

METAPHYSICAL REALISM AND PERCEPTION

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1. Metaphysical Realism

I take metaphysical realism to be the conjunction of the following three theses:

- (1') there are parts of reality which are represented by human judgments in a correct or incorrect way (semantic thesis of realism).
- (2') some parts of reality are causally independent from their being represented by human judgment (metaphysical thesis of realism).
- (3') it is possible to get to know reality and to a certain extent we do obtain such knowledge (epistemological thesis of realism).

I think that the awe-inspiring expression 'reality' is not really essential to what (1') - (3') assert. Hence I reformulate these theses in the following way:

- (1) There is something represented by human judgment in a correct or incorrect way.
- (2) There is something represented by human judgment which is causally independent from its being represented by human judgment.
- (3) There is something which gets known by human judgment.

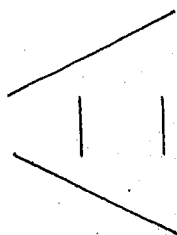
In this paper I want to argue for theses (1) and (2). I want to show that these theses follow logically from certain statements of empirical psychology. I will consider theories and law statements of the psychology of perception, and I want to argue that when applying them in explanation and prediction we are making statements which imply the semantic thesis and the metaphysical thesis of realism.

2. The railway illusion

A topic much studied in the psychology of perception is perceptual illusion. One class of perceptual illusions has to do with the perception of 2-dimensional stimuli. Those illusions are sometimes called 'geometrical illusions'. In some geometrical illusions the manner of embedding line segments in-

to certain environments determines the perception of the length of the line segments. A well-known example is the railway illusion, also called Ponzo illusion:

Fig. 1



The two horizontal line segments have equal length. But the upper one appears to be longer than the one below. We have therefore the following empirical law:

- (4) When a 2-dimensional figure as in fig. 1 is presented to subjects they judge the upper segment to be longer than the lower segment.

As Professor Bozzi pointed out to me this has to be taken with a grain of salt: the effect tends to wear off when the stimulus is presented to people repeatedly. However, I stick to this example, as its description is relatively uncomplicated. A more exact formulation of the empirical law is the following:

- (5) When persons are presented with a 2-dimensional figure in which two parallel, equally long line segments are framed by two intersecting lines, then they will judge the line segment closer to the point of intersection to be longer than the other segment.

3. The argument for the semantic thesis of realism

In this section, I want to show that the description of a particular case of the railway illusion implies thesis (1) of metaphysical realism. In order to do this I will have to describe the illusion in more detail, and this requires the introduction of some abbreviations:

- line segments 1 and 2 (' l_1 ' and ' l_2 ' are used here as proper names and as variables ranging over line segments)
- line segment 1' and line segment 2 have equal length
- line segment 1 is longer than line segment 2
- the configuration into which the line segments are embedded; i.e. their being framed by two intersecting lines (see (5))
- variable ranging over persons

P The longer-than-relation is an ordering for which the following statement is true:

- (6) From ' $l_1 > l_2$ ' follows ' $-(l_1 \approx l_2)$ '.

The expression "to represent" occurs in the semantic thesis

- (1). I want to connect this expression with other more current semantic terms. I presuppose that we know sufficiently well the meanings of 'to refer to' and of 'is true' - at least for the present purpose. For 'true' we have the T-equivalences. Let S be a sentence of English. Then:

- (7) 'S' is true (in English) iff S.

For the use of 'false' we have:

- (8) If 'S' is true, then 'S' is false.

This vocabulary can be used for paraphrasing the verb phrases '... represents ... correctly', respectively '... represents ... incorrectly'. Let me do this with regard to our example:

- (9) If ' $l_1 \approx l_2$ ' is true, and if ' l_1 ' refers to l_1 , ' l_2 ' refers to l_2 ', then ' $l_1 > l_2$ ' represents l_1 and l_2 correctly. (10) If ' $l_1 \approx l_2$ ' is false, and if ' l_1 ' refers to l_1 , ' l_2 ' refers to l_2 ', then ' $l_1 > l_2$ ' represents l_1 and l_2 incorrectly.

