

## Objectivity, Conventionalism, and Abstraction

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Reading #1: Hilary Putnam, The Refutation of Conventionalism, *Noûs*, Mar., 1974, Vol. 8, No. 1, <https://www.jstor.org/stable/2214643>

### Reichenbach and Grünbaum on Space and Time

Reichenbach used to begin his lectures on the Philosophy of Space and Time in a way which already brought an air of paradox to the subject. He would take two objects of markedly different size, say, an ash tray and a table, situated in different parts of the room and ask the students "How do you know that one is bigger than the other?". The students would propose various ways of establishing this, and Reichenbach would criticize each of these proposed tests. For example, a student might suggest that one could simply *measure* the ash tray, and *measure* the table, and thus verify that the ash tray is smaller than the table. Then Reichenbach would ask the student, "How do we know that the measuring rod stays the same length when transported?". Or someone might say that we can simply *see* that the table is larger than the ash tray, but then Reichenbach would point out that sight is reliable only if light travels in straight lines. Perhaps light travels in curved paths in such a way that the table, although the same size as the ash tray, or even smaller than the ash tray, does not look smaller than the ash tray. Or someone might propose, again, to bring the ash tray over to the table. When we set the ash tray down on the table, we see that the ash tray is clearly smaller than the table. This assumes the stipulation that if one object coincides with a proper part of another, then the first object is smaller than the second.

Granting this as a definition, or partial definition, of 'smaller than' in the case of objects which are together, i.e., actually touching in an appropriate way, then we have only established that the ash tray is smaller than the table when the ash tray is actually touching the table. How do we know that the ash tray is smaller than the table when the ash tray and the table are separated?

One might try to rule out this whole line of questioning on some *a priori* philosophical ground or other, e.g., "the series of questions has to come to an end." But it is necessary to be careful here. The series of questions Reichenbach is asking is formally just the same as the series of questions that Einstein asked about "How do we ever know that two events at a distance happen simultaneously?". It cannot be in principle illegitimate to ask such questions or even to push them back and back as Einstein and Reichenbach did. And the Einstein example shows that this kind of epistemological questioning can have great value, at least in exposing hidden presuppositions of everyday discourse, and perhaps, as Einstein and Reichenbach thought, in exposing definitional elements in what we mistakenly take to be purely factual statements as well. Reichenbach's conclusion, from his own line of questioning, was that the statement that the measuring rod stays the same length when transported cannot be *proved* without vicious circularity. And he proposed that this statement or some such statement must be regarded as a *definitional element* in geometrical theory.

At this point, let me ... move to the views of ... Grünbaum. The conclusion that Grünbaum draws from the situation just described is the following:

There are certain axioms that any concept of distance, that is to say, any metric, has to satisfy. For example, *for any point  $x$  in the space, the distance from  $x$  to  $x$  is zero; for any points  $x$  and  $y$  in the space, the distance from  $x$  to  $y$  equals the distance from  $y$  to  $x$ ; for any three points in the space  $x, y, z$ , the distance from  $x$  to  $y$  plus the distance from  $y$  to  $z$  is greater than or equal to the distance from  $x$  to  $z$ ; distance is always a non-negative number; the distance from  $x$  to  $y$  is zero if and only if  $x$  is identical with  $y$ .* But any continuous space that can be metricized at all, i.e., over which it is possible to define a concept of distance satisfying these and similar axioms, can be metricized in infinitely many different ways.

Now, let  $S$  be a space which is homeomorphic to Euclidean space, and let  $M_1$  and  $M_2$  be metrics such that  $S$  is Euclidean relative to  $M_1$  and is Lobachevskian [i.e., what hyperbolic geometry is called elsewhere] relative to  $M_2$ . Grünbaum's conclusion, based largely although not exclusively on Reichenbach's discussion, is that there is no fact of the matter as to whether  $S$  is Euclidean or Lobachevskian or neither. The choice of a metric is a matter of convention. The space  $S$  cannot "intrinsically" have metric  $M_1$  rather than  $M_2$ , or  $M_2$  rather than  $M_1$ . If we adopt a convention according to which  $M_1$  is the metric for the space  $S$ , then the statement " $S$  is Euclidean" will be true. If we adopt a convention according to which  $M_2$  is the metric for the space  $S$ , then the statement " $S$  is Lobachevskian" will be true.

