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Philipp Frank's Relativism: Presentation, Appreciation, and Critique

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Philipp Frank's relativism: presentation, appreciation and critique.

In his 1950 *Relativity: a Richer Truth*, Philipp Frank promotes a generalized “relativism”, or “doctrine of the relativity of truth”, requiring the specification of the meaning of the terms used in the statements one makes (their “relativization”), not only in physics but also in ethics, politics or everyday experience. This is achieved by providing the “frame of reference” relative to which the terms (and consequently statements) are expressed and on which their truth in fact depends, in analogy with Einstein’s (special) theory of relativity. He grounds this application of the concept of relativity outside physics on his empiricist interpretation of Einstein’s theory, together with a pragmatic and operationalist theory of meaning, which insists on the qualification, and thus relativity, of particular statements. Frank’s interpretation of relativity (both within and outside physics) is fully understandable not only because of his logical empiricist stance, but also given his fight against philosophical misinterpretations of the theory of relativity, as well as against political totalitarianism. It also has particularly convincing features. Still, Frank’s interpretation of relativity in physics is debatable, since Einstein’s theory could just as well be read as a defense of absolutism. What is more, his application of relativity to ethics and politics is disputable, as it allows for a kind of moral relativism.

Keywords: Philipp Frank; relativity; relativism; absolute values; operationalism.

1 Introduction

1.1 Presentation

A prominent member of the Vienna Circle, Philipp Frank gathered in his short book *Relativity – a richer truth* (1951b)¹ his interventions between 1940 and 1947 at the annual “Conference on Science, Philosophy and Religion” (CSPR), which took place every year between 1940 and 1951 in New York City². According to Frank, this Conference originated in the wide-spread belief (apparently shared by some members of the Conference itself³) that the political and moral breakdown of the West in the face of totalitarian ideologies during World War 2 had to do with “agnostic and sceptical attitudes – a disbelief in absolute values” or a “relativism”⁴ intrinsically associated with science (p. 11). On the contrary, Frank’s contributions to the Conference intend to show that the “‘relativism’ [of science] has not the slightest thing to do with agnosticism or scepticism, that *it is in no way hostile to the belief in ethical or democratic values*, that it is accompanying every advance in science and is nothing but a significant representation of the enrichment of human expression which is inseparably connected with our gradually increasing experience” (p.

¹ Hereafter *RRT*. There is a German edition of the book entitled *Warheit – Relativ oder absolut?* (Frank 1952), whose title better illustrates the content of the book, as Bloor (2011, p. 429) remarks.

² For an introduction to the historical context of this conference, as well as to Frank’s book and work, see Nemeth (2003; 2010), Reisch (2005, pp. 220–24, 311, 316, 362, 379)(2017) and Siegetsleitner (2014, pp. 251–64)(2017). All page numbers without reference will refer to *RRT*.

³ See Frank’s remark on p. 12: “[...] the Conference was about to jump ‘out of the frying pan into the fire’. I saw that the fight against ‘relativism’ could easily degenerate into a fight against the spirit of modern science.” For a critique of some anti-scientific opinions held in this Conference, see Nagel (1943).

⁴ More about these terms below.

12)⁵. To do so, Frank's book mainly provides a "doctrine of the relativity of truth" based on his interpretation of the concept of relativity in physics, but which he also applies to domains other than science, namely morality, politics and everyday life⁶. The concept of relativity is thus central to the book (as its title suggests), but the book also provides insights into other (although related) aspects of Frank's philosophy, most notably his endorsement of (logical) "positivism" and of the "operational" and "pragmatic theory of meaning"⁷. *RRT* is the main locus where Frank explicitly presents and promotes his peculiar version of relativism, although there are a few other places where he does so (1946; 1949, pp. 52, 230 sqq.)⁸, as well as rare passages where he does it less clearly and more implicitly (1957b, pp. 143–44, 155), or indirectly by endorsing the "relativism" of other authors such as Poincaré or Mach (1949, pp. 9, 17).

RRT has been studied in several books and articles (see the references mentioned in footnote), which provide a good historical overview of it. However, a detailed systematic account of Frank's relativism, and in particular of its weaknesses, is still lacking. Ignoring *RRT*, Uebel (2000, p. 149) even claims that Frank is not a relativist (in the sense of the Strong Programme of the sociology of scientific knowledge (Bloor 1976)): this is understandable since, apart from the above-mentioned few instances, Frank's work does not display any relativism, but rather attempts to (rationally, or rather *scientifically* in the large sense of science) justify the choice of scientific theories by having recourse to extra-scientific (in the strong sense of the natural sciences) factors (see §§ 3.2 and 4). Similarly, Howard (2003, p. 78) argues that Frank's "holistic, underdeterminationist variety of conventionalism provides a robustly empiricist, nonrelativist understanding of the role of social factors in theory choice, one in which theory choice is constrained by evidence—but not up to the point of uniqueness— leaving a space within which both the freely creative imagination of the scientist and social factors can play a role". On the contrary, directly denying Uebel (2000)'s claim, Bloor (2011, p. 428) calls Frank a "relativist", and fully endorses his conception. Bloor (2011, ch. 10) gives a brief and fairly well-informed account of Frank's relativism as expressed in *RRT*, and interestingly uses it to support his thesis of a relativistic understanding of aerodynamical knowledge in its historical development between the Cambridge and Göttingen schools. There are, however, inaccuracies in Bloor's account, and he does not criticize Frank's view. Indeed Bloor insists (p. 429) on Frank's claim that there are no "absolutist", in the sense of non-revisable, claims in science,

⁵ Frank (1949, p. 52) summarizes *RRT* by denying that the "'relativism' of modern science" would have been harmful to the establishment of objective values in human life. "[In *RRT* he] made an argument to prove that the 'relativism of science' has also penetrated every argument about human behavior. 'Relativism' is not responsible for any deterioration of human conduct. What one calls 'relativism' is rather the attempt to get rid of empty slogans and to formulate the goals of human life sincerely and unambiguously."

⁶ Frank (1949, pp. 230 sqq.) also mentions the "doctrine of the 'relativity of truth'", which "seemed therefore to some people a 'social danger', since it might contribute to a disbelief in the 'absolute values' of ethics."

⁷ Although it is studied throughout the book, the concept of relativity is mainly addressed in the first part. The second part mainly deals with other (although related) considerations, most notably: the shortcomings of the US educational system and its responsibility in bad interpretations of modern science, which are to blame (according to Frank) on its failure to integrate the sciences between themselves, and with philosophy.

⁸ Strangely, Frank (1949, p. 52) endorses "'relativism'" and "'the relativism of science'" (with quotation marks), just after including the "relativistic" interpretation of science – along the "idealistic" and "materialistic" ones – in the "metaphysical interpretations of science" (p. 51). He seems to oppose two acceptations of relativism: a metaphysical, wrong one; and his own.

although this is not the main point of the book – which is about the contextualization of the claims. Similarly, Bloor somewhat strangely and inaccurately summarizes Frank’s relativism as the view according to which “[scientific knowledge] is relative to whatever causes determine it. There are as many ‘relativities’ as there are causes. That is the point: knowledge is part of the causal nexus, not something that transcends it.” (p. 430).⁹

In this article I will first present Frank’s relativism or “doctrine of the relativity of truth”, before appreciating and criticizing it in a second part. In the first part I will show how Frank’s relativism basically is about specifying the meaning of the terms used in the statements one makes, which amounts to specifying the “frame of reference” relative to which their truth holds. In the second part I will show that Frank’s attempt to defend relativism on the basis of the (special¹⁰) theory of relativity is unconvincing, since Einstein’s theory could just as well be read as a defense of absolutism. I will also criticize the moral relativism which Frank derives from his “doctrine of the relativity of truth” and advocates, and claim that certain moral demands are true without any further relativizing qualifications. This will lead me to conclude on the limits of Frank’s application of physical concepts such as relativity to other, non scientific, domains (such as morality and politics).

1.2 Preliminary remarks

Before going into the details of Frank’s conception, let me make some preliminary remarks.

First, it is tempting to consider these rare instances of Frank’s relativism as inspired by Einstein’s theories of relativity (which Frank knew very well indeed), but one should not forget the properly interpretational elements of Frank’s philosophy of science (especially his operationalistic conception of the theory), which favour such a relativistic reading, as we shall see (§ 3.3) – in contradistinction to *e.g.* Cassirer (1921) who would insist on the invariant features of the theory, in conformity with his idealistic and top-down approach, as it were (Stamenkovic 2015, 2017).

