 15), Tallant (2010: §5.1: 397), MacBride (2013: §2.1.4.1), etc. Armstrong (2004) rejects all negative facts except general facts, which he considers to be a special subclass of the negatives (Armstrong 2004: §5.2: 54, 59; 2007: §1: 99); Mumford (2007) rejects not only negative facts but also negative *truths*.

of the main obstacles for the viability of truthmaker theory,<sup>53</sup> and even detractors of this theory have seen the rejection of negative facts as one of the few ‘grains of truth’ to be extracted from it.<sup>54</sup> Exceptions to this attitude have been much more uncommon: a classic one is that of Russell himself—in rather dubious terms<sup>55</sup>—, and more recent ones are the schematic proposal of Priest and Beall,<sup>56</sup> that of Jacquette (2010), and the thorough formal proposal of Mark Jago and Stephen Barker.<sup>57</sup>

The problem that negative truths pose to the usual approach of truthmaker theory is that the portion of reality which should be made responsible for a negative truth is precisely something that *is not there* to be made responsible:

Intuitively statements divide into positive ones which state that something *is*, and negative ones which state that something *is not* ... on the world end of a positive statement there is something, an actual object or a state of affairs, that serves as truthmaker. But what is there in the world that makes true statements according to which something is not? (Molnar 2000: §1: 72).

Thus, while each Antarctic penguin is normally considered a truthmaker for ‘There are Antarctic penguins’, in the case of a truth such as ‘There are no Arctic penguins’ there is no analogous candidate of a truthmaker for it.

The problem derives again, as I see it, from a lack of global perspective, and from a lack of attention to the contingent and conventional aspects of our language. In fact a number of authors have called attention to questions of linguistic relativity regarding the distinction between negative and positive facts, though without realising the extent to which these questions threaten the very distinction itself. Thus, Russell (1919b) warns us that the distinction between positive and negative facts becomes unclear in complicated cases<sup>58</sup>; Molnar (2000) points out that there are no principles of demarcation for it<sup>59</sup>; MacBride (2013) highlights the inexistence of a syntactic test that

<sup>53</sup> Mulligan et al. (1984: §6: 314), Molnar (2000: §10), Parsons (2006: §1), Dodd (2007: §8: 400), Rami (2009: §9: 27–28).

<sup>54</sup> Horwich (2009: §6: 195–196; §8: 198).

<sup>55</sup> “I am still inclined to think that there are [negative facts] ... I do not say positively that there are, but there may be” (Russell 1919a: §3: 42). “It must not be supposed that the negative fact contains ... more constituents than a positive fact ... The difference between the two forms is ultimate and irreducible. We will call this characteristic of a form its *quality*. Thus facts, and forms of facts, have two opposite qualities, positive and negative” (Russell 1919b: §1: 4).

<sup>56</sup> “What makes the negative facts *negative* ... is their *polarity* ... the polarities of facts seem to be no more nor less mysterious than the polarities of physics—the likes of spin, charm, flavour, and so on. Such polarities are postulated in science to explain the data” (Beall 2000: §2: 266). See also Priest (2000: §7: 317–318) and Dodd (2007: §3).

<sup>57</sup> Jago (2011), Barker and Jago (2012).

<sup>58</sup> “So long as we confine ourselves to atomic facts, *i.e.*, to such as contain only one verb and neither generality nor its denial, the distinction between positive and negative facts is easily made. In more complicated cases there are still two kinds of facts, though it is less clear which is positive and which negative” (Russell 1919b: §1: 3). He also notices that there is no ‘formal test’ or ‘general definition’ for being a negative fact, so we have to “go into the meanings of words” (1919a: §3: 46–47).

<sup>59</sup> “The intuitive distinction between positive and negative truths seems correct, but it is not easy to find any general principles of demarcation” (Molnar 2000: §1).

supports it<sup>60</sup>; and Mumford (2007) appeals to a ‘metaphysical sensibility’ to tell the difference.<sup>61</sup>

Rami (2009) affirms consecutively that negative facts are very difficult to explain, and very difficult to distinguish from positive facts.<sup>62</sup> Dodd (2007), despite taking propositions as primary truthbearers<sup>63</sup> and regarding them as language-independent entities,<sup>64</sup> has no qualms in blaming negative truths for the impossibility of a well-motivated truthmaker theory.<sup>65</sup> Pendlebury (2010), though conscious that the characterization of a truth as atomic is dependent on the linguistic frame of reference,<sup>66</sup> adheres to the outright rejection of negative facts, as if linguistic relativity had no effect on them.<sup>67</sup> And Cheyne and Pigden (2008) on the one hand lay down that

