Questions of Identity (II)

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Identity and the Methods of Identification

Abstract

In Tractatus*, Wittgenstein says that "to say of two things that they are identical is nonsense, and to say of one thing that it is identical with itself is to say nothing." This seems to make all the discussion about identity trivial; is there anything that can be said about identity? The extensive discussion about identity demonstrates that the notion of identity is far from trivial. Think, for example, identity of an entity over time or personal identity. The notion of individuation, or let us say identification, is a key notion for Quine in explicating his wording "no entity without identity". The notion allows us to analyse and answer questions such as the following: How to know the identity of an individual? What kinds of constraints does such identification knowledge suppose? Identification means locating an individual on some framework. However, the notion of identification may not be confused with the notion of reference: the relationship between the notions of identification and reference is reminiscent of the relationship between Frege's notions of* Sinn *and* Bedeutung*. To make the notion of identification explicit, we will use the possible-worlds semantics, which interconnects us to more general philosophical discussion. Using possible-worlds semantics we can explicate different methods of identification or cross-identification, as well as physical and perceptual methods, which allow us to analyse the notion of identity more deeply. This approach is philosophically important but it also has several methodological implications to empirical science.*

Key words

identity, identification, possible world, quantification, experiment

Introduction

The notion of identity is very curious one. On the one hand the notion seems to be too obvious to be interesting at all. "A proposition which seems clearly to be necessary is that everything is identical with itself."[1] Sentences of this form seem to be too obvious to have any use in our linguistic practice. In our everyday language we do not use sentences of the form 'x=x'. The form of the identity sentences that may have some practical use is 'x=y'. However, sentences of this form are not very easy to grasp. Ayer (1976) clarifies that

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[1]
Alfred J. Ayer, *The Central Questions of Philosophy*, Penguin Books, Harmondsworth 1976, p. 196.

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"all true propositions of the form 'x=y' are necessary."[2] Even if all of this may seem to be obvious, there is something we are not willing to accept. Wittgenstein in his *Tractatus Logico-Philosophicus* banned a sign for identity from his system, declaring that "to say of two things that they are identical is nonsense, and to say of one thing that it is identical with itself is to say nothing at all."[3]

Besides the general notion of identity, we also have the notion of personal identity. The notion refers to the identity of ourselves as human beings: who are we? Who am I? The question about personal identity has become a central question in the postmodern era. Personal identity refers to identity of a person during his or her lifetime: in what sense is a person now identical with the (same) person a few years ago or with the (same) person in his or her childhood? More generally the problem refers to temporal identity. However, the notion of personal identity forces us to also consider the criteria of identity more generally. The identity of a person is not merely a sum of some material properties. The identity of a person includes bodily properties – my body has temporal continuity – but also some psychological and sociological properties – my memory has continuity. In this paper we will not consider the notion of personal identity any further.

However, this brings us to the more general problem that can be introduced by Frege's note that an identity statement of the form 'x=y' expresses that the two "signs have the same content (*Inhalt*), while this content is determined in two different ways (*zwei Bestimmungsweisen*) by the two signs".[4] This characterisation allows us to understand several problems of the notion of identity. The use of the identity statements in opaque context – such as epistemic, temporal, perceptual or, more generally, modal context – becomes more or less problematic precisely because of the reasons expressed by Frege.

By saying that the notion of identity means sameness we do not solve the problem; we may ask the same questions about the notion of sameness as we do about the notion of identity. To take this one step further, we may follow Geach[5] and analyse the notion of identity a little.

"A distinction is customarily drawn between *qualitative* and *numerical* identity or sameness. Things with qualitative identity share properties, so things can be more or less qualitatively identical. (…) Numerical identity requires absolute, or total, qualitative identity, and can only hold between a thing and itself."[6]

The notion of qualitative identity makes the notion relative to some given classification system. The notion is as good as the classification system itself. The justification of a classification system is as difficult a problem as the justification of identity itself. However, there are several practical situations in which a classification system can be characterised and used. These are not theoretically (conceptually) acceptable. The notion of numerical identity refers to the relation everything has to itself and to nothing else. This is just the notion to which Ayer refers by saying that true sentences are necessary. Thus, this kind of characterisation does not solve the problem; they just reformulate the problem. Hence the notion of numerical identity is circular.