Second, one must keep in mind that *RRT* (gathering Frank’s contributions to the CSPR) is dedicated to a large public. This may explain Frank’s rather loose use of expressions such as “relativism”, “agnosticism” or “skepticism” (see §§ 2.1.1 and 2.2.4). However, this should not prevent us from thoroughly analyzing it: a good popularization book should not distort the opinions which its author expresses in other, more academic, settings¹¹ – in particular in the case of such an important venue as the CSPR. Besides, Frank also expresses the same

⁹ Bloor (2011, p. 428) also interprets Frank’s (1956b) paper on *The Variety of Reasons for the Acceptance of Scientific Theories* as a further illustration of Frank’s relativism, fully endorsing the utilitarian conception of scientific theories displayed by Frank there – for whom the latter have either a “technological” or a “sociological” purpose (p. 16), and the compromises between their various properties when deciding which one to accept are presented as akin to those made while choosing between the various properties of an aircraft while building it. However, what Bloor does not say is that although Frank recognizes that theories are underdetermined by evidence (making talk of “the [unique] truth” of a theory irrelevant (p. 14), and providing grist for his instrumentalist mill) and that there is no “perfect simplicity” of a theory (p. 3), Frank nonetheless ultimately aims at justifying the choice of scientific theories by extra-scientific (in the strict sense, *i.e.* political, moral or religious) factors, thanks to the “general science of human behaviour” he is envisioning, and which is supposed to incorporate the sociology of science (p. 18).

¹⁰ The only one P. Frank (1951b) mentions. P. Frank (1957b, p. 155) also refers to the general theory of relativity.

relativism in other, more academic places, as noted above. *RRT* is clearly the most detailed account of his relativism, and therefore justifies a thorough analysis.

Finally, and more importantly, taking into account Frank's previous work, as well as the historical context of the CSPR, will help better understand Frank's relativism as expressed in *RRT*, by showing his long standing fight against philosophical misinterpretations of physical theories (and in particular Einstein's theories of relativity), as well as his critique of totalitarian ideologies and political absolutism. However, it is not my purpose here to write a historical article, and I will only provide a short contextualization in the discussion section. I think that one should be allowed to criticize philosophical positions and test their normative power outside their historical setting, although this may imply anachronism to some extent.

2 Frank's relativism

2.1 The "doctrine of relativity of truth"

2.1.1 Relativism, relativity of truth and science

Why has the relativism of science led to "the disbelief in absolute values", as Frank diagnoses in the introduction of *RRT*? Frank first mentions "a definite attitude of mind [which] has arisen" since the 16th century, "in science as well as in its application to human conduct", which "refuse[s] to take anything for granted":

Essentially the new attitude does not believe in statements the truth of which, once established, can be trusted for ever. This attitude has been called positivism, pragmatism, relativism, operationalism, and so on. (pp. 19-20)

This sentence shows the composite (and simplistic, according to Toulmin 1951) nature of *RRT*, which associates relativism with positivism, pragmatism and operationalism. Note that here Frank mentions the revisability of statements, not their contextualization – which is in fact the main point of *RRT*, as we shall see. According to Frank, this attitude, "based upon the methods of science", has been "instrumental in human progress", in "thought" as well as in "life" (*ibid.*).

Note that Frank uses the expressions of "relativism" and "the (doctrine of the) relativity of truth" synonymously. Indeed, relativism about truth can be considered as a generalized relativism from which other forms of relativism (such as epistemic or moral relativism) derive (see § 3.2). Frank explicitly states that the relativity of truth plays the same role in ethics and in science: namely it enables to qualify general (scientific or ethical) principles by operational definitions (see *e.g.* p. 48). Note also that relativism seems to ground, as well as to exceed, science, in so far as it lies at the basis of the "scientific attitude", but also of "liberal Christianity and reformed Judaism", which are "offsprings of the 'relativity of truth'" (*ibid.*).

¹¹ Indeed Toulmin's (1951) somewhat condescending characterization of Frank's book as "logical empiricism told to children" should not be taken at face value, as Reisch (2017, p. 236) remarks (see § 3.1).

Finally, note that Frank does not seem to fully endorse these expressions of “relativism” and “relativity of truth”, as his repeated use of quotation marks and of the expression “so-called ‘relativism’” (e.g. pp. 12, 20) show. However, he does place relativism at the basis of the “scientific attitude” (e.g. p. 21): thus, apart from the right choice of word, relativism is indeed a fundamental concept for him. In his (1949) *Modern Science and its Philosophy*, the word relativism without quotation marks is used pejoratively (e.g. to qualify the attitude of the Catholic Inquisition p. 91), and positively with quotation marks (to qualify his own conception, of his forthcoming *RRT* p. 52). According to Bloor (2011, p. 430), the quotation marks of the expression “relativity of truth”, symmetrical of those of “absolute truth”, may indicate that Frank was conscious that both were “meaningless pseudopropositions”: “absolute truth” would be meaningless for a positivist like Frank, and relativism, if taken as the negation that there are any absolute truths, would also be meaningless (as the negation of a meaningless proposition).

2.1.2 Relativization of statements

In general, the “relativity of truth” applies to any statements, and is implemented by their “relativization” or “qualification”, i.e. the specification of the meaning of the terms used in them. Equivalently, it requires the specification of the “frame of reference” (p. 27) relative to which they are expressed and on which their truth in fact depends. To illustrate this, Frank (p. 23) explains how the meaning of the words “above” and “below” has changed since the discovery of the antipodes (now formulated with respect to gravity in a specific framework). In order to have a “definite meaning”, the statement “my head is above my feet” must be completed by a “qualification” which specifies the gravity considered at a specific place: my head is above my feet relative to the gravity at my place, or my feet are above my head relative to the gravity at the place of my antipodes.

This process of relativization applies to moral statements as well. Thus a statement like “John is wicked” has no precise meaning until it has been qualified, i.e. until it has been supplemented by adequate specifications (see part I, ch. III). For a young child it may just mean that he does not obey his parents, but as soon as he goes to school it may also mean that he does not obey his teacher. What is more, the child’s parents may be criminals, in which case it is obeying them which is wicked. One might be tempted to turn to a “higher authority”, like the chief of the nation, but he himself may be a criminal. Ultimately, one may want to equate “being wicked” with “being disobedient to the supreme authority”, but the latter might be God’s will (which needs to be interpreted, according to a method which needs to be specified), a supreme ethical law (like Kant’s categorical imperative, which has “hundreds of interpretations”) or the voice of our own conscience (in which case the statement must indicate the way to test it)... In the end, it is impossible to assign any definite meaning to a simple, unqualified statement like “John is wicked” without further specification¹². Thus no “absolute truth” in the sense of an “unqualified truth” can be obtained (p. 28).

¹² “For if we want to know whether or not in a particular case a particular John is ‘wicked’ we have to find out whether or not he was actually obedient to God’s will or to Kant’s imperative.” (p. 28).

2.1.3 Relativization in physics

Concerning the relativization (or qualification) of the notions of rest and motion, the history of science (starting with Galileo and Newton) shows that it became increasingly clear that they had no meaning if we did not specify a frame of reference relative to which our statements were to be understood. Furthermore, in Einstein's (special) theory of relativity, "we learned of the contraction of yardsticks by motion, the slowing of the rate of clocks by motion, and so forth" (p. 29). This, of course, refers to length contraction and time dilation according to the state of movement of the observer. More precisely, because of the

Lorentz transformations one can write, with $\gamma = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}} > 1$, v being the relative velocity

between an observer (measuring an object) and the object¹³: $L = L_0/\gamma$, where L is the length of the object observed by the observer in motion relative to the object and L_0 is the proper length of the object (the length of the object in its rest frame). Similarly, if the object under consideration is a clock, $T = \gamma T_0$ expresses the fact that the observer's period of the clock T is longer than the period T_0 of the clock in its own resting frame (meaning that time passes more slowly for the observer than for the clock).

Therefore the result of any measurement of length or time is ambiguous unless we know the motion of the yardstick and the clock which have been used to carry out this measurement. A plain statement such as 'this table is three feet long' is now incomplete and, therefore, meaningless. For this statement does not contain the description of the motion of the yardstick used. We have to replace this meager statement by a richer one. Its form has to be: 'This table is three feet long measured with a yardstick which is at rest with respect to this room.' The same fact can be expressed more briefly by stating: 'This table is three feet long relative to this room.' In this sense we say that 'length' has been 'relativized' by twentieth-century science. (p. 30)

Thus, this process of "relativization" or "qualification" does not imply a weakening of objectivity, on the contrary: things are more precisely described, and once the appropriate frame of reference is specified, the statement becomes "a definite assertion" (p. 30). To use a Kantian parlance (as Nemeth 2003, p. 121 does), we might thus say that relativization *constitutes* objectivity.

What is more, relativization also represents an enrichment of the description of scientific facts. As the theory of relativity illustrates, the history of science shows a characteristic trend of "more and more additions and qualifications in the description of [the] facts" continuously discovered (p. 29). This relativization trend leads to an enrichment of the language we use to describe facts: "[r]elativism means the introduction of a richer language which allows us to meet adequately the requirements of an enriched experience" (p. 30). In

¹³ Note that both relations (length contraction and time dilation) are symmetric, *i.e.* they keep the same form whatever the point of view taken (of the object at rest and the observer moving, or the converse), precisely because of the principle of relativity (according to which the laws of nature have the same form in all inertial reference frames). Thus there is no need to specify that the observer is at rest and the object moving, or the converse: what matters is the relative speed v between them. But the length contraction takes place only in the direction of the movement, *i.e.* if both L and L_0 are measured parallel to the direction of the vector v .