Let me emphasize that Grünbaum is not saying that any two metrics will lead to equally simple physical laws, or that any two metrics are such that it would be feasible to use either one in everyday determinations of distance. It is possible that the world be such that if we use the metric  $M_1$ , then the laws of nature would assume, let us say, a Newtonian form. If we then went over to a metric  $M_2$ , according to which the space is Lobachevskian, the laws of nature would become incredibly complicated. It is even likely that everyday questions about distance, e.g., "What is the distance from my house to my car?", could not be feasibly answered if we went over to the metric  $M_2$ . Nevertheless, Grünbaum insists, this does not show that the metric  $M_2$  is somehow not the true metric of the space  $S$ , or that in some sense the metric  $M_1$  is the true metric of the space  $S$ .

Secondly, it should be emphasized that Grünbaum is not just talking about space in the sense of ordinary three-dimensional space. Although most of his examples are drawn from this case, he means his remarks to apply just as well to the question of the metricization of space-time. In a relativistic world, there is indeed a sense in which the choice of the metric for just three-dimensional space is relative. But the choice of a metric for space-time – that is, the choice of a  $g_{ik}$ -tensor – is not ordinarily regarded as a matter of convention. But Grünbaum has emphasized that, on his view, this is a matter of convention, just as the choice of a metric for space in a Newtonian world is, on his view, a matter of convention.

### Radical Translation

[Similarly, W.V.O. Quine writes in *Word and Object*,] "There can be no doubt that rival systems of analytical hypotheses can fit the totality of dispositions to speech behavior as well, and still

specify mutually incompatible translations of countless sentences insusceptible of independent control." ...

Quine is talking here about the following context. A linguist is trying to translate an alien language into his home language. The two languages are supposed not to be cognate. Also, the two linguistic communities are supposed to have a minimum of shared culture. In particular, there is no standard translation from the alien language into the home language. The alien language is often thought of by Quine as a primitive language, a "jungle language", which is being translated for the first time. A translation manual is called by Quine an analytical hypothesis. Constructing a translation manual in such a context is undertaking the enterprise Quine calls *radical translation*.

Let us say just what an *analytical hypothesis* is in a more technical way. An analytical hypothesis is a general recursive function  $f$  whose domain is the set of all sentences of the alien language, whose range is a subset, possibly a proper subset, of the set of all sentences of the home language, and which has the following properties: (1) If  $a$  is an observation sentence of the alien language, then  $f(a)$  is an observation sentence of the home language, and  $f(a)$  has the same stimulus meaning for speakers of the home language as  $a$  does for speakers of the alien language. (2)  $f$  commutes with truth functions; that is to say,  $f(a \vee b)$  equals  $f(a) \vee f(b)$ , etc. (3) If  $a$  is a stimulus analytic (respectively, stimulus contradictory) sentence of the alien language, then  $f(a)$  is a stimulus analytic (respectively, stimulus contradictory) sentence of the home language. If the linguist is bilingual, then condition (1) can be strengthened to condition (1'): if  $a$  is an occasion sentence of the alien language, then  $f(a)$  is an occasion sentence of the home language, and the stimulus meaning of  $a$  for the linguist is the same as the stimulus meaning of  $f(a)$  for the linguist. ...

The thrust [of this is] that it is possible to have "rival" analytical hypotheses which "fit the totality of speech behavior to perfection" and which still specify mutually incompatible translations of countless sentences insusceptible of independent control." Now, let  $f_1$  and  $f_2$  be two such rival analytical hypotheses. Then Quine's view is that there is no "fact of the matter" as to whether the translations provided by  $f_1$  are the correct translations from the alien language into the home language or whether the translations provided by  $f_2$  are the correct translations from the alien language into the home language. There is no such thing as correct translation in any absolute sense. The notion of correct translation has to be relativized to an analytical hypothesis. The translations provided by  $f_1$  are the correct translations relative to  $f_1$ , tautologically. And similarly, the translations provided by  $f_2$  are the correct translations relative to  $f_2$ , tautologically. Although Quine does not put it that way, he might have summed this up... by saying that *the choice of an analytical hypothesis is a matter of convention*.

...

