

# THE METAPHOR OF LINGUISTIC RELATIVITY

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## Abstract

*‘Linguistic relativity’ has become a major keyword in debates on the psychological significance of language diversity. In this context, the term ‘relativity’ was originally taken on loan from Einstein’s then-recent theories by Edward Sapir (1924) and Benjamin L. Whorf (1940). The present paper assesses how far the idea of linguistic relativity does analogically build on relevant insights in modern physics, and fails to find any substantial analogies. The term was used rhetorically by Sapir and Whorf, and has since been incorporated into a cognitivist research programme that seeks to answer whether ‘language influences thought’. Contemporary research on ‘linguistic relativity’ has developed into a distinct way of studying language diversity, which shares a lot with the universalistic cognitivist framework it opposes, but little with relational approaches in science.*

## 1

Research on ‘linguistic relativity’ has experienced a considerable renaissance since the early 1990s.<sup>1</sup> The aim of this paper is to examine the use of the term ‘relative’ in this context. There are different ways of being a relativist: The physicist studying the relativity of mass is seldom mentioned in the same breath as the philosopher studying the relativity of cultural mores. What kind of relativist are ‘linguistic relativists’?

A spontaneous guess might be that the linguistic relativist is closer to the moral relativism of some philosophers and anthropologists. After all, linguistic relativists obviously share with moral relativists an interest in cross-cultural diversity. Also, a glance at the definitions of linguistic relativity provided by linguistic relativists supports this initial guess:

- (1) “[...] the linguistic relativity hypothesis, the proposal that the particular language we speak influences the way we think about reality.” (Lucy, 1997, p. 291)
- (2) “Do these quirks of languages [the diversity of grammatical categories, JZ] affect the way their speakers think about the world?” (Boroditsky, 2003, p. 917)
- (3) “Every student of society should be familiar with the essential idea of linguistic relativity, the idea that culture, *through* language, affects the way we think [...]” (Gumperz & Levinson, 1996a, p. 1)
- (4) “The linguistic relativity (Whorfian) hypothesis states that language influences thought.” (Hunt & Agnoli, 1991, p. 377)

From these quotes, a clear picture emerges: Researchers studying ‘linguistic relativity’ ask the question ‘Does language influence thought?’, i.e. they explore whether our ‘thoughts’ are relative to (determined by) the ‘language’ we speak. This interpretation of relativity seems perfectly consistent with one everyday use of the adjective ‘relative’, one which suggests that people’s judgments, values, or knowledge differ depending on their ‘point of view’, i.e. their social or cultural situation. In this sense, the term ‘relativity’ was already used by Romantic poets such as Samuel Taylor Coleridge in the early 19<sup>th</sup> century. It is also this meaning of relativity that lies at the heart of moral relativism, according to which the morality of an action depends on its relation to a ‘moral code’ (Boghossian, 2006).

But why then the consistent talk of *linguistic relativity*, as opposed to *relativism*?<sup>2</sup> When Sapir and Whorf introduced the term ‘relativity’ into the study of language diversity, they indeed more or less explicitly claimed an analogy between the principle of relativity in physics and ‘linguistic relativity’. Thus, Sapir, after illustrating various grammatical categories that would need to be taken into account to talk about a ‘falling stone’ in a variety of languages, concludes:

- (5) "The upshot of it all [of mentioning further examples of language diversity] would be to make very real to us a kind of relativity that is generally hidden from us by our naive acceptance of fixed habits of speech as guides to an objective understanding of the nature of experience. This is the *relativity of concepts* or, as it might be called, the *relativity of the form of thought*. It is not so difficult to grasp as the physical relativity of Einstein nor is it as disturbing to our sense of security as the psychological relativity of Jung,<sup>3</sup> which is barely beginning to be understood, but it is perhaps more readily evaded than these." (Sapir, 1949 [1924], p. 159, italics added)

And Whorf, sixteen years later, maintained:

- (6) “We are thus introduced to *a new principle of relativity*, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated.” (Whorf, 1956 [1940], p. 214, italics added)