Note also that Frank makes a confusion in his example on p. 46: the table should be the longest (5 feet), *i.e.* should have its proper length, in its rest frame which is the Earth, and should be shorter (3 feet) in the reference frame of the stars which is moving relative to the earth.

this way, relativism enables to take into account the complexity of natural as well as human situations with a sufficiently rich language: “[...] this so-called relativity of truth is nothing more and nothing less than the admission that a complex state of affairs [whether natural or human] cannot be described in an over-simplified language [whether scientific or ordinary]” (p. 52).

2.2 Relativism in ethics

Since the “relativity of truth” is not opposed to, but on the contrary constitutive of objectivity, Frank extends this theoretical reasoning to the moral realm: “Since the doctrine of the relativity of truth does not imperil the ‘objectivity of truth’, it is hard to understand how the ‘relativism’ of twentieth-century science could shock the belief in the ‘objectivity of human values’.” (p. 47). Let us see how he proceeds.

2.2.1 Two kinds of values

Frank proposes to distinguish between two kinds of values¹⁴. Since his text is somewhat unclear¹⁵, it is worth quoting it at length:

On the one hand we speak of the value of specific institutions, of a specific way of life, e.g. the value of parliamentary representation, of income taxes, of art museums and so forth. On the other hand, we speak of certain general principles as ‘values’, for example, the value of freedom, of religion, of democracy and so on.

Speaking in the first sense we may say, for instance, that we like a general atmosphere of tolerance, of equal opportunity for everybody independent of race, creed and wealth, etc. These ‘values’ are recognized by a large group of people and it is hard to understand how the doctrine of the ‘relativity of truth’ could make these people change their preference. For the belief in these values is not based upon some abstract principle, it is not based upon whether it is possible to deduce them from a small number of hypotheses in a logical way. This belief emanates rather from a general atmosphere of happiness, which for that large group of people is connected with those ‘values’.

[...] Both kinds of ‘values’ of which we spoke are preferences. In the first case, we prefer one concrete institution over some other, say parliament over dictatorship. In the second case, we prefer any one situation or action which has a particular property, over any alternative action that lacks it. If ‘truth’ is a ‘value’ for us, we will prefer a statement that is true over any alternative one which is merely comfortable¹⁶. (pp. 47-48)

The first kind of value is made up of preferences concerning “concrete [political] institution[s]” or modes of social, or cultural, organization. According to Frank, such values are (apparently spontaneously) “recognized by a large group of people”, and “emanate from a general atmosphere of happiness”, not from abstract principles. Since these values do not derive from “abstract principles” or “a small number of hypotheses in a logical way”, the “relativity of truth” cannot change these values. Frank’s idea seems to be that relativization can only take place when the statement to be relativized (*i.e.* qualified or specified according to a “reference frame”) has a logical link with an abstract principle. It is not clear why it should necessarily be so. For example if we take, in everyday experience,

¹⁴ Apart from truth, all other values considered by Frank are moral values.

¹⁵ Siegetsleitner (2017, pp. 221–22) does not criticize Frank’s typology, and apparently subscribes to it.

¹⁶ Note that such a position runs *contra* the one expressed by P. Frank (1957b, p. 144) who seems ready to accept the Ptolemaic system instead of the Copernican one on grounds of social utility (as providing “a feeling of security”), or to Frank (1956b, p. 15) for whom we choose scientific theories “according to our purpose” (see § 3.2).

the statements of “to the left (or right) of” (instead of Frank’s examples of “above” and “below”, which indeed refer to an abstract principle, namely gravity), such statements indeed need to be relativized (“to my left” *i.e.* “to the left relative to me”, or “to your left” *i.e.* “to the left relative to you”), but such relativization does not necessarily require an abstract principle (the notions of left and right can be immediately, intuitively defined).

The second kind of value seems more abstract, and has to do with general concepts such as democracy, freedom, religion. Apparently such values are amenable to the relativity of truth, supposedly because we can identify a kind of instantiation¹⁷ of, or conformity to, these values in a given action.

It would thus seem that values of the first kind are best understood in the common sense of concrete, intuitive and emotional (although widely shared) preferences: they are preferences for “concrete institution[s]”, they are not deducible from abstract principles in a logical way, they are akin to “beliefs” emanating “from a general atmosphere of happiness”, etc. On the other hand, values of the second kind should be understood in an authentic philosophical sense (with a claim to generality and objectivity), inasmuch as they prescribe theoretical or practical (in the sense of moral) norms. However there are several objections to this classification:

- First, there are values in the first group – especially the values of political institutions, or even concepts, such as “parliamentary representation” and “dictatorship” – which are not so concrete, and also somewhat abstract, although to a lesser extent than those of the second category (such as “democracy”). For example, parliamentary representation is a component of representative democracy.
- Second (and concomitantly), why should these somewhat abstract values of the first group be somehow less amenable to the “relativity of truth”¹⁸ than those of the second group? For example, parliamentary representation, or equal opportunity, are not just values intuitively based on a “general atmosphere of happiness” or “tolerance” as Frank claims: they can be interpreted (and even justified) rationally by using an appropriate method of verification taking into account their factual consequences (as opposed to dictatorship, for example), *i.e.* through operational definitions (to comply with Frank’s conception¹⁹). One can ask what is meant exactly

¹⁷ Frank talks indeed of an action having a “particular property” (p. 48). On the contrary, he apparently considers that values – or rather, preferences – of the first kind cannot be specified in a particular situation (but see my critique below).

¹⁸ Frank’s formulation is confused here: “These ‘values’ are recognized by a large group of people and it is hard to understand how the doctrine of the ‘relativity of truth’ could make these people *change their preference* [*i.e.* their values of the first kind].” (p. 47, my italics). Here, not only does Frank say that the relativity of truth does not apply to values of the first kind, but he also seems to imply that the relativity of truth changes (or can change) one’s values. This contradicts the rest of his book, where he strives to show that the “relativity of truth” does *not change* the values (this would promote scepticism or agnosticism, which Frank fights), but merely *qualifies* or *specifies* them.

Besides, talking of the “relativity of truth” as applied to *another value* is a misleading formulation, because truth is already a value in itself (and the “truth of another value” does not make any sense). It would have been more correct (and simpler) to just talk of the relativity of the value in question.

¹⁹ See § 2.3.2.

by “equal opportunity” (*i.e.* one can ask about its operational meaning) just as one can inquire about the truth (a value of the second group) or the falsity of a statement. Conversely, valuing a statement as true or untrue might also “emanate” from emotional considerations (as for values of the first group), and not necessarily by qualifying or specifying an abstract principle of truth (as Frank seems to imply).

Thus, Frank’s divide between concrete and emotional values on the one side (first group), and abstract, general and objective values on the other side (second group), is not very convincing – at least for certain values (such as parliamentary representation, equal opportunity, etc) of the first kind.

2.2.2 The relativization of moral statements

Let us now pursue with Frank’s values of the second kind (the properly philosophical values in his conception): from these “general values” we should be able to “derive specific decisions” (p. 48). In other words, our (moral)²⁰ values prescribe the general rules of conduct or principles which our particular actions or decisions should respect. Thus, we use these values to *evaluate*²¹ our decisions or actions (*i.e.* to verify their conformity with our values). The question is of course how to do this evaluation for each particular case. In other words, what do these general values mean concretely? This is Frank’s answer:

In the deduction of our concrete evaluations from some general principles, the doctrine of the ‘relativity of truth’ plays the same historic role as for any deductive theory in science or any other field of knowledge. When we attack the problem of how to deduce our actual valuations from general principles we have to face what we have learned from the history of human behaviour. The more we learn the more do we understand that human behaviour is more complex than we had anticipated. Therefore, the language by which we have laid down the valuations of human conduct has become more and more complex too. This means it has been ‘relativized’ in the same sense as the language of science. (p. 48)

Thus, relativity applies in ethics in the same way as in science: the relativization or qualification of a moral statement or of a general moral principle (rather than of a value²²) clarifies and specifies its meaning, just as the relativization of a statement in science. In this way, moral principles (expressed in ordinary language) become “relativized” or “qualified”

²⁰ Here I follow Frank (pp. 48-49) who treats only moral values.

²¹ Frank uses the term “valuation” in the received sense of evaluation (verification of the conformity to an existing value) and not valuation (creation of the value).

²² For the sake of rigor, it would be better to talk of:

– the *relativity of values* (such as truth or democracy) which have the logical form of *concepts*: saying that these values (concepts) are *relative* (and not absolute) means that they are too vague and general, and that descriptive (for truth) or prescriptive (for moral values) statements or principles cannot be evaluated according to these values;

– the *relativization of a statement or principle* (such as “my head is above my feet”, “John is wicked” or “we should obey God’s will”), which have the logical form of *judgments*: saying that these statements or principles must be *relativized* means that their meaning must be specified or qualified relatively to a “frame of reference”.

But for commodity (and following Frank) I will not always make this linguistic distinction.

Frank also talks of the relativization of language (whether scientific or ordinary). This is a metonymical way of speaking. One should rather say that the language in itself remains the same, but the statements (which are formulated in this language) are relativized or qualified, *i.e.* additional information (expressed in the same language) is appended to the statement, to specify its “frame of reference”.

thanks to “operational definitions” (see below) in order to acquire a determinate factual meaning, exactly as theoretical principles or statements (p. 49).