Identity

To go one step further, let us consider the principle of the indiscernibility of identicals: if *x* is identical with *y* then everything true of *x* is true of *y*. This is known as Leibniz's Law. We can express this formally as follows:

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$$\forall x \forall y [x=y \rightarrow \forall P(Px \leftrightarrow Py)].$$

The principle seems to be acceptable: of course, if *x* and *y* are identical then, whatever property P we take, both *x* and *y* have the property P or neither of them has it.

The principle of the identity of indiscernibles, which is the converse of Leibniz's Law, says that if everything true of *x* is true of *y*, *x* is identical with *y*. Intuitively this may seem as acceptable as Leibniz's Law. This can be expressed formally as follows:

$$\forall x \forall y [\forall P(Px \leftrightarrow Py) \rightarrow x=y].$$

This formulation is illuminating: it forces us to ask about the character of the property P over which we quantify. A natural interpretation may be that the set over which we will quantify are properties P that have representation in language. This interpretation cannot be acceptable. Not all relevant properties are expressible in the language. On the other hand, if we refer to some other properties it is not clear how to specify them. However, the problem of the reference of the property P also holds in the case of Leibniz's Law.

In extensional logic, co-referring expressions (i.e., expressions that have the same reference) can be substituted for one another without changing the truth-value of the sentence in which the substitution is made. This has been formulated as the substitutivity principle: if the terms 'a' and 'b' are codesignators then they are substitutable everywhere *salva veritate*. However, as the discussion about the identity in an opaque context shows, this principle is not true. In the following we will consider the role of this principle: in what sense it does not hold and in what sense does it hold?

In extensional logic the principle of existential generalisation also holds: from "Socrates is mortal" we can infer that "someone is mortal". In philosophy there has been discussion about the scope of the quantifiers. The scope of quantifiers or the universe of discourse is sometimes restricted to some specified (usual) objects. If quantification occurs "from outside the referentially opaque context, then what we commonly end up with is unintended sense or nonsense".[7] It is important for us to consider the principle more closely in this paper.

In the following sections we will consider how identity can be recognised: how can one get to know the identity? This requires us to analyse the identity statements more closely. Our analysis is related to Frege's distinction between *Sinn* (sense) and *Bedeutung* (reference). For Frege, *Sinn* means "the way the reference is presented".[8] In an identity statement, the names have the same

2
Ibid.

3
Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*, 5.5305.

4
Leila Haaparanta, "Frege's Doctrine of Being", *Acta Philosophica Fennica*, vol. 39, 1985, p. 59.

5
Peter Geach, "Ontological Relativity and Relative Identity", in: Milton K. Munitz

(ed.), *Logic and Ontology*, New York University Press, New York 1973.

6
http://plato.stanford.edu/entries/identity/.

7
Willard Van Orman Quine, *From a Logical Point of View*, Harvard University Press, Cambridge 1953, p. 148.

8
L. Haaparanta, "Frege's Doctrine of Being", p. 59.

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reference but a different sense. It is an important philosophical problem to consider different ways in which the reference can be presented. In the following sections we will shed some light on the problem.

Perception

The notion of perception (seeing, hearing, smelling, looking, appearing, etc.) is a very complex one. There are several different moods of perception statements. For example, the following are commonly used: "*a* sees that p", "*a* sees *b*", and "*a* sees *b* as an F". To better understand statements such as these, we have to analyse the semantical structure of such statements. This is part and parcel of the study of logic of perception.[9]

Let us consider the statement "I see the birch tree blowing in the wind".[10] There are two entirely different interpretations of the sentence. (i) Extensional perception interpretation: There is a birch tree which is blowing in the wind and I am looking at it. This does not imply that I see it as a birch tree or that I recognise it blowing in the wind. (ii) Intensional perception interpretation: I see that the birch tree is blowing in the wind.