In one respect, it is a triviality that language is conventional. It is a triviality that we might have meant something other than we do by the noises that we use. The noise 'pot' could have meant what is in fact meant by the word 'dog', and the word 'dog' could have meant what is in fact meant by the word 'fish'. Let us call this kind of conventionality Trivial Semantic Conventionality (*TSC*). Grünbaum emphasizes that he does not intend the thesis of the conventionality of the choice of a metric to be an instance of *TSC*. The thesis that there is no fact

of the matter as to whether *distance is distance as defined by the metric  $M_1$  or distance as defined by the metric  $M_2$*  is not to be interpreted as meaning that the word "distance" might have been assigned to a different magnitude, as, for example, "pressure" might have been assigned to *temperature*, and "temperature" might have been assigned to *pressure*. The thesis is rather that, even *given* what we mean by "distance", there is no fact of the matter as to which is the true distance. ■

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Reading #2: From William James, "Abstractionism and 'Relativismus,'" Chapter 13 in *The Meaning of Truth*. New York: Longman Green and Co (1911): 246-271, [https://brocku.ca/MeadProject/James/James\\_1911/James\\_1911\\_13.html](https://brocku.ca/MeadProject/James/James_1911/James_1911_13.html)

ABSTRACT concepts, such as elasticity, voluminousness, disconnectedness, are salient aspects of our concrete experiences which we find it useful to single out. Useful, because we are then reminded of other things that offer those same aspects; and, if the aspects carry consequences in those other things, we can return to our first things, expecting those same consequences to accrue.

To be helped to anticipate consequences is always a gain, and such being the help that abstract concepts give us, it is obvious that their use is fulfilled only when we get back again into concrete particulars by their means, bearing the consequences in our minds, and enriching our notion of the original objects therewithal.

Without abstract concepts to handle our perceptual particulars by, we are like men hopping on one foot. Using concepts along with the particulars, we become bipedal. We throw our concept forward, get a foothold on the consequence, hitch our line to this, and draw our percept up, travelling thus with a hop, skip and jump over the surface of life at a vastly rapider rate than if we merely waded through the thickness of the particulars as accident rained them down upon our heads. Animals have to do this, but men raise their heads higher and breathe freely in the upper conceptual air.

The enormous esteem professed by all philosophers for the conceptual form of consciousness is easy to understand. From Plato's time downwards it has been held to be our sole avenue to essential truth. Concepts are universal, changeless, pure; their relations are eternal; they are spiritual, while the concrete particulars which they enable us to handle are corrupted by the flesh. They are precious in themselves, then, apart from their original use, and confer new dignity upon our life.

One can find no fault with this way of feeling about concepts so long as their original function does not get swallowed up in the admiration and lost. That function is of course to enlarge mentally our momentary experiences by *adding* to them the consequences conceived; but unfortunately, that function is not only too often forgotten by philosophers in their reasonings, but is often converted into its exact opposite, and made a means of diminishing the original experience by *denying* (implicitly or explicitly) all its features save the one specially abstracted to conceive it by.

This itself is a highly abstract way of stating my complaint, and it needs to be redeemed from obscurity by showing instances of what is meant. Some beliefs very dear to my own heart have been conceived in this viciously abstract way by critics. One is the 'will to believe,' so called; another is the indeterminism of certain futures; a third is the notion that truth may vary with the standpoint of the man who holds it. I believe that the perverse abuse of the abstracting function has led critics to employ false arguments against these doctrines, and often has led their readers too to false conclusions. I should like to try to save the situation, if possible, by a few counter-critical remarks.

Let me give the name of 'vicious abstractionism' to a way of using concepts which may be thus described: We conceive a concrete situation by singling out some salient or important feature in it, and classing it under that; then, instead of adding to its previous characters all the positive consequences which the new way of conceiving it may bring, we proceed to use our concept privatively; reducing the originally rich phenomenon to the naked suggestions of that name abstractly taken, treating it as a case of 'nothing but' that concept, and acting as if all the other characters from out of which the concept is abstracted were expunged. Abstraction, functioning in this way, becomes a means of arrest far more than a means of advance in thought. It mutilates things; it creates difficulties and finds impossibilities; and more than half the trouble that metaphysicians and logicians give themselves over the paradoxes and dialectic puzzles of the universe may, I am convinced, be traced to this relatively simple source. The viciously privative employment of abstract characters and class names is, I am persuaded, one of the great original sins of the rationalistic mind.