Indeed, by sticking to absolute general principles without qualifying them, all one can do is deduce other abstract general principles, but it is impossible to deduce any definite conclusion relevant for “an actual life situation” (p. 50). For example, the general principle “you must not kill” is subject to many questions: is self-defense, making war or eliminating a blood-thirsty tyrant still “killing”? What is worse, without qualification, an absolute principle can, by choosing appropriate operational definitions, be used to “justify almost any line of action” (p. 52). Thus, claiming that an ethical or political system is “absolutely true” opens the door to arbitrariness (p. 21). On the whole, absolute principles are only “good catch-words” for motivating the troops, but can be used misleadingly (p. 55)²³.

2.2.3 Absolute and relative values

Frank distinguishes “absolute” from “objective values”: “relativism” weakens the belief in absolute values, but reinforces the belief in objective values. “Absolute” is in fact synonymous with “unqualified” (p. 28) and opposed to “relative” (which is synonymous with “objective”²⁴), in the sense of “relative to the existing conditions” (p. 52). An absolute value is thus an *unqualified* value, which therefore (without this qualification process) remains vague and open to any concrete interpretation²⁵. This is why the relativists “refuse to recognize ‘freedom’ or ‘democracy’ or similar ‘values’ as ‘absolute values’”, but only as “*relative* values, ones which have to be striven for ‘relative to the existing conditions’” (p. 52).

Thus when Frank talks of “relative truth”, he does not relinquish the value of truth as such, and still wants to formulate true statements²⁶. To use his words, these statements “are ‘absolutely’ – or better, dependably – true” (p. 24): what this paradox means is that they are still “absolutely” true (in the sense that they have become “definite assertions”), once they have been relativized *i.e.* once their conditions of validity have been specified. There would be less ambiguity if Frank talked of the relativity of the truth *of a statement* (and not of truth *tout court*), because *truth as a value* is preserved (this is precisely the point of his

²³ On the next page, there is a strange sentence, somehow contradicting what has just been said: “The inspiring [*i.e.* absolute] slogans can *and must* lead our decisions, but they cannot and must not dominate our search for truth.” (p. 56, my italics). It seems that Frank acknowledges that our actions are not always rationally motivated (this is the “can”), but the “must” introduces a normative component which is at odds with the rest of his conception.

²⁴ The use of this latter wording also suggests (in addition to “relative”) a kind of inter-subjective agreement on these values, which Frank takes apparently to exist (see *e.g.* p. 46, where Frank insists on “the ‘objectivity’ of human values”, whose denial would “imperil the foundations upon which decent human conduct is built”).

²⁵ Thus, “[t]he more we discourage the scientific attitude, which is based on ‘relativism’, the more we run the risk that the ethical or political system which we claim to be ‘absolutely true’ can be superseded in one rush by the opposite creed which other people believe to be ‘absolutely true’” (p. 21).

²⁶ Compare to footnote .

entire book)²⁷. Only the statements are specified – and this is precisely what makes them (definitely) true.

2.2.4 Relativism, agnosticism and scepticism

We can now go back to Frank's introductory remarks about the roles of the "agnostic and sceptical attitudes", the "disbelief in absolute values" and the "relativism" associated with science, in the collapse of the West during World War 2²⁸. We have just seen that "absolute values" are considered pejoratively by Frank, thus it is an illusion to think that they would have prevented the "breakdown of military and political morale" (p. 11) of the West in the face of Germany, and acted as a rampart against totalitarianism (p. 20)²⁹. Less clear is Frank's apparent condemnation of agnosticism and scepticism³⁰. Indeed, and contrary to Frank, one would rather think that it is the incriminated "agnosticism" and "scepticism" which are the best ramparts against totalitarianism, in so far as they stem from a critical attitude which puts into question all "absolute slogans" so condemned by Frank. Of course, the latter critical attitude is justly appreciated by Frank (see *e.g.* p. 93 where he praises the capacity to distinguish between "what can be and what cannot be proved"), but it does not seem to include "agnostic and sceptical attitudes"³¹. This is because Frank has a strict acceptance of agnosticism and scepticism.

Indeed, whereas scepticism in its modern sense might precisely be taken in the (positive) sense of a doctrine of the relativity of truth or knowledge in Frank's sense (or in Merton's (1973) sense as "organized skepticism", *i.e.* a cautious and critical attitude not taking anything for granted without a valid proof³² – an attitude Frank would clearly subscribe to), Frank seems to understand scepticism in its ancient, negative sense (according to which it is impossible to know anything with certainty, and which leads to suspension of judgment

²⁷ Nemeth's (2003, p. 120) formulation, according to which "[Frank] argued [that] science calls into question all absolute knowledge claims and therefore in principle weakens the willingness to believe in absolute values" inherits the ambiguity of Frank's vocabulary, in spite of her adding that "disbelief in absolute values does not mean disbelief in the objectivity of values". It may give the impression of mixing the descriptive (with respect to knowledge claims) and normative (with respect to values) levels. But one may be open-minded with respect to knowledge (which entails factual or theoretical statements subject to potential revision), without necessarily putting into question, or relinquishing, one's values (whether epistemic or not). For example, open-mindedness with respect to the truth of a particular statement does not necessarily entail open-mindedness with respect to the value of truth itself!

²⁸ See footnote .

²⁹ Frank clearly condemns this (illusional) belief, as he makes clear *e.g.* on pp. 19-20. To understand how and why "absolute values" could be considered as ramparts against totalitarianism, it would probably be illuminating to study the other contributions of the Conference, especially those endorsing this opinion (compare with footnote), but this exceeds the scope of this article.

³⁰ See the quote of p. 12 in the introduction.

³¹ However, Frank is not consistent in his use of words: see p. 46 where "sceptic", "relativist" and "agnostic" seem to be taken as synonyms. In the same way, on p. 85, Frank criticizes immovable, "firm ethical convictions" and ethical "principles that are of eternal validity, and not dependent on the advancement of science": an attitude which could be qualified as sceptic or agnostic in the positive sense (see below).

³² Merton (1973, p. 277) defines organized skepticism as "the temporary [and not permanent] suspension of judgment and the detached scrutiny of beliefs in terms of empirical and logical criteria". Merton (1938, p. 334) explains that "organized scepticism involves a latent questioning of certain bases of established routine, authority, vested procedures and the realm of the 'sacred' generally. [...] Most institutions demand unqualified faith; but the institution of science makes scepticism a virtue."

and permanent doubt³³). Although he mentions less often agnosticism, Frank, by associating it with scepticism, also seems to take it in a negative sense (stating the impossibility of knowledge). On the whole, and in spite of some inconsistencies in the use of the term “sceptic”, it is relativism (and not agnosticism or scepticism, which are considered pejoratively) that endorses the role of rampart against totalitarianism.

2.2.5 Two sorts of relativization

Finally, our analysis of relativism makes clear why, according to Frank, general principles (whether theoretical or practical) must be relativized or qualified. For this one has (only) two possibilities (pp. 53, 90-91):

- One can keep an absolute principle and complement it with operational definitions of the terms in which the principle is formulated, which qualify or relativize the principle. For example, one can keep the absolute principle “Thou shalt not kill”, provided there are operational definitions which describe “what sort of action is meant by killing” in each particular case (p. 90).
- Or one can relativize the principle itself, in which case there is no need for operational definitions. In this case, there is no more general, absolute principle such as “Thou shalt not kill”: for each particular case, killing is forbidden or allowed “relative to the circumstances” (p. 91).

In the end, the choice is only linguistic: relativization always occurs. One might, of course, object that the choice does not have to be exclusively (as Frank argues) between these two alternatives, and that principles or values can remain absolute and do not have to be relativized (either with operational definitions or themselves). I will return to this objection in § 3.4.

2.3 Relativism, pragmatism and operationalism

2.3.1 The pragmatic theory of meaning

In order to understand the place of relativism in our system of knowledge, one must, according to Frank, go back to the various attempts to clarify the “vague and misleading” statements (such as the ones seen previously) generated by “an over-simplified language” (p. 31). Such attempts try to suppress ambiguities in language by basically distinguishing “meaningful discourse” from “empty talk”, and have been undertaken by “pragmatism, operationalism, semantics, logical empiricism and so forth” (p. 31).

The basic idea behind these movements, which according to Frank have their common source in Peirce’s pragmatism, is that, to define the meaning of a statement and to distinguish it from another, one must exclusively consider the *concrete* consequences of this statement, *i.e.* how it influences *action*. This “pragmatical theory of meaning” tries, to

³³ That Frank understands scepticism in this ancient, pejorative sense is clear from *e.g.* p 30 (where it is associated to the “bankruptcy of science” and the “despair ever to penetrate into the realm of ‘absolute truth’”) or p. 106 (where skepticism in science is implicitly defined as a “lawless doubt of the principles of science”).

use James' words, to identify "the truth's cash value [of an idea or belief] in experiential terms" (p. 33), *i.e.* to identify how the truth of a statement concretely influences reality. Note that (p. 31):

- the pragmatic conception of meaning is not limited to science but applies to all areas of human life, including ethics and religion;
- in this conception, once a truth has been acknowledged, it reduces the room available for other truths, which must be compatible with it: in particular, theological beliefs cannot contradict beliefs already acknowledged by science.