Let us consider the following example from Niiniluoto to get more information about logic of perception. The agent sees two identical twins *a* and *b* in front of him or her. The agent cannot recognise which one is which. There are two possibilities here: (i) *a* is to the left of *b* or (ii) *b* is to the left of *a*. So, according to all the agent sees, there are two possible states of affairs specified by (i) and (ii).

This example shows that in perception there are – implicitly or explicitly – several different states of affairs. In general, we refer to the notions whose semantical analysis supposes considering several different states of affairs as modal notions. In philosophical literature, the states of affairs are called *possible worlds* and the semantics in which possible worlds are used is called *possible-world semantics*. The notion of possible worlds is a difficult philosophical topic. There is no generally accepted philosophical opinion about possible worlds. However, for our purposes, such philosophical problems are not relevant here. In this sense modal notions are, for example, possibility, necessity, belief, knowledge, memory, perception, temporal notions, etc. To have a better understanding about perception,

"… consider the totality of visual stimuli a certain person (or automaton) receives at a certain moment in time. Inevitably, this stimulus will not specify a unique scenario as to what the situation is in the perceiver's visual space. Instead, it leaves a number of alternatives open as to what is the case. Thus the identification that is being considered here concerns the identity of an object (in the wide sense of any kind of entity) in the different scenarios that the perceiver's visual information leaves open. These alternatives are the scenarios between which the identification is to take place."[11]

The quotation is very informative and important for us. So, perception can be analysed by using possible worlds as follows:

 i) *a* perceives that p = in all possible worlds compatible with what *a* perceives, it is the case that p;

ii) *a* does not perceive that p = there is a possible world compatible with everything *a* perceives in which not-p is true.

So, if the agent sees one of the twins in front of him or her there are two possible worlds compatible with everything the agent sees, namely the possible world in which *a* is the farthest to the left and the possible world in which *b*

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is the farthest to the left. The cross-identification concerns how an individual should be identified: either by identifying the person farthest to the left in each possible world or by identifying actual persons independently of the role they have in visual field of the observer.

Identification

This shows that by identification of an entity we may mean two different things. First, we may mean by identification the determination of reference in a possible world: who (what) is the object referred by the word 'a' in this specific possible world? Second, we may mean by identification the determination of identity of an object across the possible worlds: how can I determine the sameness of an entity between different possible worlds? How can we identify the inhabitants of different possible worlds? This is called the problem of *cross-identification*.

It is important to note that "identification of objects in these visual alternatives can happen in at least two different ways. In the most general terms possible, to identify a person or an object is to place him, her, or it in some framework or 'map'."[12] The foundation of such a framework is very different. We may fix the coordinate system of the framework independently of the observer. That coordinate system is object-centred or physical. In this system we cross-identify the entities by using physical knowledge. This is called *physical cross-identification*. The other is subject-centred mode of identification which employs a coordinate system defined by reference to an observer. Even if this is in an obvious sense subject-centred, there is nothing subjective about it. "Instead, it relies on objective general principles and on the possible situations between which the world lines of identification are drawn."[13] This is called *perceptual cross-identification*.[14]

World-line drawing is not a simple task. Technically it is a function from a set of possible worlds into domains of individuals of the world in the set of possible worlds. The task supposes a lot of knowledge. Physical methods of identification use, for example, bodily continuity, continuity of memory, material bodies in space and time, and many similar physical and psychological regularities. This supposes a lot of factual knowledge about the reality.

9

For further discussion, see: Jaakko Hintikka, *Models for Modalities*, D. Reidel Publishing Company, Dordrecht 1969; Jaakko Hintikka, "Information, Causality, and the Logic of Perception", in: Jaakko Hintikka, *The Intentions of Intentionality*, D. Reidel, Dordrecht 1975; Ilkka Niiniluoto, "Remarks on the Logic of Perception", in Ilkka Niiniluoto, Esa Saarinen (eds.), *Intensional Logic: Theory and Applications* (*Acta Philosophica Fennica*, vol. 35), Philosophical Society of Finland, Helsinki 1982; and G. E. M. Anscombe, "The Intentionality of Sensation: A Grammatical Feature", in: R. J. Butler (ed.), *Analytical Philosophy*, Blackwell, Oxford 1965.