Furthermore, I assume the following equivalence:

- (11) a perceives that $l_1 > l_2 \iff 'l_1 > l_2'$ is a perceptual judgment of a.

The semantic thesis (1) asserts:

There is something which is represented correctly or incorrectly by human judgment.

In order to prove (1), it is sufficient to consider two individual objects l_1 and l_2 , and to prove the following disjunction: (12) l_1 and l_2 are represented by human judgments correctly or incorrectly.

Having recourse to the above abbreviations, I reformulate (5) in the following way:

- (13) UP $U_{l_1} U_{l_2}$:
(13) if (a) $l_1, l_2 \in C$, (b) $l_1 \approx l_2$, and (c) P directs the visual attention to l_1 and l_2 , then: p perceives that $l_1 > l_2$.

Suppose now person a is confronted with two equally long line segments l_1 and l_2 which are in a configuration as represented in fig. 1. That is, we have:

- (i) $l_1, l_2 \in C$.
(ii) $l_1 \approx l_2$.

- (iii) a directs the visual attention to l_1 and l_2 .

Because of (13) it follows that a will be wrong about the lengths of the two line segments:

- (iv) a perceives that $l_1 > l_2$.

We will see that (ii) and (iv) imply (12). First we note that from (ii) together with (7) (14) follows:

- (14) ' $l_1 \approx l_2$ ' is true.

And because of (8) we have:

- ' $-(l_1 \approx l_2)$ ' is false.

From this and (6) (15) follows:

- (15) ' $l_1 > l_2$ ' is false.

But we have also:

- (16) ' l_1 ' refers to l_1 .

- (17) ' l_2 ' refers to l_2 .

Because of (10) from (15), (16), (17) we get (18):

- (18) ' $l_1 > l_2$ ' represents l_1 and l_2 incorrectly.

From (iv) and (ii) (19) follows:

(19) ' $l_1 > l_2$ ' is a perceptual judgment of a.

(18) and (19) imply (20):

(20) l_1, l_2 are represented incorrectly by a's perceptual judgment.

By disjunctive expansion we get (13) and from (13) (1) follows. We see: the application of the law statement (5) in explanation and prediction results in statements which together with some auxiliary assumptions imply the semantic thesis of realism.

4. The argument for the metaphysical thesis of realism

Thesis (2), the metaphysical thesis of realism, says that in some cases the way of representing reality does not have a causal influence upon the reality represented. When investigating perceptual illusion we assume that the aspect of reality which is perceived is causally independent from perception and perceptual judgment - at least in the time interval in which perception is taking place. In the railway illusion the length relation between l_1 and l_2 is taken to be causally independent from the perceptual judgment. The perceptual judgment does not exert a causal influence upon the line segments represented. Hence we can assert:

There is something represented by human judgment which is causally independent from its being represented by human judgment.

5. Presuppositions of the arguments

The arguments sketched above are not without presuppositions. In particular they depend upon the following assumptions:

- (A) Perception has a function of representing judgments; i.e. perception is connected with representing judgments.
- (B) The semantic vocabulary used in describing relations of representation is descriptive (and not normative).
- (C) Statements which state semantic facts are empirically testable.

