

## HOW TO CONSIDER THE TWIN EARTH EXPERIMENT

### 1. *The aim of this paper*

In this paper I try to show that the mental experiment put forward by Hilary Putnam in the mid 1970s, the so-called Twin Earth experiment, does not constitute a refutation of the idea that reference is *internal* to experience of which we are capable, that is the notion that the level of objective world is immanent and thus “constituted” as the result of our knowledge (rather than existing prior to the latter and indifferent to it). The fact that the theoretical aim for which the experiment has been adopted is quite unusual explains why this example is being used in a way which is in certain respects independent of the reasons for which it was introduced (namely, to demonstrate that intension does not determine extension). I discuss this experiment more at the metaphysical level than at that of the theory of meaning. The two levels may not, however, be without points of contact since the slogan «meanings are not in our head» (which can be entirely agreed with) can be interpreted *also* as a defence of external realism (a view I reject by denying the transcendence of the object) <sup>1</sup>.

### 2. *The Twin Earth Experiment*

In *The Meaning of Meaning* <sup>2</sup>, Putnam imagines the following situation. Let us assume that at some point in the Galaxy there is a planet exactly identical

<sup>1</sup>) What we have «in our head» can be understood in a psychological-individual sense (the internal state of the empirical subject) or in an epistemological sense (the sphere of knowledge). Putnam speaks explicitly of the psychological state. His example, however, can be interpreted in various ways since in the course of his argument he does not refer to a single empirical subject but rather to a particular stage in human knowledge. It is evident that to assert the independence of the sphere of reality from the individual psychological state is quite harmless, whereas to maintain that reality is independent from the sphere of knowledge is a wholly different matter; in this case, what we have is a *metaphysical* assertion on the relation between ontology and epistemology.

<sup>2</sup>) H. Putnam, *The Meaning of 'Meaning'*, in K. Gunderson (ed.), *Language, Mind, and Knowledge*, Minneapolis, University of Minnesota Press, 1975, pp. 131-193. Republished in

to ours (apart from a small difference we will see below), one that we could call Twin Earth or, for convenience, Earth\*. On the Earth\* there is an exact copy of every object found on our Earth; there is a nation, England, identical to the one here, in which a language identical to the English here is spoken and the inhabitants of the Earth\* call it “English” (so as to distinguish it from the English spoken on the Earth, we could call it English\*). Turning now to the small difference mentioned above, the liquid called “water” on the Earth is not H<sub>2</sub>O but an entirely different substance, which for simplicity’s sake we will define XYZ. The liquid XYZ behaves in an exactly identical fashion to our water, at least as far as can be seen at normal temperature and pressure: XYZ falls from the sky; it fills rivers and seas; fish swim in it; the population of the Earth\* quench their thirst with “water\*”, which has exactly the same taste, colour and all the other perceptible qualities as water. How do I know that XYZ is not H<sub>2</sub>O? Through a chemical analysis, of course. So far, no problem. The only difference is that of extension: we have two words which sound *identical* and refer to two *different* substances; two homophones have different objects of reference. But this is often the case, as when we say that the fan of a rival team is a “chicken” and that Robert knows a great recipe for cooking “chicken”. Although the term *sounds* the same, we associate two different descriptions with chicken-fan and chicken-dish. A problem could arise if not only the words but also the descriptions were identical and, despite this, the substances were different. This has not happened in what has been said so far. If an inhabitant of the Earth arrived on the Earth\*, he could think that water\* is water but would be ready to change his mind following a chemical analysis; he would simply have misunderstood the meaning of “water\*”, which is only apparently the same as “water”. In fact, “water” does not mean only and perhaps not so much «a liquid that falls from the sky, has a certain taste and look and so on» but also and mainly “H<sub>2</sub>O”; hence the description that we associate with “water” ≠ the description that we associate with “water\*”.

At this point, Putnam introduces a variation, which is intended to be decisive for the idea of the mental experiment in favour of realism. Our story now takes place in 1750 and everything else remains the same. At that time chemistry had not yet been developed. Nobody on the Earth knows that water is H<sub>2</sub>O and nobody on the Earth\* knows that water\* is XYZ. Both the inhabitants of the Earth and those of the Earth\* are in exactly the same psychological and cognitive condition, they possess the same rationality, the same knowledge and respond in the same way to experience. And yet, their objects are different. If an inhabitant of the Earth arrived on the Earth\*, he would think that water\* = water and would have no instrument to discover that it is not so. But, despite this, water\* would still not be water.

H. Putnam, *Mind, Language, and Reality: Philosophical Papers, Volume II*, Cambridge - New York, Cambridge University Press, 1975, pp. 239-297. For a discussion of it, see A. Pressing - S. Goldberg (eds.), *The Twin Earth Chronicles: Twenty Years of Reflection on Hilary Putnam's «The Meaning of 'Meaning'»*, Arkmonk (N.Y.), Sharpe, 1996.

### 3. *Supposed consequences*

If we place ourselves in this second version of the story, how do we *know* that water\* ≠ water? There is nothing in our experience that allows us to grasp that the two substances are different, that we are dealing with two different *things*. There are two solutions to this of which only one seems reasonable:

- 1) the two substances are the same and become different when chemistry is developed – this is equivalent to saying that our knowledge transforms our objects;
- 2) the two substances are in any event different, except that we simply do not know it as yet.

The first view seems truly bizarre as it leads us to understand that the fact of knowing something mysteriously brings about the replacement of a substance with another similar to the first. In 1750 we drink the same liquid on the Earth and on the Earth\* and in 1850 we drink different liquids? The only sensible conclusion is that things, substances, matter are in some way already there and that it is up to us to know them adequately and continually better. Knowledge of which we are capable is evidently extraneous to the ontological question of *what* exists. The only reasonable view is the second one above.