10

For the example and its analysis, see I. Niiniluoto, "Remarks on the Logic of Perception".

11

Jaakko Hintikka, John Symons, "Systems of Visual Identification in Neuroscience: Lessons from Epistemic Logic", in: Jaakko Hintikka, *Socratic Epistemology. Explorations of Knowledge-Seeking by Questioning*, Cambridge University Press, Cambridge 2007, p. 151.

12

Ibid., p. 152.

13

Ibid.

14

More precisely, see J. Hintikka, *Models for Modalities*, and I. Niiniluoto, "Remarks on the Logic of Perception".

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Perceptual methods of identification use basically causal relations within an observer's visual field. That is, descriptions of two different states of affairs compatible with what the observer sees and, where two individuals figure in these two respective descriptions, we can ask whether they are identical as far as the observer's visual impressions are concerned.[15]

All this supposes a lot of knowledge. The knowledge is both factual knowledge and conceptual (semantical) knowledge. To draw a physical world line supposes a lot of factual knowledge about the reality: how things really are. Besides this, one also needs semantical knowledge about the language. In the case of a perceptual world line, one needs to follow causal links of how things seem to be. This is a kind of pure observational knowledge. Of course, semantical knowledge is also needed. The semantical knowledge is not merely formal knowledge, but knowledge that structures the reality under consideration. The essential thing is that factual and semantical knowledge are tied together in several different ways. The role of semantical knowledge in identification requires a study of its own.[16]

The crucial fact for our purposes here is that, in perceptual identification, this framework is provided by the subject's visual space. To see the general philosophical importance of all this, let us consider the following quotation.

"Wandering about in the Panopticum Waxworks we meet on the stairs a charming lady whom we do not know and who seems to know us, and who is in fact the well-known joke of the place: we have for a moment been tricked by a waxwork figure. As long as we *are* tricked, we experience a perfectly good perception: We see a lady and not a waxwork figure. When the illusion vanishes, we see exactly the opposite, a waxwork figure that only *represents* a lady."[17]

In the quotation there exist two different agents: a charming lady who seems to know the visitors and a waxwork figure. In fact, these two are physically the same object. This example cannot be analysed using physical cross-identification methods. The charming lady and waxwork figure cannot be cross-world identified. The very idea is that the visitor sees the waxwork figure as a charming lady. A natural semantical interpretation is that cross-world identification methods are perceptual. But, at the same, this implies that the usual interpretation of individuals as physical entities in a universe can no longer hold. In fact, on the basis of this kind of observations, Quine rejected the possibility of (quantificational) modal logic.[18]

According to the analysis above, the identity of individuals is not a single-world problem but a cross-world problem. An identity of an individual is basically connected to, using Frege's terminology, sense of a term rather than to reference of a term. Sense is just the way the reference is presented or – using the terminology of this paper – the method of cross-world identification. This has several philosophical implications.

In postmodern discussion there has been argumentation about the dissolving of the self; there is no personal identity but rather several different identities. However, according to a possible-worlds interpretation, this multiple-identity interpretation seems to be just Quinean single-world interpretation in which identity is identity in one possible world. However, possible-world semantics opens the identity question: there is no reason to assume that there should be a fixed one-world identity of a person. Each person is an inhabitant of several different possible worlds. The identity – possibly changing – is a cross-world identity that can be identified using several different methods.[19] We will not analyse this further in this paper.