The idea that human language or human judgment serves the function of representation has been criticized over and over again in the history of philosophy. Here I cannot enter into the merit of this general question. I want to consider only a position which objects to the representative function of perception. The American psychologist Bruner (1957) takes the talk about the representative function of perception to be 'metaphysical hodgepodge':

A <...> feature of perception <...> is that it can be described as varying veridical. This is what has classically been called the representative function of perception: What is perceived is somehow a representation of the external world - a metaphysical hodgepodge of a statement <...> What we generally mean when we speak of representation or veridicality is that perception is predictive in varying degrees. That is to say, the object we see can also be felt and smelled and there will somehow be a match or a congruity between what we see, feel and smell. <...> Or, in still different

terms, the categorial placement of the object leads to appropriate consequences in terms of later behavior directed toward the perceived object. (10/11)

Bruner denies that a correct visual perception is connected with a representing perceptual judgment. According to him a perceptual illusion does not consist in a wrong assessment of an external stimulus. Correctness of representation, rather, means that perceptual events lead to corresponding or matching sensations in other perceptual events, also in different sense modalities. Is a perceptual event connected with others which do not match, then we have an incorrect or non-veridical perception. In our example: the initial perceptual event is connected with the expectation that the upper line segment turns out to be longer when we subject it to measurement. When this expectation comes into conflict with later perceptual events - that is those very measurements - then we undergo a perceptual illusion. Bruner does not distinguish between the perceptual event and the independently existing perceived object. This seems to lead him to a phenomenalist theory of the constitution of reality: only those things exist which are possible objects of perception. But it is well known nowadays that such theories do not allow an adequate interpretation of general theoretical statements in the empirical sciences. These statements transcend what is accessible to perception. Therefore we should reject phenomenalist theories, and with those also Bruner's phenomenalist reconstruction of representation.

Here I cannot discuss the question whether semantic vocabulary is descriptive or normative. Interested readers should consult my (1990). But I will comment on the worry that statements which assert semantic facts are not subject to empirical tests. In particular, often it is doubted that statements ascribing truth or falsehood to judgments can be tested empirically. A relevant argument starts out from the correct observation that there is no decision criterion for truth, and it concludes that therefore ascriptions of truth and falsehood cannot be subject to empirical control. This position seems to presuppose that operationalizations of theoretical concepts are infallible criteria for the properties operationalized. If we accept this, and if we also accept that there is no infallible criterion of truth, it follows that the concept of truth (or correctness) must not be used in theories of the empirical sciences. - But is it correct to take operationalization of theoretical concepts to be infallible criteria? In general, operationalizations are based on statements which connect theoretical states of affairs with other states of affairs accessible to observation. Such connecting statements, though, are not analytical, they do not have a merely conceptual character, but they are empirical and are subject to empirical testing. Hence, operationalizations cannot be taken to be infallible criteria. - Now it will be asked how as a matter of fact we do test ascriptions of truth and falsehood. The answer to this question seems to me to be quite simple. Let us recall our example. We considered statement (14):

(14) ' $l_1 \approx l_2$ ' is true.

How can we test (14)? For this purpose we just rely on T-equivalences of the form (7). We have $l_1 \approx l_2$ iff $l_1 \approx l_2$. $l_1 \approx l_2$ is true (in English) iff $l_1 \approx l_2$. Therefore, when we want to check (14), we just test $l_1 \approx l_2$. We test the ascription of a truth value to a statement by testing the statement itself. And in doing this we rely on T-equivalences.

6. Concluding remark

Let me conclude with a remark about the force of the arguments sketched in sections 3 and 4. They are no independent arguments. They presuppose a certain conception of research concerning conditions of perceptual veridicality. And this conception implicitly contains theses (1) and (2) of realism. This, of course, has to be the case if the arguments presented have any claim to validity. Hence, these arguments perhaps teach us only that theses (1) and (2) of realism are closely connected with our knowledge about the interaction between organisms and their environments.

References

- Bruner, Jerome S. (1957), 'On Perceptual Readiness', in *Psychological Review*, Vol. 54, 123-152; here quoted after: Jerome S. Bruner, *Beyond the Information Given*, New York-London 1973, 7-42.
- Bühler, Axel (1990), 'Ein Argument für den metaphysischen Realismus', in Pasternak, G. (ed.), *Philosophie und Wissenschaften*, Frankfurt-Bern-New York-Paris 1990, 181-194.