Is this outcome inevitable? Or is there something erroneous in the metaphysical interpretation of the Twin Earth argument? It seems very much to be that the *real* object, the authentic thing is not at all a result of us constituting objects, objects that are thought to acquire meaning only within our elaboration of experience. There is nothing in experience that allows us to grasp the difference between the two substances called “water” and “water\*”, but the two substance are *in themselves* different. *Or not?*

In what follows I maintain that there are at least two points on which doubts can be raised. I try to show that it is wrong to assume that the only experience of which we can speak is present experience. If experience is identified with present experience, the fact that reference is not decided by description (available at present) leads us to admit a level of reality *extra experientiam*. I discuss this point in sections 4-5. To this is added a second, correlated, erroneous view, which we can call the absolute view or God’s Eye view. I address this point in section 6.

### 4. *The flat Earth*

The problem of the hasty conclusion above lies in the presumed experience. It is obvious that experience must be the cornerstone for the metaphysical implications of the argument according to which «meanings are not in our head». In fact, experience shows itself in the act of knowing and is structured in the knowledge that we elaborate; the characterisation of experience determines the relation between the epistemic level (what we know about water) and the ontological level (the *substance* of water). To assert that there is an indissoluble link between the cognitive level and the level of objects (that is, between what – as Putnam puts it – we have «in our head» and the thing to which we refer) does

not mean that the level of the objective world is determined by what we know *here and now*.

Let us consider, for example, the assertion «the Earth is flat». Three thousand years ago, the level of our knowledge and the epistemic tools at our disposal justified this assertion and, presumably, the Earth was held to be flat. The Earth was not however flat *in itself* – this is how the realist argues – even though we represented it to ourselves in this way (that is in the wrong way since it is reality in itself that determines our theories and not vice versa). Today the assertion «the Earth is flat» is held to be false. What can we deduce from this? Certainly not that the assertion «the Earth is flat» was true three thousand years ago and became false only later on (in this case the Earth would, at a certain point, have changed its shape as a consequence of our theories). That the Earth is flat was false also at that time; the assumption of the flat Earth was congruent with the contemporary system of beliefs, with the simple experimental observations possible (the immediate evidence of the senses and manifest everyday experiences) within a – to our eyes – poor but consistent conceptual system. Yet, this knowledge did not correctly reproduce «things as they are». What is there to make us believe that the relation between the level of knowledge and that of reality is not also at present the same)? Reality is not internal to theory; rather it is theory that has to reproduce a reality independent in itself and certainly not determined by our knowledge and our experience. This is the hasty conclusion reached by the realist.

##### 5. *What experience?*

It is clearly true that the assumption of the flat Earth was congruent with the system of beliefs of the time, but are these the beliefs we are talking about when we bind reality (which is decisive for the truth of theories) to theory? The assertion of the flat Earth was not false because there is an Earth in itself that was not flat, an entity independent from the domain of our experience. The reason is that, as Kant already pointed out, it is not the experience of then or now that is crucial: what interests us is *possible* experience. Is this “modal” characterisation of experience so important?

When we talk of the truth of an assertion or a theory (which means that the assertion or theory corresponds to *reality*) we do so as if we were able to refer to ideal conditions from the epistemic standpoint. True is what holds up in the face of observations and is congruent with an ideal experience that we cannot but set ourselves as a limit. Of course, we can only approach this ideal receptiveness of total experience in an asymptotic manner, and total experience must remain an “as if” that cannot be effectively achieved by finite beings such as we are. The truth or falsehood of an assertion like «the Earth is flat» is indeed independent of the possibility of rational justification or of the actual experience of the time, but it is not independent of the possible experience of which we are capable. And it is only by having recourse to this level that we are able to speak of true or false. Truth has a “programmatically” character and is – to quote Husserl – «an idea situated at infinity», «a regulatory idea of a prescriptive

kind»<sup>3</sup> or, in Kantian terms, a noumenon. To deny that reality or truth («things as they are») are independent of experience *here and now* does not also signify denying that they are independent of *possible* experience. In reality we can only move within the limits of possible experience. To believe the contrary means assuming the «God's Eye» view.

## 6. *The God's Eye view*

Let us now go back to the Twin Earth experiment. From whose point of view is the second version of the story, the one set in 1750, told? It seems to me that the second version is incomprehensible without the first, that is, if we do not already know what chemistry will teach us in the future. In reality, it is only through a narrative fiction that we adopt a point of view «external» to human knowledge and inquire into the relation between what we know about water and the substance of water. This standpoint is deceptive: the reality is that the relation is not one between the object represented and the thing in itself (as it could be seen by God) but rather between the object known in 1750 and the object known, for instance, midway through the next century. Reconsidering the matter, all we do is to move from one experience to another (from the previous to the present one) and from one theory to another (besides, how do we know that water is H<sub>2</sub>O other than through the chemistry that we have formulated?).

Does this simple story provide any arguments for the realist? I do not think so: we can happily go on maintaining that the level of objects (and hence *reality*, and even *truth* in as much as correspondence to reality) is not independent of the level of theory and thus of the epistemic level. That this does not mean denying that reality exists is quite evident, but here is not the place to underline this once more. What have I have been concerned with is solely to put forward an immanentist point of view in response to the Twin Earth story.

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<sup>3</sup>) See E. Husserl, *Gesammelte Werke*, Band XVII. *Formale und transzendente Logik. Versuch einer Kritik der logischen Vernunft*, The Hague, Martinus Nijhoff, 1974.