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Identity and quantification

The analysis of methods of identification shows that Quine, in rejecting quantificational modal logic, was not (totally) wrong. However, the conclusion that there cannot be quantificational logic at all cannot be justified. In fact, the analysis shows that the converse is true. To explicate this we need to introduce two different kinds of quantifiers $(\forall x)$, $(\exists x)$ and (Ax), (Ex) in which the latter are related to the physical method of identification and the former are related to perceptual methods of identification. That is, the quantifiers are intended to operate on the level of identification method, not on the level of individuals within a domain of model. However, the ontology remains unchanged; all the individuals we need to assume are the usual individuals in a domain of a given model.[20]

The idea behind the modes of quantifiers is that the method of identification changes the identification of entity so much that we have to have tools in language that captures the difference. In fact, here the expressing power of the resulting logic is strong and the interpretation of the resulting language is a natural one.[21]

Moreover, by using perceptual quantifier $(\exists x)$ it is possible to give a natural interpretation for the quote from *Logical Investigations* above. The only additional step is that we have to have some *if-fact* operator which denotes that the object subsumed under the operator is intended to have a factual interpretation.[22] The Socrates example can be analysed by using physical quantifier (Ex). More generally, extensional perception interpretation supposes physical quantifiers and intensional perception interpretation supposes perceptual quantifiers.[23] To see how to use the quantifiers, let us take the following Niiniluoto's examples:

$$a \text{ sees something: } (\exists x)S_a(\exists y)(x=y);$$
$$a \text{ sees some thing: } (Ex)S_a(Ex)(x=y);$$
$$a \text{ sees who } b \text{ is: } (Ex)S_a(x=b);$$
$$a \text{ sees } b: (\exists x)(x=b \ \& \ S_a(\exists y)(y=x));$$
$$a \text{ correctly identifies } b: (\exists x)(x=b \ \& \ S_a(x=b)).[24]$$

where $S_a p$ is '*a* sees p'. The seeing operator 'S_a' is opaque or intensional, as we have seen. From the examples, one can see how the operator behaves. The

15
J. Hintikka, *Models for Modalities*.

16
More precisely, see J. Hintikka, *Socratic Epistemology*.

17
Edmund Husserl, *Logical Investigations*; quotation from Esa Saarinen, "Propositional Attitudes, Anaphora, and Backwards-Looking Operators", *Reports from the Department of Philosophy*, No. 6, 1977, p. 20.

18
See Willard Van Orman Quine, *Word and Object*, The MIT Press, Cambridge 1960.

19
J. Hintikka, *Socratic Epistemology*.

20
For further information, see J. Hintikka, *Socratic Epistemology*, and *Models for Modalities*.

21
I. Niiniluoto, "Remarks on the Logic of Perception".

22
See E. Saarinen, "Propositional Attitudes, Anaphora, and Backwards-Looking Operators".

23
In "Remarks on the Logic of Perception" Niiniluoto gives a precise definition of the quantifiers and characterises their basic properties.

24
Ibid., pp. 120–121.

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first and the second examples, and the third and the fourth examples show the difference between perceptual and physical quantifiers: the physical quantifier refers to physical objects and the perceptual quantifier refers to perceptual objects. From the fifth example one can see the behaviour of the intensional operator: the formula 'x=b' outside the operator 'S_a'. More precisely, we can say that the identity of the entity *b* should be identified independently of the intensional operator 'S_a'. To be effective, the independence has to go through the intensional depth of the sentence.[25]

This shows how to avoid the problems concerning the failure of existential generalisation and the failure of the substitutivity principle. Both of the failures can be characterised by using the notion of intensional depth of the sentence. The uniqueness of the reference can be guaranteed – if it actually exists – at the intensional depth of the sentence.[26]

The analysis shows that the perceptual operator is in an obvious sense subject-centered. However, it must be emphasised that the subject-centeredness does not admit any subjectivity into the consideration. As our analysis shows, the subject-centeredness means that the reference point of the framework is fixed on the subject. Even if the visual space is fixed on the subject, the visual space has no owner: it is as objective as Euclidean geometry is objective. The fix point just tells us the reference point of the framework. The good consequence of this is that the world-line of a perceptual object can be extended easily into the actual world. It must be emphasised that, in the case of physical identification, the relationship between possible worlds and actual world is a more complex question.[27]

To identify the subject-centeredness as subjectivity is a kind of category mistake. Wittgenstein emphasises that, in the case of subjectivity – private language game – there are no public criteria. "What are the criteria of identification for sensations? Wittgenstein's great answer is: there are no criteria, because no criteria are needed."[28] The distinction between perceptual and physical methods of identification is not ontological but methodological.