Another important feature of this conception is that, according to Frank, "the pragmatic spirit of science is a force for democracy and against totalitarianism", because "the meaning of [the] principles [of science, and more generally of any principle] is explained as consisting only in the experiential facts following from them" (p. 106). Indeed, "[t]his indifference to the words in which the highest principles are formulated proves to be a powerful weapon against totalitarian ideologies", which are based on principles which are mere "banners" whose formulation is, on the contrary, very important, and must absolutely be preserved, "regardless of what follows in real life" (p. 102). This is a very strong, and convincing, feature of Frank's philosophy: he rightfully draws attention to the *concrete* consequences of a general principle – whether in science, ethics or politics –, and not to the words in which it is formulated, however beautiful or seducing they may be.

However, Frank's analogy with relativity in physics is not fully relevant. Indeed, Frank criticizes the fact that totalitarian ideologies promote absolute (*i.e.* absolutely formulated) principles disconnected from the facts, in contrast to his relativistic and pragmatist conception. It is true that, in physics, the "words" (*i.e.* the symbols) in which the laws are formulated do not matter. However the *form* of the laws (*i.e.* the structure of the mathematical equations expressing them) does matter. It is precisely the point of the theory of relativity to state that the form of physical laws is invariant in any reference frame³⁴, as Frank is of course perfectly aware of: in other words, that their formulation is, indeed, absolute. Frank's insistence on the variable – and not the absolute – features of the theory of relativity may have to do with his endorsement of Bridgman's semantic and operationalist interpretation of it (see *e.g.* Frank 1949, p. 291). I shall return to this point in § 3.3.

2.3.2 Operationalism

Indeed, Frank mentions with approval Bridgman's operationalism, based on "operational definitions" which equate a concept with the corresponding set of operations (for example, the scientist describes the concept of length by describing the physical operations by which he measures a length) (p. 34). In other words, operational definitions link the abstract words of theory and the observable facts of our everyday experience (p. 37). According to Frank, the operationalist theory of meaning, which is a conception not limited to science

³⁴ This is covariance.

but also applies to abstract concepts like freedom, democracy, religion, etc., bears a strong resemblance with the pragmatist one³⁵. Frank then goes on to assert that

It is obvious that the application of the operational or pragmatic theory of meaning is closely connected with the 'relativistic conception of knowledge' [...]. Bridgman says³⁶: 'Relativity in the general sense is the merest truism if the operational definition of concept is accepted, for experience is described in terms of concepts, and since our concepts are construed of operations, all our knowledge must unescapably be relative to the operations selected.' (pp. 36-37)

However, since Frank does not give further elements for vindicating this claim, this connection between the operational or pragmatic theory of meaning on the one hand, and the relativistic conception of knowledge on the other, is not so "obvious" as it might seem according to Bridgman's short quotation. Indeed, it rests on Bridgman's operational – and highly disputable – premise that "[all] our concepts are construed of operations" (and nothing else). More generally, one could argue that it is not the same to qualify a theory of meaning as:

- pragmatic: in which case it is mostly interested in the *concrete* consequences of the truth of a statement;
- operational: in which case it is mostly interested in how to relate the concepts used to *sets of operations*;
- relativistic (if one is allowed to extend this appellation to a theory of meaning): in which case it is mostly interested in how the truth of our statements is *relative* to other statements or informations (not necessarily "concrete" or formulable as sets of operation: it might be a frame of reference or a theoretical principle).

Now that we have described Frank's relativism, let us contextualize and criticize it.

3 Discussion

Before discussing Frank's conception, I shall briefly recall its historical context.

3.1 A brief contextualization

First, the fact that Frank insists, as we have seen, on the relativity of measurements in physics, and more generally of statements in everyday language (rather than on the invariance of physical laws, or the absolute formulation of ethical principles), should be read keeping in mind his critique of "misinterpretations" (whether physical or philosophical) of the theory of relativity. Indeed, Frank has written numerous articles on the misinterpretation of physical theories (for the theory of relativity see especially Frank 1953; Frank 1949, ch. 14 and 15; Frank 1957b, ch. 7). For example, Frank (1953) criticizes misinterpretations which attribute a greater role to the "observer" in the theory of

³⁵ "The meaning of a concept is defined not by an 'idea' of which it is to be the image [like in the 'idealistic theory of meaning'], but by the observable consequences that we can draw from sentences in which this concept occurs. [...] a concept is identical with the set of operations from which it has been derived." (p. 36)

³⁶ This is a quote from Bridgman (1958, 25).

relativity than in classical physics, or which introduce new psychological conceptions of space and time on its basis, or which in general try to support any philosophical, or rather “metaphysical”, conception (such as “fatalism”, *i.e.* the view that everything is predetermined and that time does not flow). All these misinterpretations have in common the fact that they are based on unverifiable statements (which are isolated from the verifiable, observational sentences of the theory, and are therefore “unscientific”). Such “metaphysical” or “meaningless” statements lead to “the belief that they are systems of statements about a realm of things”, and this belief “constitutes the foundations of the philosophical misinterpretations of physical theories” (*ibid.*, p. 216), which can serve non-scientific, “intellectual” or “social” purposes. Here Frank’s main concern is to warn against any ideological misuse of scientific theories in other, non-scientific realms. To do so, Frank essentially relies on a *verificationist* conception: statements or concepts have to be formulated in appropriate scientific language, and connected to empirically observable facts. The focus here is not on theoretical considerations (such as invariance), but on practical matters (avoid misinterpretations by empirically probing the meaning of each statement or concept).

More importantly perhaps, Frank’s insistence on the relativity of statements should also be replaced in the context of his fight against totalitarianism and political absolutism. An example of this fight is given by Frank’s (1957a) article in the *Bulletin of the Atomic Scientists*. There Frank studies philosophical uses and misuses of science, and distinguishes a “technological use”, which is not concerned with philosophical interpretations and has historically been devoted to the scientists by the political, religious or educational authorities; from a “moral” or “philosophical use” (which fails to provide operational definitions of the physical symbols used), which purports to use science to serve ideological, political or religious goals, and has been traditionally made by non-scientific authorities. In the latter category, one finds historically the (Catholic as well as Protestant) Church, as well as, in the 20th century, the totalitarian regimes of Fascist Italy, Nazi Germany and the Soviet Union. All these regimes either rejected the scientific theories which they deemed were not compatible with their philosophical “creed”, or kept their “technological” use because of the practical profits which they could gain (*e.g.* in the domain of nuclear energy), while forcing their own philosophical interpretations onto them for their “moral” use. For example, Einstein’s theory of relativity was first completely rejected by Soviet ideologues such as A. A. Maximov, then (after the death of Stalin) accepted with respect to its “technological use”, but still rejected with respect to its “moral use”, and deemed “bourgeois science” (*ibid.*, p. 129). Similarly, the National Socialist Party in Germany rejected, from the “moral” point of view, Einstein’s Jewish origin, the abstract mathematical character of the theory and its counter-intuitive consequences which contradicted “the ‘naturalness’ and ‘directness’ of the German mind” and its “living intuition of nature”, the “touch of relativism, subjectivism and skepticism” associated with the theory, while at the same time welcoming its technological use and practical results, notably for the development of new explosives (*ibid.*, p. 130).

In this context of his fights against abusive interpretations, or totalitarian appropriations, of relativity, one can easily understand Frank’s insistence on “relativism”, based on his operationalism and verificationism (which prevents for example the emotional appeal of

political absolutism). Indeed, for Frank relativism “has been for centuries the only effective weapon in the struggle against any brand of totalitarianism” (p. 20)³⁷. And the CSPR itself was precisely organized in order to help fight totalitarianism: “The precise aim of this Conference was to establish a common understanding of democratic principles that would help to overcome the high pressure propaganda of totalitarian values” (p. 11). But whereas “the members [of the Conference] were anxious to prove that the danger of ‘relativism’ [...] could be avoided by democratic methods”, Frank purported to show that “relativism” represented no danger, but on the contrary represented a means to reach the very goal of the CSPR. As Reisch (2017, p. 235 sq.) explains (quoting J. B. Gilbert), the CSPR was intended, in the face of Hitler’s military successes and the ensuing doubts about the solidity of western civilization, to provide “basic ideas to which people of intelligence in the different spheres of life would pledge” in order to fight totalitarianism and help defend democracy. Frank’s conceptualization of relativity was intended to provide such a “basic idea” to serve as a weapon in the “battle of ideas and ideology” which, according to L. Finkelstein (one of the organizers of the CSPR), the battle against Nazism most importantly was (*ibid.*). According to Reisch, “Frank presented the relativity idea as an example of the *unifying truth* of methodology of the sort that Finkelstein and his conferees aimed to locate”, as a “global”, “unifying principle” which could “connect and unify different kinds of knowledge”, and which would come from (physical) science, not from religion or metaphysics (*ibid.*).

Now that these elements of context are in place, we should not, however, be deterred from criticizing Frank’s philosophical conceptions as such. But let us first replace Frank’s position in the contemporary debate on relativism.