Given this lineage of the term, we might expect that the idea of linguistic relativity is, after all, an analogy from physics rather than from philosophy. This expectation also seems to be supported by the fact that linguistic relativists share certain foundational assumptions with their main academic sparring partners, universalistic cognitive psychologists. For example, it is common in Psychology to make a distinction between cognitive processes, which are thought to be universal, and the contents of thinking, which are local. The distinction between ‘thought’ and ‘language’ in contemporary linguistic relativity research is a variation on that theme: On the one side, we have ‘thought’ as something that would in principle be getting on fine if it was left well alone by ‘language’ and other ‘influences’; on the other side, we have ‘language’ as a collection of ‘quirks’ (see the quote from Boroditsky (2003) above). This distinction allows the relativist (as well as the universalist) to continue subscribing to the ideal of an ultimate ‘rock bottom’ psychic unity of mankind.<sup>4</sup> In other words, the linguistic relativist is not interested in sharing in the bad press of

moral relativism: she (or he) is convinced that there are universal truths ‘underlying’ the local contingencies.

## 2

What kind of metaphor, then, is ‘linguistic relativity’? Has this idea been elaborated in analogy with relativity in physics, or in analogy with ‘relativism’ in philosophy? Clearly, a ‘linguistic relativity’ understood in analogy with physics would suggest a perspective on language diversity that is at odds with relativism – after all, Einstein was hardly a post-modernist. The new contribution of Einstein’s theories of relativity was not to point out that measurements are relative to the frame of the measuring device. This would not have been big news in physics. The fundamental new insight that Einstein’s promotion of such relativity to a general principle made possible was that order is to be found in invariant *relations*, rather than on the ‘surface’ of changeable entities.

Possible analogies between the principle of relativity and aspects of human psychology have on occasion been explored by physicists (Bohm, 2008 [1965], see the appendix on ‘physics and perception’; Born, 1962; see also Costall, Sinico, & Parovel, 2003). Drawing on the work of Gibson, Bohm (2008 [1965]) notices the importance of invariants in relations for identifying order and meaning in both physics and perception research. Rather than merely being a passive process of ‘receiving’ sensations, perception requires an active encounter with the world, and a ‘grasping’ of invariant relationships between the ‘outgoing’ explorations of the body and the ‘incoming’ sensations. According to Bohm, understanding at all levels of complexity retains this perceptual quality: “In science the process [of grasping invariant relationships] depends strongly on collective work, involving contributions of many people, and in immediate perception it is largely individual” (Bohm, 2008 [1965], p. 275).

Applying the Einsteinian principle of relativity to the study of human Psychology opens a perspective onto the order, the meaning that exists within the diversity by moving the focus from abstract categories to invariant relationships in the world. In relation to the study of language, this would mean a move away from lexical and grammatical categories to the meanings that are communicated in (verbal) encounters with others. On the continuum opened up by Bohm, such verbal encounters leading to linguistically mediated understanding occupy a position intermediate between scientific understanding and immediate perception: The natural arena for verbal understanding is ‘talk-in-interaction’ in a small group of people (Clark, 1996), distributed over longer stretches of time than those required for acts of immediate perception, but shorter ones than are required for scientific understanding. From a relational point of view, the meaning of a linguistic construction would be the invariant relationship between the use of that construction and what happens next. In sum, applying Bohm’s view to language would give the term ‘linguistic relativity’ the following reading: the meaning of an utterance is relative to the utterance that came before it. In sum, talk of linguistic relativity along these lines would lead us to a Wittgensteinian, rather than Lockean, view of meaning: Linguistic meaning exists within social activities, rather than in associations between forms and mental representations (Cook, 1978a, 1978b). Any significance of language diversity might then be best observed in situations where the achievement of intersubjectivity is linguistically mediated: Since every utterance puts constraints on what can expectably come next (e.g., Schegloff, 2007), differently structured utterances might set different

constraints. But of course, on this reading ‘linguistic relativity’ would not at all be (primarily) about mapping and accounting for cross-cultural diversity. As in Einstein’s usage, it would be part of a story that aims to understand the *order* that exists within the diversity.