"The distinction between the two modes of identification on which the interpretation is based applies only to the external world. It cannot be extended to the realm of internal facts, events and objects in any straightforward way."[29]

Implications to empirical and experimental science

The distinction between perceptual and physical methods of identification has several important applications. It is important to recognise the philosophical background: the distinction is methodological not ontological. This is something extremely important to recognise. Moreover, one has to recognise that the perceptual method of identification is subject-centered but not subjective. The perceptual objects are ordinary (physical) objects. However, these objects are identified in a manner which has to be taken into consideration. In particular, they cannot be identified as such with the physical objects.

In science we are not interested in subjective facts in the sense of Wittgensteinian private objects. The reason for this is that statements about them have no public criteria. This means that there is no possibility of discussing them in public. One central supposition in science is that the whole process must be in principle discussable in public.[30] In present day research, there are many different kinds of queries. It is often quite difficult to analyse what is the proper object of these queries and what kinds of consequences one can infer from them.[31]

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Sometimes, the queries are formulated such that the object of the query would be something subjective. What you feel about this or that? For example, in Koskela, there is discussion about the security one feels.[32] What are we speaking about in such a situation? One may perceive something as safe or as dangerous independently of what kind of situation it is. Using the tools explicated above we can formulate the following:

$$a \text{ sees } b \text{ as an F: } (\exists x)(x=b \ \& \ S_aF(x)).$$

However, this allows the following:

$$a \text{ veridically sees } b \text{ as an F: } (\exists x)(x=b \ \& \ F(x) \ \& \ S_a(\exists y)(y=x));$$

$$a \text{ is experiencing a visual illusion of seeing an F: } (\exists x)(\neg F(x) \ \& \ S_a(\exists y)(y=x));$$

$$a \text{ is suffering from a hallucination of seeing an F: } (\exists x)S_aF(x) \ \& \ \neg(\exists x)((Ey)(y=x) \ \& \ S_aF(x)).[33]$$

On the basis of the query we have no way to separate these from each other. It is possible to substitute the operator 'a sees that' by the operator '$\mathcal{F}_a$p' ('a feels that p'). The interpretation of the operator $\mathcal{F}_a$ is quite similar to the interpretation of the operator S_a.

This implies that the interpretation of the queries is a much more difficult task than usually assumed in the methodology of special sciences. First of all, it must be emphasised that the intention is not to say that an individual giving an answerer is (intentionally) lying or that he or she is be stupid or anything like that. The idea is that all of this is possible and, maybe, probable for all of us: there is no logical (or methodological) reason to separate the possible interpretations mentioned above. Thus, the queries have to be planned extremely carefully and the interpretation of the answers must be anchored to the information (properly) extracted from the answers.

It is interesting to compare the interpretation of experiments in experimental science here. The observations – as observations in general – are done by some subjects. However, the questioning behind the experiments is not dependent on the observer. The questions are, in an obvious sense, structural or formal. The methodological role of the questions is to uncover truth about the object of research.[34]

25
See J. Hintikka, *Socratic Epistemology*.

26
Ibid.

27
For further discussion, see I. Niiniluoto, "Remarks on the Logic of Perception".

28
Jaakko Hintikka, "Wittgenstein and the Problem of Phenomenology", in: Leila Haaparanta, Martin Kuch, Ilkka Niiniluoto (eds.), *Language, Knowledge, and Intentionality: Perspectives on the Philosophy of Jaakko Hintikka* (*Acta Philosophica Fennica*, vol. 49), Philosophical Society of Finland, Helsinki 1990, p. 38.