3.2 Characterization of Frank’s relativism in the contemporary philosophical debate

As is well known, relativism is a controversial doctrine (for an overview of the concept of relativism, see Baghrarian and Carter 2019, and of moral relativism Gowans 2019). *Prima facie*, Frank’s relativism, or more precisely the relativization of statements which it advocates, appears like a rather banal, common-sense requirement: in a nutshell, it requires that the meaning of the terms one uses (such as “above” or “wicked”) be specified or qualified, by providing their “frame of reference”. One can thus say that Frank has a semantic conception of relativism (which is confirmed in other writings, *e.g.* Frank 1957b, p. 143), which is about meaning, not ontology³⁸. On first sight, Frank’s position looks like a mild, respectable version of relativism, in contrast to, for example, the “cheerful anti-realist relativism” of Barnes and Bloor (1982), as Uebel (2000, p. 148) qualifies it. Let us try to characterize Frank’s relativism more precisely with respect to typical relativistic stances.

3.2.1 Frank’s relativism of truth

Apparently, it would seem exaggerated to label the Frank of *RRT* as a relativist of truth in the contemporary sense of Baghrarian and Carter (2019, sec. 4.3), namely holding “the

³⁷ See also footnote .

³⁸ It is not about the truth conditions of statements neither (such as in Harman and Thomson 1996).

claim that what is true for one individual or social group may not be true for another, and there is no context-independent vantage point to adjudicate the matter. What is true or false is always relative to a conceptual, cultural, or linguistic framework". In *RRT*, Frank rather gives the impression to keep a notion of "definite" truth (recall the "definite assertions" on p. 24), as long as it is "qualified" – "absolute" being only synonymous with "unqualified". However, in other works Frank is well known for having studied, and to a certain extent legitimated, the inclusion of external, non-scientific (in the strict sense of natural science)³⁹ criteria in theory choice (see *e.g.* Uebel 2000). More precisely, Frank uses the underdetermination thesis of scientific theories by empirical data to allow extra-scientific values to influence theory choice:

The theories that are built up by scientific methods, in the narrower sense, are pictures of physical reality. Presumably they tell us the truth about the world. If a theory built up exclusively on the ground of its agreement with observable facts tells the truth about the world, it would be nonsense to assume seriously that a scientific theory can be influenced by moral or political reasons. However, we learned that agreement with observed facts does not single out one individual theory. We never have one theory that is in full agreement but several theories that are in partial agreement, and we have to determine the final theory by a compromise. The final theory has to be in fair agreement with observations and also has to be sufficiently simple to be usable. If we consider this point, it is obvious that such a theory cannot be the truth. In modern science, a theory is regarded as an instrument that serves toward some definite purpose. (Frank 1956b, p. 14)

So far, one may still think that Frank keeps a kind of theoretical notion of *the* (unique and universal) truth, strictly scientifically determined (*i.e.* without any extra-scientific factor), but that in practice this cannot be achieved and therefore the truth arrived at in the selection (by humans) of scientific theories is a "compromise" with their extra-scientific preferences. But Frank goes as far as to equate the notion of truth with the notion of theory choice, thereby effectively relativizing it in the previously delineated way:

In what sense does science search for the truth about the universe? This truth certainly does not consist of facts but of general hypotheses or theories. What we call facts in the strictly empirical sense, without any admixture of theory, are, in the last analysis, sense impressions between which no connection is given. Hence, the question of what we have to regard as the truth about the universe has to be formulated rather as follows: What are the criteria under which we accept a hypothesis or a theory? If we put this or a similar question, we shall see soon that these criteria will contain, to a certain extent, the psychological and sociological characteristics of the scientist, because they are relevant for the acceptance of any doctrine. In other words, the validation of theories [or, in other words, the "truth"] cannot be separated neatly from the values which the scientist accepts. This is true in all fields of science, over the whole spectrum ranging from geometry and mechanics to psychoanalysis. (Frank 1956a, vii–viii)

Therefore, it seems quite fair to describe Frank's relativism or "doctrine of relativity of truth" as, indeed, a relativism about truth in the sense of Baghramian and Carter (2019, sec. 4.3). Now as the latter explain, relativism about truth "is the most central of all relativistic positions since other subdivisions of the philosophical theses of relativism [...] are in principle reducible to it". For instance, "ethical relativism can be seen as the claim that the truth of ethical judgments, if such truths exist, is relative to context or culture" (*ibid.*). Indeed, Frank' relativism illustrates this claim, since it applies to virtually any statements, whether scientific, ordinary, moral or political ones, as we have seen. Therefore, Frank's

³⁹ But in fact, these external criteria can also be considered scientific in the large sense of the social sciences (psychology, sociology) (see *e.g.* Frank 1951; Frank 1956a, b).

relativism could be labeled “global relativism” in the sense of Baghramian and Carter (2019, sec. 1.4.1), namely in the sense that “all beliefs, regardless of their subject matter, are true only relative to a framework or parameter”. Importantly, the scope of Frank’s global relativism also includes science. For instance, P. Frank (1957b, p. 144) seems ready to accept the Ptolemaic system instead of the Copernican one on grounds of social “usefulness” (as providing *e.g.* “a feeling of security”). In the same way he seems ready to accept talk of “absolute motion” (*ibid.*). Here the belief of the world picture is relative to what society deems best useful. Therefore we can talk of epistemic relativism following Baghramian and Carter (2019, sec. 4.4) (*i.e.* “the thesis that cognitive norms that determine what counts as knowledge, or whether a belief is rational, justifiable, etc. could vary with and are dependent on local conceptual or cultural frameworks and lack the universality they aspire or pretend to”), and more specifically of relativism about science (Baghramian and Carter 2019, sec. 4.4.3), where the underdetermination thesis is used in support of relativism⁴⁰, as indeed Frank does.

3.2.2 Frank’s relativism vs. the relativism of the Strong Programme

So far Frank can fairly be labeled a relativist in the above mentioned senses. In what sense, however, is his position different from the relativism of the Strong Programme of the sociology of scientific knowledge (see Bloor 1976), as, according to me, Uebel (2000, p. 149) rightfully claims (*contra* Bloor 2011, p. 428)?

On first sight, the relativism of Barnes and Bloor (1982) resembles somehow that of Frank inasmuch as it denies the possibility of formulating “the justifications of [one’s] preferences [...] in absolute or context-independent terms” (p. 27). But it also goes much further. It implicitly denies that “certain form of knowledge [have] a privileged status” (p. 22), that there are “distinctions between true and false, rational and irrational belief” (p. 25) and claims that reality, “being a common factor” in “all the vastly different cognitive responses that men produce to it”, “is not a promising candidate to field as an explanation of that variation” (p. 34). Reality, then, should not be considered as the main reason why scientists, and people more generally, have such or such belief⁴¹. Rather, only the local social and cultural context can explain them, since any “principle” or “matter of fact” that we may ultimately refer to to justify them “only has local credibility” (pp. 27-28). In the same way, this relativism postulates that “all beliefs are on a par with one another with respect to the causes of their credibility. It is not that all beliefs are equally true or equally false, but that regardless of truth and falsity the fact of their credibility is to be seen as equally problematic” (p. 23). This “‘symmetry’” or “‘equivalence’ postulate” (p. 22) in effect evacuates the truth value of a belief as a reason for having this belief. To conclude, according to this type of relativism neither reality (more precisely, the interactions of the scientists and people with it) nor truth (more precisely, the truth value of our beliefs) can and should explain our beliefs⁴².

⁴⁰ “Relativists about science have argued that only with the addition of auxiliary hypotheses could the scientist choose between various theories and that such auxiliary hypotheses are colored by socially and historically grounded norms as well as by personal and group interests” (*ibid.*). In Frank’s relativism the norms and interests are common (social and political) rather than personal.

⁴¹ Here we understand why Uebel (2000, p. 148) talks of “cheerful anti-realist relativism”.

Such extreme relativism is clearly not the position of Frank, who does not subscribe to such a “doctrine of equal validity”, as Boghossian (2006a, p. 2) calls it, according to which “there are many radically different, yet ‘equally valid’ ways of knowing the world, with science being just one of them”⁴³. Indeed, Frank clearly distinguishes between rational and irrational belief (and between true and false if “true” is taken in its restricted sense of empirically adequate); he considers science as a very special, and the most superior, form of knowledge; and he takes into account physical reality in the explanation and justification of scientific theories, and more generally human beliefs. One could say that, in his appraisal of the validation of scientific theories, Frank retains and distinguishes a core truth (*i.e.* facts)-based, scientific conception, and that *in addition* he takes into account extra-scientific (in the strict sense of natural science) factors (*i.e.* social, psychological and political).

In spite of these differences, the later Bloor (2011) demonstratively endorses Frank’s relativism in his study on aerodynamics. There Bloor seems to keep only the core, more respectable idea, of relativism, according to which there are no absolutely valid, context-independent, statements or principles, whether in the theoretical or moral domain. Indeed, Bloor (2011, p. 439) distinguishes “foolish version[s]” of relativism” (p. 440) from the following “relativism by contrast” (Baghramian and Carter 2019, sec. 1.2) defined by contrast with absolutism: “if the concept of ‘relativism’ is to be used with precision, it can only mean one thing: a denial that there are any absolute truths. This is a necessary and sufficient condition for an account of knowledge to be identified as a form of relativism. A relativist can be comfortable with knowledge that is conjectural, inconsistent, expedient, and partial, that is, with everything that science and technology really is.” (p. 439) For Bloor the “relativity of knowledge” is a consequence of its “social character” (p. 442). Apart from the strange qualification of “inconsistent”, it is indeed difficult not to agree with Bloor on this humble characterization of scientific knowledge.