Evidently, such a perspective on meaning plays no role in current research on ‘linguistic relativity’. The significance of language diversity is sought in situations in which persons on their own try to categorise, recall, recognise, or infer something. Instead of a relational perspective, the leading question ‘does language influence thought?’ provides a uni-directional perspective on the abstract categories: ‘language’ and ‘thought’. How has the term ‘relativity’, taken into discussions of language diversity on loan from physics, come to have such broad success as the label of a research approach that shares preciously little with its metaphorical source concept?

### 3

We might ask what use Sapir and Whorf themselves made of the analogical potential of ‘linguistic relativity’? Few researchers have addressed this question.<sup>5</sup> Those who have (Alford, 1981; Heynick, 1983), have come to the conclusion, in Alford’s words, that Whorf’s relativity is indeed Einstein’s relativity.

Heynick (1983) bases this assessment on the analogy between the relativity of physical measurements to the frame of the measurement device, and the proposed relativity of concepts to the speaker’s ‘linguistic frame’. While this seems correct as far as it goes, the observation that measurements depend on the frame of the measuring device does not go to the heart of the Einsteinian concept of relativity, as pointed out earlier. Alford’s (1981) assessment that Whorf was talking about relativity in Einstein’s sense is based largely on the observation that Whorf, like Einstein, wrote about a *principle* of relativity, rather than, as later researchers have done, about a relativity *hypothesis*.<sup>6</sup> Again, this parallel is beyond doubt; however, the important question is what Whorf made of this principle. Einstein used it to shift the focus in the search for the order of the universe onto invariants in *relations*. An analogical move in the study of language would lead us to consider meaning as existing in the invariant relationships between an utterance and what happens next, a move that has been made (if not using the term ‘relativity’) by scholars such as Mead (1934) and the late Wittgenstein (1953), or, more recently, in Conversation Analysis (Schegloff, 2007). Clearly, this is not what Whorf (or, for that matter, Sapir) had in mind. Whorf’s view of meaning is detached, rather than relational. Consider the broader context of the section in which Whorf introduces his principle of linguistic relativity (quoted earlier):

- (7) “We *dissect nature* along lines laid down by our native language. The categories and types that we isolate from the world of phenomena we do not find there because they stare every *observer* in the face; on the contrary, the world is presented in a kaleidoscope flux of impressions which *has to be organized* by our minds — and this means largely by the *linguistic systems of our minds*. We *cut nature up*, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way — an agreement that holds throughout our speech community and is codified in the patterns of our language [...] all *observers* are not led by the same physical evidence to the same *picture of the universe*, unless their linguistic backgrounds are

similar, or can in some way be calibrated.” (Whorf, 1956 [1940], pp. 213-214, italics added)

The term ‘observer’ – another loan from physics – is integrated here into an epistemology according to which understanding requires the re-presentation of the world in the mind, which is not itself part of the world: ‘Observing’ the world, the mind ‘organises’ it into a ‘picture’. This organisation is achieved by ‘dissecting’ and ‘cutting up’ nature, and language supposedly provides this service. Thus, the ‘picture’ in our heads is organised by the ‘linguistic systems of our minds’. Whorf’s quote reads like a somewhat arcanelly formulated exposition of the basic tenets of cognitivist psychology.<sup>7</sup> Given these tenets, it seems understandable that psychologists would have felt encouraged to use Whorf’s principle to formulate the hypothesis that they have: ‘Language influences thought’.