29
Ibid., p. 30.

30
For further discussion, see Niiniluoto, Ilkka, 1999, *Critical Scientific Realism*, Oxford University Press

31
Arto Mutanen, "Turvallisuustoiminnasta" ("About Security Actions"), *Tiede ja ase* (*Science and Weapon*), vol. 68, 2010, discusses this and gives several applications.

32
Hille Koskela, *Pelkokierre*, Gaudeamus, Helsinki 2009.

33
Examples come from I. Niiniluoto, "Remarks on the Logic of Perception".

34
For further discussion see Vincent F. Hendricks, *The Convergence of Scientific Knowledge. A View from the Limit*, Kluwer Academic Publishers, Dordrecht 2001.

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In experimental science, the scientist looks for functional dependencies between some variables. The questioning is structured such that the answer should provide information that allows the experimenter to identify the intended function. To say this more precisely, the scientist searches for the function *f* which demonstrates the searcher functional dependence:

$$(\exists f)K(\forall x)S[x,f(x)],$$

where K is the epistemic operator 'knows that'. However, the experiment alone cannot give that much information. The information that can – in principle – be obtained from the experiment is the function-in-extension. The function-in-extension or the graph of the function does not give the information needed. Even if we assume that the scientist knows the function-in-extension, it does not guarantee that the scientist would know which function the function is mathematically: the scientist needs to identify mathematically the function-in-extension.

The knowledge needed to know the function-in-extension is mathematical knowledge about functions. This knowledge is mathematical or, more generally, conceptual knowledge. The knowledge about the function-in-extension is empirical knowledge about objects (*a* knows *f*). In fact this knowledge is obtained via observations of objects (*a* sees *b*). Together with empirical knowledge and mathematical knowledge, the scientist gets to know the intended factual functional relationship in reality.[35]

It would be an interesting philosophical task to analyse more precisely the relationship between the methodology of experimental science and different kinds of queries. There seems to be several interconnections but, at the same, there are also differences. However, the analysis cannot be done within this paper. The analysis of perceptual and physical methods of identification gives a methodological foundation for such an analysis. Thus, the argumentation above can be seen as a foundational starting point for such an analysis.

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Identitet i metode identifikacije

Sažetak

U Tractatusu *Wittgenstein navodi da »reći za dvije stvari da su identične besmisleno je, a reći za jednu stvar da je identična sama sa sobom znači ne reći ništa.« Ovime se rasprava o identitetu može činiti trivijalnom; može li se išta reći o identitetu? Opsežne rasprave o identitetu pokazuju da je pojam identiteta daleko od trivijalnog. Zamislimo samo npr. identitet stvari kroz vrijeme ili osobni identitet. Pojam individuacije, ili bolje rečeno identifikacije, ključni je pojam za Quinea pri eksplikaciji njegove formulacije »nema entiteta bez identiteta«. Taj nam pojam omogućuje analizu i odgovore na sljedeća pitanja: Kako znamo identitet pojedinca? Kakva ograničenja pretpostavlja takvo znanje o identitetu? Identifikacija označava lociranje pojedinca unutar nekog okvira. Međutim, pojam identifikacije ne smijemo miješati s pojmom referencije: odnos između ta dva pojma podsjeća na odnos između Fregeovih pojmova smisla (*Sinn*) i značenja (*Bedeutung*). Kako bi eksplicirali pojam identifikacije, koristit ćemo semantiku mogućih svjetova, što nas dovodi u vezu s općenitijim filozofskim diskusijama. Pomoću semantike mogućih svjetova možemo eksplicirati različite metode identifikacije i kros-identifikacije, kao i fizikalne i percepcijske metode koje nam omogućuju dublju analizu pojma identiteta. Ovaj pristup je filozofski značajan, no također ima i neke metodološke implikacije za empirijsku znanost.*

Ključne riječi

identitet, identifikacija, mogući svijet, kvantifikacija, eksperiment

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Identität und Methoden der Identifikation