Nevertheless, even the basic relativistic claim (endorsed by Frank as well as the late Bloor) according to which there are no absolutely valid statements, the “denial that there are any absolute truths” (which by the way is itself contradictorily *absolute*) can be problematic both in the theoretical and practical domains, as I will now show. Although “absolutism” may seem simplistic or inaccurate in the former, and intolerant or dangerous in the latter, I believe there are cases where it is justified. In science, there are for example statements of physical principles (such as that the laws of physics are the same in all inertial reference frames), laws (such as that two bodies with a mass attract each other) or facts (such as that a molecule of water is made up of two atoms of hydrogen and one atom of oxygen) that appear absolute and context independent. Similarly, in ethics, there are, in my opinion,

⁴² See Barberousse (2011, pp. 220–23) for a systematic critique of the methodological principles of the “Strong Programme”. I will pass over the contradictions inherent in Barnes and Bloor’s (1982) conception, for example the fact that their article (*absolutely*) assumes the rules of logic (by using the principle of non contradiction p. 22, or with respect to its very argumentative structure), or uses other concepts or terms absolutely (*e.g.* “primitive cultures” p. 26).

⁴³ Boghossian presents this conception as a consequence of the “social dependence conception of knowledge” (according to which “whether a belief is knowledge necessarily depends at least in part on the contingent social and material setting in which that belief is produced (or maintained)” (pp. 6-7). However, such a social dependence conception of knowledge does not necessarily lead to a “doctrine of equal validity”, as the conception of Frank typically illustrates (which endorses the former, but not the latter claim).

principles (such as the respect of human rights, or the absence of death penalty) which should be held absolutely.

3.3 Critique of Frank's interpretation of the theory of relativity

Let us first make clear that Frank is, of course, perfectly aware of the importance of the concept of invariance (in the large sense, including covariance) in Einstein's theory of relativity: he writes for example elsewhere that “[f]or some particular changes of the system of reference the laws of motion remain unaltered. This fact turns out to be the most important property of these laws, and is the very basis of the theory of relativity” (Frank 1949, p. 239). There is no question that Frank is a master of the theory of relativity⁴⁴. This, however, should not hinder us from criticizing his philosophical *interpretation* of the theory, and especially the way he applies its concepts (and first of all, the concept of relativity itself) outside the realm of physics.

We have seen that Frank uses Einstein's theory of relativity to illustrate his general claim that truth, or better objectivity, is reached, not in an absolute but in a “dependabl[e]” (p. 24), relativized or qualified way. Frank's focus here is on the relativity of *measurements* (of time and space in the special theory of relativity), in conformity with his empirical and operationalist philosophy of science: measures are what is observable. On the contrary, the received view usually insists on the invariance of (the form of) physical laws (*i.e.* their covariance) with respect to any system of reference: the focus is on the “absoluteness” of physical laws (as well as of the principle of relativity itself), so to speak⁴⁵. As is well known, the reason for this is that the relative features of the theory of relativity (relativity of time and space measurements) *derive* from its absolute features (absoluteness of laws), which are logically prior. The theory of relativity derives the relativity of physical quantities (such a length, time, velocity, mass) with respect to the considered reference frame, from the (observed, and then elevated to the rank of absolute principles) invariance of physical laws and (in the case of the special theory of relativity) of the velocity of light (see *e.g.* Einstein 1905, p. 891 sq.).

Frank, for his part, insists on the validity of each particular statement once it has been referred to its relevant reference frame (but not on the overall connection), instead of insisting on the overall objectivity gained by the theory of relativity, whose correspondence rules connect statements in different reference frames. Now although such an insistence is, again, understandable given Frank's previous work and philosophical orientation, it may not be the best way to reach his own goal of debunking philosophical misinterpretations of the theory of relativity. Indeed, such an insistence may favour misinterpretations attributing a greater role to the observer in the theory of relativity than in classical physics, or introducing new psychological conceptions of space and time on its basis, which Frank ([1938] 1953) himself had to fight, as we noted above. It is worth noting that Einstein himself did not think that his special theory of relativity supported relativism in ethics or epistemology, because although time or distance intervals are relative to reference frames, the physical laws expressing such relativity are absolute and in no sense relative. He

⁴⁴ See his many writings on the subject in his bibliography in Frank (1998, pp. 290–96).

⁴⁵ Because of its focus on invariance, Holton (2006, p. 269) writes that “modern relativity is simple, universal, and, one may even say, ‘absolute’”.

thought that the name *Invariantentheorie* was more appropriate for his theory, as Holton (2006, p. 269) explains, and preferred it to the “so-called relativity theory” (a name proposed by Planck in 1907), which he deemed “unfortunate”, because “it has given occasion to philosophical misunderstandings”. As Sachs (2005, p. 4) summarizes:

The principle of covariance asserts that the laws of nature must be totally objective—meaning that their forms must be independent of the space-time reference frame in which they are expressed, from any particular observer’s point of view. The space-time language itself is relative to the reference frame in which it is expressed—hence the name of this theory! Still, the primary focus of the principle of covariance is on something that is absolute rather than relative— this is the invariant law of nature itself.

In the early stages of this theory, its name led to the erroneous impression that this approach in science is based on the philosophic view of ‘relativism’ —the idea that all knowledge is relative only to the ‘knower’⁴⁶—i.e., that there is no objective knowledge to talk about. Of course, Einstein never had this view in mind—his approach was just the opposite, where one focuses on the invariant (objective) law of nature. To avoid the confusion, Einstein tried to rename his theory ‘invariantentheorie’ (theory of invariants), implying a focus of this theory on absoluteness rather than relativity. However, he eventually rejected the name change because of further confusion he thought it might entail.

3.4 Critique of Frank’s moral relativism

Many contemporary relativists distinguish the epistemic from the moral domain because of fundamental differences between natural facts and ethical values (e.g. Boghossian 2006b or Harman and Thomson 1996), but this is not the case of Frank, who extends his relativism to ethical statements. As Bloor (2011, p. 429) summarizes it, for Frank “[t]he danger to rational thought and moral conduct came [...] not from relativism but from absolutism.” In particular, “[r]elativism, he argued, is the only effective weapon against totalitarianism” (*ibid.*). However, I will argue that in the ethical realm, Frank’s relativism is also debatable. Although Frank claims to preserve the objectivity of moral values, his conception of relativity does, in fact, open the door to a kind of moral relativism in the contemporary, metaethical sense of Gowans (2019, introduction), according to which “the truth or justification of moral judgments is not absolute, but relative to the moral standard of some person or group of persons”⁴⁷. Frank’s conception of the principle “thou shalt not kill” illustrates this⁴⁸. In this case, it is easy, *contra* Frank:

- to define (on the semantic level) the meaning of this principle *absolutely*, without the need for further operational definitions of its terms: for example we can simply define killing as taking someone’s life (possibly adding: against her will);
- to argue (on the metaethical level) that this principle must be respected *absolutely*, without the need for further specification, including in Frank’s examples: by

⁴⁶ It should be clear by now that this acceptance of relativism is not Frank’s.

⁴⁷ Frank does not treat the empirical thesis of moral relativism noticing the existence of “deep and widespread moral disagreements” (*ibid.*). Although less visibly, Frank indirectly defends a metaethical thesis of moral relativism (e.g. when claiming p. 90 that “every ethical system consists of the principles and the operational definitions of the terms”), in addition to a semantic thesis based on meaning (“only if a principle is accompanied by operational definitions does it specify a definite way of life”, *ibid.*).

⁴⁸ Principles like Kant’s categorical imperative or “obeying God’s will” may be better examples in support of Frank’s position and less vulnerable to my critique below, insofar as they are more complicated to interpret and respect.

avoiding at all cost to kill in self-defense, by refusing death penalty, by refusing to go to war, etc.⁴⁹

For Frank, a moral principle (or value) does not have to be always respected, and *exceptions* are always possible, either through operational definitions, or through the formulation of the principle itself (in our example: it is allowed to kill in some special circumstances). But it could easily be argued that there are, on the contrary, some principles (like, precisely, not killing; or, say, not have recourse to torture) or values (such as human rights) which can, and must, be upheld absolutely (*i.e.* universally, at all places and times), without the need for further specification⁵⁰. What is more, Frank's relativization of moral principles (either through operational definitions or through the formulation itself) depends on the moral "reference frame" that is chosen: but he does not give a clue as to which one to choose⁵¹. And contrary to relativity in physics⁵², the choice of the reference frame in ethics does have an importance: this is another weakness in Frank's analogy of relativity in physics and in ethics.