Another loose analogy to be found between Einstein’s relativity on the one hand, and Sapir and Whorf’s on the other might be the ‘topic domain’ of relativistic work in both cases. The consequence of the special theory of relativity that has had the strongest resonance in the public imagination relates to the contraction of duration and length at speeds close to the speed of light. Similarly, in a loose sense of the word, the examples discussed in the relevant papers by Sapir and Whorf illustrate different ways of talking about ‘time’ and ‘matter’ across languages.<sup>8</sup> As mentioned earlier, Sapir (1949 [1924]) contextualises the idea of the ‘relativity of the form of thought’ with an extensive discussion of grammatical categories that need to be considered to talk about the observation that in English could be expressed in the sentence “The stone falls”. In some languages, no distinction would need to be made between ‘the stone’ and ‘a stone’. On the other hand, many languages would require a gender to be assigned to the stone. In the North American Indian language Nootka, the observation would not need to be expressed using two separate word classes – a noun and a verb. Instead, both the stone quality of the object, and the fact that it is falling, would be conveyed by a verb; and so on. It is curious that researchers from Sapir on have considered perceptual scenes faced by an individual to be the main arena in which language diversity might matter. This does not seem to tally with the experiences of people living in several languages. People living multilingual lives have written about the different ways in which events unfold when they interact in different languages, and about the different emotional qualities of encounters in different languages (for an overview, see Wierzbicka, 2004). They have not written about stones falling in different ways when they speak different languages. As indicated earlier, a relativistic approach (in the Einsteinian, or maybe the Bohmian sense) to the significance of language diversity would focus on the role language plays in real-time encounters, and not on the use of language as a ‘tool’ for classifying the world from a detached observation point. The common research focus on language as a tool for observation might be related to the detachment of the researchers themselves from the languages they are studying. It is certainly related to the representationalist, Lockean, assumption that meaning is a matter of ‘ideas’ in the mind, and the strong hold that that fundamental assumption has over both universalists and (Whorfian) relativists (Cook, 1978b).

Both Sapir (1949 [1924]) and Whorf (1956 [1940]) were originally published for non-specialist audiences – in *The American Mercury* and the MIT’s *Technology Reports*, respectively. It seems plausible that the allusion to Einstein’s concept of relativity in these publications also needs to be understood as rhetoric: The targeted readers might not have found it obvious that the study of language diversity is a

worthwhile academic pursuit. Indeed, Sapir (1949 [1924], p. 150) begins his article by extensively characterising the “normal man of intelligence” who “has something of a contempt for linguistic studies, convinced as he is that nothing can well be more useless”. He is evidently concerned that “[t]he man who is in charge of grammar and is called a grammarian is regarded by all plain men as a frigid and dehumanized pedant.” Alluding to the famous, relatively recent findings in physics would have seemed appropriate to give the poor grammarian a well-deserved break.<sup>9</sup>

#### 4

It seems fair to say that the analogies between the use of the concept of relativity in physics and its use by Sapir and Whorf are quite superficial. Sapir used the association to lend some weight to the study of language diversity. Whorf used it to lend some weight to a research program that sought to emphasise the viability, or even superiority, of non-Western cultural concepts.<sup>10</sup>

Of course, the metaphorical use that is made of a concept is not determined by its use within its original domain. Rather, the use that is made of a metaphor depends on how it can be integrated into the established sets of practices, and ways of thinking, existing within the ‘target domain’.<sup>11</sup> After Sapir and Whorf, work framed as addressing ‘linguistic relativity’ has mainly been published in (cognitive) psychological journals (Brown & Lenneberg, 1954; Davidoff, 2001; Hoffman, Lau, & Johnson, 1986; Levinson, Kita, Haun, & Rasch, 2002; Li & Gleitman, 2002). The loose use of the term ‘relativity’ by both Sapir and Whorf, and the ‘cognitivism’ of Whorf’s imagery, have provided for an easy travel of the term towards its contemporary usage. This contemporary usage involves a distinction between ‘language’ and ‘thought’ as clearly separated ‘variables’. This separation is an obvious necessity, if the question to be addressed is ‘Does language influence thought?’.<sup>12</sup> Ironically, by splitting thinking and speaking into separate ‘variables’, cognitive-psychological relativists have revived a tradition that Boas (1966 [1911]) had influentially argued against: the study of language diversity as the attempt to correlate linguistic categories with non-linguistic categories. Boas’ argument had been an important context for Sapir’s work, and the clear separation of ‘language’ and ‘thought’ in current work is not found in the context in which Sapir writes about the ‘relativity of the form of thought’.<sup>13</sup> The term ‘form’ in Sapir’s phrase is not meant as a metaphor in the sense that language would ‘shape’ pre-existing thoughts. Instead, it refers to the actual material forms of each given language, which a speaker has to ‘feel’ his way into in the process of thinking (Sapir, 1949 [1924], p. 154). As Cook (1978a; 1978b) shows with respect to Whorf’s work, the fundamental idea of these early linguistic relativists was not that language ‘influences thought’, but that each language constitutes a metaphysics of its own.