Facts ... are not (generally) linguistic items ... theirs is not a linguistic structure. Nor (and this is important) do we assume that their structure matches, reflects or is analogous to any linguistic structure (Cheyne and Pigden 2008: §3),

The temptation to read off the structure of reality from the structure of the language that describes it is a temptation to which philosophers too readily succumb ... Heather Dyke ... calls it the Representational Fallacy [Dyke unpubl.] (ibid.: §4: 255),<sup>68</sup>

while on the other hand they make a categorical assertion such as

<sup>60</sup> “Statements of the form “*a* is *F*” aren’t invariably positive ... nor are statements of the form “*a* isn’t *F*” ... always negative. But it doesn’t follow from the fact that a syntactic test cannot be given that there is nothing to the contrast between positive and negative” (MacBride 2013: §2.1.4.1).

<sup>61</sup> “we cannot distinguish negative propositions from positive ones simply on a logico-linguistic basis ... What is needed is the metaphysical sensibility to tell the difference between things and absences” (Mumford 2007: §6: 327).

<sup>62</sup> “the most problematic class of truths still remains on the agenda, namely true negative propositions. So one may try to restrict (TM) [the truthmaker principle] to the class of positive contingently true propositions. The problem with this strategy is that it seems to be impossible to distinguish positive from negative propositions, in general ... as far as natural language is concerned, drawing a distinction between atomic and non-atomic propositions seems to be as problematic as drawing a distinction between positive and negative propositions” (Rami 2009: §9: 27–28).

<sup>63</sup> “To be a truthmaker theorist is to commit oneself to a principle stating that the members of a certain class of true propositions have truthmakers” (Dodd 2007: §1: 383).

<sup>64</sup> “propositions are mind and language-independent and, hence, eternal and necessary existents” (Dodd 2007: §5, footnote 15).

<sup>65</sup> “Since there cannot be a truthmaker theory that solves the problem of negative truths whilst remaining well motivated, we should give up on truthmaking altogether” (Dodd 2007: §8).

<sup>66</sup> “Restricting Truth-maker to atomic truths might have the desired results in a ... model in which atomic truths are identified with true atomic sentences in a formal language. But it is not clear how to specify this restriction informatively with respect to real-world truths, because it is not obvious which, if any, of them are atomic in their own right, i.e., independently of the ways in which they could be expressed. I suspect that this problem is intractable” (Pendlebury 2010: §3: 140).

<sup>67</sup> “I will maintain my opposition to negative and general facts, but give an improved account of how to do without them” (Pendlebury 2010: §1: 138; §3: 144).

<sup>68</sup> This ‘fallacy’ is akin to what Heil has called ‘linguisticism’, in turn defined as the “tendency to conflate features of descriptions and features of what is described” (Heil 2006: Abstract). Heil credits C. B. Martin for the label ‘linguisticism’ (ibid.: 233, footnote 2).

negative facts are mysterious and metaphysically weird entities ... Positing their existence is to be avoided if at all possible (Cheyne and Pigden 2008: §2)

which is difficult to understand without a certain amount of ‘representationalism’.

Not even Barker and Jago (2012), despite their unwavering acceptance of negative facts, contemplate the possibility that negativeness has something to do with the contingency of our ways of representing them. They make indeed a most valuable effort to counter the general trend, showing the ease with which negative facts can be logically and ontologically handled in their formal theory. However, they do not envisage that there might be other factors involved in what makes a fact appear to be ‘negative’, apart from the inner structure of the fact itself.<sup>69</sup>

The question that emerges before this type of approach is: where is the negativity in the fact that the Arctic is free from penguins? What would happen if English had a word, say ‘cata’, to designate a land free from penguins, and penguins were referred to as ‘characteristic protuberances of the non-cata lands’? ‘Aha’, replies the philosopher of the analytic stance: then the existence of such protuberances would constitute the basic fact which grounded the difference between ‘cata’ and ‘non-cata’ lands, so that the fact that ‘the Arctic is cata’, even thus formulated, would still have the consideration of a negative fact.<sup>70</sup> However, as soon as we delve a little more into this strategy, it falters. What is more basic than what? If a bulb is off, then it is not on. If a bulb is on, then it is not off. Which of the two is the negative fact? If a body is in motion –with respect to a reference frame–, then it is not at rest, and if it is at rest, then it is not in motion. Which of the two is the negative one? Is night the negation of day, or day the negation of night? Is clear weather the negation of rain, or rain the negation of clear weather? Is health the negation of illness, or illness the negation of health? What is there positive or negative in a bulb on, in a bulb off, in a body in motion, in a body at rest, in the day, in the night, in clear weather, in rain, in illness or in health?