I am ready to share, to some extent, Frank's view that "the more abstracted and 'absolute' our values become, the less meaning they have and the less practical help they can provide", as Reisch (2005, p. 222) summarizes it. The need to attend to the concrete meaning and consequences of our values and principles, powerfully underlined by Frank, is indeed fundamental, on pain of falling into void discourse and verbalism. But I am not ready to share Frank's view according to which, as Reisch puts it, "the only good value was a relativized, contextualized, and revisable value" (*ibid.*, p. 362), or that "[a]bsolute moral values are self-defeating [...] because genuinely absolute values and fixed values must be so abstract and general that they are practically meaningless" (*ibid.*, p. 379). I think that there are some values which do *not* require any relativization (for example human rights, non-recourse to torture, etc.), and that the line of conduct to follow accordingly is perfectly clear

⁴⁹ If we take the shorter definition of killing as taking someone's life (not necessarily against her will), then there are more obvious cases where the commandment of not killing must be discussed – in particular, if someone else (*e.g.* a terminally ill patient) *asks* to be killed (to end his unbearable pain, etc.).

⁵⁰ For example – and this is a conception I fully endorse – human rights can be considered as standing on top of any other legal (whether national or international) norm, and must therefore be respected *absolutely* (*i.e.* whatever the circumstances, and contrary to Frank's conception).

⁵¹ This is what Siegetsleitner (2017, p. 221) calls "standard relativism": "If we use "evil" as an evaluative term, morality is indeed relativized to a certain standard. If the standard is held by a certain group, it is also relativized to a certain group—for example, a cultural or religious group. Here, relativization adds the moral standards of said group, the relevant moral system, so to speak. We can call this kind of relativism "standard relativism". Standard relativism does not imperil objectivity relative to shared standards, but objectivity in this case does not encompass criteria for the right standards. Although Frank does not endorse moral skepticism, standard relativism allows for the perspective that fundamental moral principles are unknowable." Thus "relativization in morality may also mean a relativism of standards, and where there is no agreement on shared standards, the door is left open for subjectivism and skepticism" (*ibid.*, p. 225).

⁵² Even if, of course, some reference frames are more convenient than others in expression a physical quantity, depending on the problem at hand. But this is just a matter of mathematical formulation, which can be more or less complicated, but can always be equivalently transformed from one reference frame to another. On the contrary, in morality it is not the same thing to choose one reference frame or another. As Frank rightfully remarks, in the case of "John if wicked", we may choose "God's will", or Kant's categorical imperative, or the "voice of our own conscience" as the "supreme authority" with respect to which wickedness is defined, and the result will vary accordingly.

and meaningful nonetheless. If one finds these examples too anachronistic for Frank⁵³, let us go back again to his example of killing: even in this case, the definition of killing is in fact straight-forward, and does not require any further specification. Even the cases of civil war, or sabotage, or execution of a criminal, still deserve the label of “killing” if the life of someone is taken away against her will⁵⁴. What is more, it is easy to see, *contra* Frank, that relativism can serve the purpose of totalitarianism just as well as absolutism: remember how “killing” someone can, in Frank’s view, easily be *re-qualified* according to the circumstances. Think of people in a demonstration killed by police forces: their killing could be re-qualified as “legitimate defense” by the police forces, for example – whereas in fact, they *were killed* by these forces, whatever they did before.

Against Frank, there are two possible lines of argumentation, one truly absolutistic (and probably too idealistic), and one more pragmatic and realistic. The first line would be to uphold the principle “thou shall not kill” absolutely, without the need for further qualification (whatever the aim pursued, including *e.g.* a noble aim of sabotage against Nazi occupation, it shall not be reached by killing someone). The second line would be, following Frank’s second option, to “relativize” the principle itself, *i.e.* to respect it or not according to the circumstances (*e.g.* I will allow myself to kill Nazi soldiers because of the importance of my sabotage action). But I wouldn’t call this “relativization” properly speaking since, again: 1/ on the semantic level, what is meant by killing is very clear; and 2/ on the metaethical level, the “moral standard” (as in Gowans 2019) does not need to be specified for the principle to hold – rather, the respect of the principle is relative to the “circumstances”, as Frank himself makes clear (p. 91). More precisely, I would insert the principle in question in a larger *hierarchy* of ethical principles (thus to be agreed upon), in which each principle is enforced as long as respecting it doesn’t breach a higher principle (if I am not mistaken, such a hierarchy of ethical norms bears strong resemblance with the juridical hierarchy of laws). In other words, the *hierarchy as a whole* can, if well designed, be enforced *absolutely*. In my example, if I don’t perform the sabotage while potentially killing Nazi soldiers, more innocent lives will be lost, thus I am ready to kill Nazis and breach my principle in this case.

4 Conclusion

As we have seen, Frank repeatedly underlines the need not to draw abusive interpretations of physical theories – and in particular the theory of relativity – outside the realm of physical science, and warns against the uncritical application of physical concepts – such as relativity – to philosophical or political considerations⁵⁵. However, Frank himself is eager to

⁵³ But, since the Enlightenment, it could hardly be so: universal values (*e.g.* in the French Revolution) and absolute demands (*e.g.* in Kant) have become common place philosophy.

⁵⁴ The formulations of Frank (1946, p. 23) are particularly striking in this respect, where he endorses statements such as “Bombing an enemy city is not killing”, or claims that killing a dictator does not deserve the term “killing”, but rather “liquidating”. As in *RRT*, he claims that absolute ethical principles “fail to define an exact line of action just in cases in which moral advice is needed the most”, and that “the most ardent advocates of ‘absolute truth’ avail themselves of the doctrine of the ‘relativists’ whenever they have to face a real human issue” (1946, 24). I certainly do not agree, as I show in this section.

⁵⁵ See also his review (Frank 1938a, pp. 79 sqq.) of Ernst Cassirer’s (1936) *Determinismus und Indeterminismus in der modernen Physik*, where Frank praises Cassirer’s critique of the use of quantum mechanical concepts (such as indeterminacy) to justify moral considerations about freedom of the will.

switch the meaning of relativity from one field (physical science) to another (ethics, politics or everyday experience), as we have seen. He advocates a generalized “relativism” and “scientific spirit” in all domains of human thought and activity, in *RRT* and elsewhere⁵⁶. Interestingly, it seems that the same philosophical conception – namely, Frank’s operationalism and pragmatic theory of meaning – lies at the basis of both his (legitimate) critique of philosophical misinterpretations of relativity, and his own (illegitimate) application of the concept of relativity outside physics. Frank’s moral relativism thus appears as a kind of negative, unintended effect of his overarching operationalism and pragmatic theory of meaning extended outside science⁵⁷.

To conclude, my point in this article was not to bluntly criticize Frank’s conception, which is not only perfectly understandable and defensible, but also convincing in many respects (for example his attention to the concrete consequences of general, abstract claims). Frank is of course right to criticize philosophical misinterpretations of physical theories, as well as political absolutism and the dangers of its emotional appeal. My point was rather to show that Frank’s overarching conceptualization of relativity can itself be seen as a kind of scientific⁵⁸ absolutization of a scientific concept applied in other areas of human life, and that, in certain cases, such a conception may not be desirable. In particular, my claim was that the relativization of values may not always be desirable or necessary, and that absolute ethical principles are not always too abstract to derive “rules for human conduct” from them, as Frank puts it.

Acknowledgments

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⁵⁶ Illustrated for example by Frank’s (1949, p. 52) summary of *RRT*, presented as an attempt to “prove that the ‘relativism of science’ has also penetrated every argument about human behavior” (see).

⁵⁷ It is consistent with Frank’s expanding conception of logical empiricism, as he wrongly incorporates Cassirer’s conception in it (Frank 1938a).

⁵⁸ I originally wanted to write a few words about Frank’s scientism, but this would take me too far and will be the object of another article. In a nutshell, the idea is that Frank’s taking into account of extra-scientific (in the strict sense of the natural sciences), *i.e.* psychological, social and political, factors in scientific theory choice, is itself supposed to be resolved scientifically (in the large sense of a “science of man”). This “naturalistic” understanding of extra-scientific factors, as Howard (2003, p. 62) puts it, leads to the ambition of a “general science of human behaviour” (Frank 1956b, p. 6). This, together with the claim that the “scientific spirit” has permeated all areas of human life, can be taken as illustrative of a certain (mild) scientism, where for example “social conditions [...] produce the conditioned reflexes of the policymakers” (Frank 1956b, p. 15). However, Frank’s position is complex, as he also carefully considers “physics, and science in general, as part of our general pattern of thinking and acting”, “as one of the means of expressing man’s attitude towards the world, the small world of society and politics and the large world that is our astronomical universe” (Frank 1949, pp. 51–52), and warns that “[s]cience cannot be used as a model for the construction of a ‘super-science’ that teaches us on a ‘higher level’ what is ‘good’ in the same way as ordinary science teaches us what is true” (p. 93). Thus Uebel (2003, p. 162), mentioning the self-reflection of (unified) science on its own theories’ choice which Frank advocates (and which he calls “active positivism”) instead of letting philosophy perform the reflective work from the outside, writes: “It is important that ‘active positivism’ does not defend this autonomy [of unified science from philosophy] for the price of the naturalistic fallacy, by prescribing social goals on purely scientific grounds. Rather, it does so by pointing out the wider contexts into which questions of theory choice are embedded and how the relevant means-ends relations are to be assessed, by providing a scientific analysis of the choice situation.”

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