To proceed immediately to concrete examples, cast a glance at the belief in 'free will,' demolished with such specious persuasiveness recently by the skillful hand of Professor Fullerton.[2] When a common man says that his will is free, what does he mean? He means that there are situations of bifurcation inside of his life in which two futures seem to him equally possible, for both have their roots equally planted in his present and his past. Either, if realized, will grow out of his previous motives, character and circumstances, and will continue uninterruptedly the pulsations of his personal life. But sometimes both at once are incompatible with physical nature, and then it seems to the naive observer as if he made a choice between them now, and that the question of which future is to be, instead of having been decided at the foundation of the world, were decided afresh at every passing moment in which fact seems livingly to grow, and possibility seems, in turning itself towards one act, to exclude all others.

He who takes things at their face-value here may indeed be deceived. He may far too often mistake his private ignorance of what is predetermined for a real indetermination of what is to be. Yet, however imaginary it may be, his picture of the situation offers no appearance of breach between the past and future. A train is the same train, its passengers are the same passengers, its momentum is the same momentum, no matter which way the switch which fixes its direction is placed. For the indeterminist there is at all times enough past for all the different futures in sight, and more besides, to find their reasons in it, and whichever future comes will slide out of that past as easily as the train slides by the switch. The world, in short, is just as continuous with itself for the believers in free will as for the rigorous determinists, only the latter are unable to believe in points of bifurcation as spots of really indifferent equilibrium or as containing

shunts which there – and there only, not before – direct existing motions without altering their amount.

Were there such spots of indifference, the rigorous determinists think, the future and the past would be separated absolutely, for, *abstractly taken, the word 'indifferent' suggests disconnection solely*. Whatever is indifferent is in so far forth unrelated and detached. Take the term thus strictly, and you see, they tell us, that if any spot of indifference is found upon the broad highway between the past and the future, then *no* connection of any sort whatever, no continuous momentum, no identical passenger, no common aim or agent, can be found on both sides of the shunt or switch which there is moved. The place is an impassable chasm.

...

Heaven forbid that I should get entangled here in a controversy about the rights and wrongs of the free-will question at large, for I am only trying to illustrate vicious abstractionism by the conduct of some of the doctrine's assailants. The moments of bifurcation, as the indeterminist seems to himself to experience them, are moments both of re-direction and of continuation. But because in the 'either - or' of the re-direction we hesitate, the determinist abstracts this little element of discontinuity from the superabundant continuities of the experience, and cancels in its behalf all the connective characters with which the latter is filled. Choice, for him, means henceforward disconnection pure and simple, something undetermined in advance in any respect *whatever*, and a life of choices must be a raving chaos, at no two moments of which could we be treated as one and the same man. If Nero were 'free' at the moment of ordering his mother's murder, Mr. McTaggart assures us that no one would have the right at any other moment to call him a bad man, for he would then be an absolutely other Nero. ■

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Reading #3: Lee Atwater, Republican Party strategist in an anonymous interview in 1981 <https://www.thenation.com/article/archive/exclusive-lee-atwaters-infamous-1981-interview-southern-strategy/>

"Here's how I would approach that issue as a statistician or a political scientist, or, no, as a psychologist, which I'm not... is how abstract you handle the race thing. In other words, you start out... and now y'all don't quote me on this... You start out in 1954 by saying, "N\*\*\*\*r, n\*\*\*\*r, n\*\*\*\*r." By 1968, you can't say "n\*\*\*\*r" — that hurts you. It backfires. So you say stuff like forced busing, states' rights and all that stuff. You're getting so abstract now [that] you're talking about cutting taxes, and all these things you're talking about are totally economic things and a byproduct of them is [that] blacks get hurt worse than whites. And subconsciously maybe that is part of it — I'm not saying that. But I'm saying that if it is getting that abstract, and that coded, that we are doing away with the racial problem one way or the other. You follow me? — because obviously sitting around saying, "We want to cut taxes, we want to cut this..." is much more abstract than even the busing thing, and a hell of a lot more abstract than "N\*\*\*\*r, n\*\*\*\*r." ■