A few voices are standing up lately raising similar objections. Thus Parsons (2006), unsympathetic to the way in which Cheyne and Pigden handle their ‘representational fallacy’ diagnosis,<sup>71</sup> denounces as the innocent child before the naked emperor:

what is it for a chair, a person, or a rock to be positive? I have honestly no idea. Whatever sense of ‘positive’ is meant here, it must be different from the unclear, but not totally opaque, sense in which the proposition ‘there are chairs’ is a ‘positive proposition’. The latter has something to do with the representational properties of the proposition in question; but a chair does not represent anything, so it is not positive in that sense (Parsons 2006: §1);

<sup>69</sup> “the negative is just part of ordinary ontological commitment” (Barker and Jago 2012: §1: 117–118); “What differs between negative and positive facts is the kind of non-mereological composition involved” (ibid.: §3: 121).

<sup>70</sup> The idea of using the invented word ‘cata’ to illustrate my position at this point was suggested to me by José López Martí.

<sup>71</sup> “Cheyne and Pigden’s ... ‘Representational Fallacy’ ... is supposed to be the activity of ‘reading off’ the structure of reality from the structure of language. As a good metaphysical realist, I’ve no quarrel with the view that this kind of reading off is, in general, invalid. Alarming, however, they clearly have a much broader notion of what reading off the structure of reality from the structure of language consists in than I do” (Parsons 2006: §3: C).

what could we say to someone who ... insisted that the universe being such that there are no unicorns is a positive fact...? (ibid.: §3: A).

Also Cameron (2008b), citing Parsons in this regard, declares:

What is it for a thing to be positive or negative? I have no idea ... Being positive or negative seems to apply, in the first case, to representational entities such as propositions ... Most things are not representations, so it seems that we can call them 'positive' or 'negative' in a derivative sense at best. So what are the rules? Is an entity positive if it corresponds to a positive proposition and negative otherwise? ... Well if so ... It can't be relied upon ... in an argument meant to show that there's a problem in providing truthmakers for negative truths (Cameron 2008b: §1: 412–413).

The only way to maintain that there is a logical structure inherent to facts themselves appears to be, again, to rely on science<sup>72</sup>: to trust that the day will come in which science decides which facts are more basic than others, which facts are to be represented as positive, and which facts are to be represented as negations (or absences) of other facts. According to such a hope, science will end up designating an ultimate set of basic facts –atomic, or logically simple: facts not composed of other facts–, and starting from them any ordinary fact will be analyzed as a complex combination made up from the basic facts and the logical operators. Just as it was expected in the old times of logical atomism. However, we cannot lose sight of the enormous obstacles that loom over such a view. There is no guarantee, even with respect to a basic duality such as motion and rest, that science will tell us one day that one of the two is logically prior to the other.

As to the rest of 'logically complex facts', it is curious that many authors find some complex facts more acceptable than others. Thus, Russell (1919a) feels more inclined to believe in negative than in disjunctive facts<sup>73</sup>; Armstrong (1997) accepts conjunctions as molecular states of affairs, but not disjunctions or negations<sup>74</sup>; Rodriguez-Pereyra (2002) admits conjunctive facts as truthmakers for conjunctions, but rejects an analogous treatment for disjunctions and existential quantifications<sup>75</sup>; Armstrong (2004) rejects disjunctive and existential facts, but defends universal facts –which he considers a subclass of the negatives– proposing to do without the rest of negative facts in favour of these<sup>76</sup>; Rami (2009) seems much more inclined to accept conjunctive than

<sup>72</sup> "to identify the properties which are of the essentially positive types ... one needs a theory that shows what natural kinds there are ... This theory cannot be formulated on purely *a priori* grounds but would rely on current best science" (Molnar 2000: §1: 73).