Zusammenfassung

In Tractatus *bringt Wittgenstein vor: „Von zwei Dingen zu sagen, sie seien identisch, ist ein Unsinn, und von Einem zu sagen, es sei identisch mit sich selbst, sagt gar nichts." Hierdurch erscheint die gesamte Diskussion zur Identität trivial; gibt es da irgendetwas, was über die Identität ausgedrückt werden kann? Der umfangreiche Meinungsaustausch zur Identität besagt, die Notion der Identität sei alles andere als trivial. Malen wir uns beispielshalber die Identität einer Entität im Laufe der Zeit beziehungsweise die persönliche Identität aus. Der Begriff der Individuation, oder sagen wir mal der Identifikation, repräsentiert den Schlüsselbegriff in der Explikation von Quines Formulierung „keine Entität ohne Identität". Dieser Gedanke versetzt uns in die Lage, folgende Fragen zu analysieren sowie zu beantworten: Wie kennt man die Identität eines Einzelnen? Was für Einschränkungen setzt ein solches Identifikationswissen voraus? Die Identifikation bedeutet die Ortung des Individuums innerhalb eines bestimmten Rahmens. Der Begriff der Identifikation ist indessen nicht mit jenem der Referenz zu verwechseln: Das Verhältnis zwischen den beiden Notionen gemahnt an jenes zwischen Freges Begriffen des Sinnes und der Bedeutung. Um die Notion der Identifikation zu erläutern, bedienen wir uns der Mögliche-Welten-Semantik, welche uns mit einer allgemeineren philosophischen Auseinandersetzung vernetzt. Mithilfe von Mögliche-Welten-Semantik können wir differente Identifikations- bzw. Cross-Identifikationsmethoden explizieren, wie auch physikalische und perzeptorische Methoden, die eine tiefere Analyse des Identitätsbegriffs gestatten. Dieser Ansatz ist philosophisch belangvoll, allerdings begreift er etliche methodologische Implikationen zur empirischen Wissenschaft ein.*

Schlüsselwörter

Identität, Identifikation, mögliche Welt, Quantifikation, Experiment

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For further discussion, see Jaakko Hintikka,
Inquiry as Inquiry: A Logic of Scientific Discovery, Kluwer Academic Publishers, Dordrecht 1999; see also V. F. Hendricks, *The Convergence of Scientific Knowledge*.

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52 (2/2011) pp. (255–266)

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A. Mutanen, Identity and the Methods of
Identification

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Identité et méthodes d'identification

Résumé

Dans le Tractatus*, Wittgenstein indique que « dire que deux choses sont identiques est dépourvu de sens, et dire d'une chose qu'elle est identique à elle-même c'est ne rien dire du tout ». Ceci semble rendre tout débat sur l'identité sans intérêt; peut-on dire quoi que ce soit au sujet de l'identité ? Les amples débats sur l'identité démontrent que la notion d'identité est loin d'être sans intérêt. Pensons, par exemple, l'identité d'une entité à travers le temps ou l'identité personnelle. La notion d'individuation, ou plutôt d'identification, est une notion clé pour Quine afin d'expliquer sa formule « pas d'entité sans identité ». Cette notion nous permet d'analyser et de répondre aux questions telles ques : Comment connaître l'identité d'un individu ? Quelles sortes de contraintes suppose un tel savoir d'identification ? L'identification implique de situer un individu dans un cadre. Cependant, la notion d'identification ne doit pas se confondre avec celle de référence : le rapport entre les notions d'identification et de référence rappelle celui entre les notions de sens (*Sinn*) et de dénotation (*Bedeutung*) de Frege. Afin d'expliciter la notion d'identification, nous utiliserons la sémantique des mondes possibles, ce qui nous relie à un débat philosophique plus général. En utilisant la sémantique des mondes possibles, nous pouvons expliquer différentes méthodes d'identification et de trans-identification, tout comme les méthodes physiques et perceptives qui nous permettent d'approfondir l'analyse de la notion d'identité. Cette approche est philosophiquement importante, mais elle comporte en outre quelques implications méthodologiques pour la science empirique.*

Mots-clés

identité, identification, monde possible, quantification, expérience