Its intricate career path has led ‘linguistic relativity’ to provide the label for a research programme characterised by a focus on correlations between abstract categories that not only distinguishes it from the thinking of presumed precursors such as Humboldt, Boas, or Sapir, but that is also pre-relativistic – in the Einsteinian sense. Therefore, the recent literature on ‘linguistic relativity’ has not simply *renewed* interest in questions of language diversity; rather, it has transformed these interests into a distinctly cognitivist pursuit, which adopts a representationalist view of meaning as well as the distinction between cognitive ‘process’ and ‘content’, and thus shares many of the foundational assumptions of the universalist framework it opposes.

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## Note

<sup>1</sup> Landmark publications are Lucy (1992) and Gumperz and Levinson (1996b). The ‘landmark’ quality of Lucy’s publication and the conference leading eventually to the Gumperz and Levinson volume was indicated at the time by Koerner (1992).

<sup>2</sup> The term ‘linguistic relativism’ is used occasionally, but mainly by authors who are sceptical about the idea (e.g., Cook, 1978a; Cook, 1978b).

<sup>3</sup> Sapir does not mention that Jung’s use of the term ‘relativity’ was itself a play upon Einstein’s concept.

<sup>4</sup> These deep parallels between contemporary ‘linguistic relativity’ and universalist, Chomskyan linguistics and psychology are most clearly embodied in the work, and person, of Eric H. Lenneberg. While Lenneberg is best known for his work on ‘the language acquisition device’ with Chomsky and Miller, his earlier work addressing (and finding support for) ‘linguistic relativity’ in the domain of ‘color codeability’ (Brown & Lenneberg, 1954; Lenneberg, 1953) has remained an important reference (e.g., Kay & Kempton, 1984). The compatibility between both research programmes is also discussed by Bennardo (2003).

<sup>5</sup> Some reviewers of Whorf’s work put the term into quotation marks (Black, 1959; Hill & Mannheim, 1992), indicating that its applicability to the study of language diversity is not self-evident.

<sup>6</sup> Carroll (1956), in the introduction to his edited volume of papers by Whorf, already rephrases Whorf’s ‘principle of relativity’ as the ‘Sapir-Whorf hypothesis’ – and later contributions introducing the topic into Psychology have never looked back (e.g., Brown & Lenneberg, 1954). On the difference between ‘principles’ and ‘hypotheses’, see also Lee (1994).

<sup>7</sup> Edwards (1997) reaches a similar conclusion about Whorf’s work.

<sup>8</sup> Currently, too, the empirical research programmes on ‘linguistic relativity’ that have had the largest impact within Psychology have been concerned with ‘space’ and ‘time’: with ways of talking and thinking about the location of objects (e.g., Majid, Bowerman, Kita, Haun, & Levinson, 2004) and about the succession of events (e.g., Boroditsky, 2001).

<sup>9</sup> Of course, the contemporary choice of the term ‘relativity’ over ‘relativism’ might also be to some extent motivated by such “PR” considerations. After all, psychologists want to be seen as scientists, and ‘relativity’ surely has better connotations in that respect than ‘relativism’.

<sup>10</sup> Funnily, for un-relativistically enough, Whorf made the argument that the Hopi concepts of time are *better*, more in keeping with the true nature of time, than the ‘Standard Average European’ ones. Rollins (1972) argues that Whorf’s (positive) value judgments about Hopi derive from his wish to criticise the scientific and technological progress of the Western world, grounded in his theosophic background.

<sup>11</sup> Cf. Gigerenzer and Goldstein’s account of the development of the computer metaphor of mind in Cognitive Psychology (Gigerenzer & Goldstein, 1996).

<sup>12</sup> This argument has been made in some detail by Lenneberg (1953), Lucy (1992), and Levinson (1997).

<sup>13</sup> In his later papers, starting from the end of the 1920s, Sapir did use formulations which suggest a distinction between a linguistic 'surface' and 'underlying' non-linguistic concepts. This perspective seems to have developed from Sapir's study of the philosophy of language of Carnap and the Vienna Circle. According to Joseph (1996), Sapir embraced this work as a new way of framing the importance of linguistics as an academic discipline that could replace the discredited Humboltian perspective with its value judgments of different languages.

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