<sup>73</sup> "on the whole I do incline to believe that there are negative facts and that there are not disjunctive facts" (Russell 1919a: §3: 46).

<sup>74</sup> "Because disjunctive and negative states of affairs will be rejected, molecular states of affairs are all of them mere *conjunctions* of atomic states of affairs" (Armstrong 1997: §3.1: 19).

<sup>75</sup> "as in the case of disjunctive facts and disjunctions, existential facts –if there are any– should not be postulated as the truthmakers of existential generalisations ... How about conjunctions? The situation here is different ... one may suppose that to account for the truthmakers of conjunctions ... one needs to postulate conjunctive facts" (Rodriguez-Pereyra 2002: §2.2: 37–38).

<sup>76</sup> "All that is required for [disjunctive facts] is a truthmaker for at least one disjunct, and then there seems no need to postulate disjunctive facts in addition. ... It is not difficult to argue that existential facts are not really required. ... I will argue in addition that provided we allow ourselves general facts then no further negative facts are needed among our truthmakers" (Armstrong 2004: §5.2: 54).

negative facts<sup>77</sup>; and Barker and Jago (2012) apply their formal treatment to conjunctive, existential, negative existential and universal facts, but reject disjunctive facts,<sup>78</sup> which Jago (2011) admits.<sup>79</sup>

What passes unnoticed again is the extent to which the apparent logical form of facts is dependent on our linguistic representation –in turn dependent on the history of our cognitive evolution. What makes a fact look negative, conjunctive or existential, is not something inherent to the fact itself, but something that has to do with the fact *and* with the economy of cognitive-linguistic resources that we are using to represent it. The hepatitis that one day was conceptualised as ‘atomic’ (as a simple event, inflammation of the liver) today is regarded as a complex disjunction, depending on the origin of the disease (viral, bacterial, etc., in turn split into other categories).<sup>80</sup> The species of penguins, that we have always seen as a set of individuals, is considered today by some biologists as a single entity, a ‘species as individual’, of which each living organism (each particular penguin) is a mere part. The only way to seek a stable and ‘fundamental’ analysis of the ‘logical form of facts’ would be, once more, to await for the arrival of the final science. However, if we do not want to rely on such a chimerical prospect we will have to hold on to our imperfect, irregular and ever-changing language, which is in turn a reflection of our imperfect, irregular and ever-changing knowledge. Consequently, we will have to accept that the logical structure with which we represent the facts is not inherent to them, but does also depend on the contingency of the ways by which we manage to refer to them on each particular occasion.

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<sup>77</sup> “Negative facts ... cannot be regarded as a serious solution. If we postulate them ... we are only cheating” (Rami 2009: §7: 15); while: “Intuitively, the fact that snow is white and grass is green ... seems a plausible truth-maker for the proposition that snow is white and grass is green” (ibid.: §8: 25).

<sup>78</sup> “we show how to accommodate conjunctive, existential, negative existential and universal facts in the theory” (Barker and Jago 2012: §5: 124); “we do not accept disjunctive facts of any kind” (ibid.: 126).

<sup>79</sup> “disjunctive facts can be obtained with the tools already available to us” (Jago 2011: §6: 44).

<sup>80</sup> “Although ‘Cyril has viral hepatitis’ *may* be logically equivalent to (i.e., have the same truth-conditions as) ‘Cyril has A-hepatitis or Cyril has B-hepatitis’, this is not something that can be established by any lexical, grammatical, or logical analysis of the meaning of the sentence, but at most by empirical research. This research does not uncover a hidden ambiguity in the term ‘hepatitis’ ... Those who used the term ‘hepatitis’ before the discovery of its varieties did not fail to understand the term; they were simply (partly) ignorant about hepatitis” (Mulligan et al. 1984: §3: 299); “might we not consider *selected* disjunctions of universals, and *selected* negations of universals? Might it not be legitimate to account these as universals *if the development of the natural sciences appeared to demand this?* ... No firm thesis is advanced here ... In the spirit of a *posteriori* realism, options about disjunctive and negative properties should be kept a little open” (Armstrong 1997: §3.41: 27–28); “Just as the apparently natural colours turned out to be disjunctive, perhaps one day the spins and charges and masses of modern science will themselves turn out to be disjunctive too” (Melia 2005: §3: 76).

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