REDUCTIONISM AND ACTION PREDICATES*

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This article aims at characterizing discussions within the analytic philosophy of action on reductionist and antireductionist approaches to ordinary action predicates. Two antireductionist arguments – both of them directed against the possibility of extensional equivalence of ordinary action predicates and scientific predicates – are identified as central in shaping the discussion, namely, the argument from multiple realizability and the argument from rationality constraints. The article ends with a short discussion of practical considerations which, together with theoretical prospects for the reduction of ordinary action predicates, delineate possible scenarios of retentive and eliminative theory change in action theory.

Keywords: *action, philosophy of; reduction; elimination; multiple realization, rationality.*

1. Introduction

Discussions of reductionism typically take one of two directions. They attempt either to provide an account of reduction as such by describing and evaluating different forms of reductive analysis, or to assess the prospects of reductive strategies as applied to particular theories, concepts or phenomena. This article falls into the second category as it is concerned with the prospects of reductive analysis of ordinary action predicates, i.e. words or phrases used to refer to human action in ordinary speech, such as 'painting', 'having a cup of tea' or 'fighting the enemy'.

Roughly speaking, reductionism, in any of its many forms, is a claim that (a) phenomena of certain domain are 'nothing over and above' *and* that (b) they can be fully accounted for by the phenomena of some other, typically more basic, domain. Antireductionism, respectively, claims that phenomena of the former domain are something 'over and above' *or* at least that they cannot be sufficiently accounted for by the phenomena of the latter domain. These oversimplified characterizations inevitably gloss over many important differences between distinct forms of reductionism and antireductionism in terms of what is to be reduced and of different understandings of 'being something over and above' and of 'being accounted for'. However, they provide a good starting point to frame our discussion. The ques-

* This research was funded by a grant (No. MIP-023/2011) from the Research Council of Lithuania. I wish to thank Ieva Vasilionytė and Vytautas Grenda for valuable comments on an earlier draft.

tions I intend to address correspond to the two facets of these characterizations. *First*, what is the domain into which ordinary actions are supposed to be reducible? Or, alternatively, what is it that antireductionists argue against reducing human actions to? *Second*, what is the nature of reduction to be employed? Or, alternatively, what type or types of reduction are not applicable to ordinary action predicates?

Early analytic philosophy of action saw itself largely as an antireductionist response to behavioristic trends in psychology (e.g., Skinner 1953; Tolman 1938) and philosophy (e.g., Carnap 1959; Hempel 1949). These philosophers of action (e.g., Anscombe 1963; Kenny 1963; Melden 1961; Taylor 1964), loosely referred to as 'post-Wittgensteinians', were motivated by the conviction (contra behaviourism) that when we speak of human action we speak about something more than 'bodily movement', 'mere behaviour', or 'motor responses', and that there is a non-contingent rationalizing connection between descriptions of human actions and their mental antecedents, best approached by means of ordinary language analysis. Antireductionism has gained additional momentum with the advent of causal theory of action, still referred to as 'the standard story' of explaining action and agency, perhaps most closely related with the name of Donald Davidson, his influential paper 'Actions, Reasons, and Causes' (1963) being a key text in initiating and shaping this approach. Causal theory of action allowed to provide a non-reductive account of action which was at the same time compatible with materialist metaphysics. Mostly because of these two major lines of thought one can quite often come across claims that philosophy of action is antireductionist in its spirit (e.g., see Bunzl 1987: 181). This can also be readily seen in the earliest anthologies, such as (White 1968) or (Brand 1970), which do not include any reductionist proposals.

Early reactions by philosophers of action against logical behaviorism, which is primarily a theory of mental states, indicate a close link between philosophy of mind and philosophy of action. Since philosophy of mind had its own battles with behaviorism, some of its later developments, primarily, different forms of functionalism (e.g., Fodor 1987; Lewis 1966) and eliminative materialism (e.g., Churchland 1981; Stich 1983), exerted profound influence on the discussions of reductionism in philosophy of action as well. The conviction shared by many philosophers of action that intentions and intentional actions should be placed in the context of the whole network of mind was neatly summarized by Carlos Moya: "agency and mind stand or fall together" (1990: 5). Close interrelation of philosophical study of the mind and philosophical study of human actions will surface frequently in the following discussion, but let me start with some preliminaries.

2. What is there to be reduced?

Let me provide a simplistic three-stage description of a typical sequence of steps in a discussion relating to the possibility of reduction in action theory:

I. It is typical to start with the claim that there is a specifiable way people ordinarily refer to, describe and explain human

actions. 'Peter is climbing up the stairs', 'Jane is playing poker', and 'Dave reads a paper' are examples involving such ordinary descriptions of actions, which, as a type, are referred to by choosing some designator from a cluster of related concepts, such as 'ordinary', 'folk', 'everyday', or, with more theoretical import, 'antinaturalistic', 'intentionalistic', 'teleological'. There is vast literature, especially in the ordinary language tradition and the early stages of action theory, that registers this wealth of practices of everyday description and explanation of human action (e.g., Austin 1957; Hart 1949; Melden 1961; Wittgenstein 1953). For the sake of simplicity, let us call this type of descriptions ordinary action predicates, or simply *action predicates.*

It is often claimed that these everyday practices of description of human actions together with their explanation in terms of beliefs, desires and other mental states constitute a proto-theory, which operates similarly as scientific theories do. Mental states are treated as theoretical unobservables, postulated in order to account for and predict human behavior (e.g., Churchland 1981; Heider 1958; Sellars 1956). This alleged proto-theory is usually referred to as 'folk psychology', 'common-sense psychology', 'theory of mind', or 'naïve psychology'. There is an open debate whether this 'theory-theory' is the right theory of folk practices of description and explanation, and some of the reductionist and antireductionist strategies in the philosophy of mind and, consequently, action, depend on there existing (or not existing) such a proto-theory. Fortunately, for the present purposes I can abstain from taking sides in this debate.

II. After establishing this common wisdom about action predicates there is often a second step: an indication that there are other ways to describe and explain actions, ways not involving action predicates or at least significantly revising them. Often, these tools for description are introduced as a part of some current or future theory of human behavior. This second way to describe actions generates descriptions that are referred to by some member from another cluster of related concepts, such as 'scientific', 'naturalistic', 'nonintentionalistic', 'physicalistic', 'non-teleological'. Similarly, the distinction was often expressed by saying that the relevant difference is between descriptions of (full-blown) actions and descriptions of (mere) behavior, where behavior predicates are supposed to be expressible in the language of some current or future science. In contrast to *action predicates,* let us call this second type of descriptions *scientific predicates*. A more detailed characterization of scientific predicates relevant to the philosophy of action will be provided in Section 3.

III. Finally, the relation between and relative merits of these two vocabularies, these two ways to conceptually parse and describe the domain of human activities is assessed, which can lead to a judgement that one of the two vocabularies – involving action predicates or involving scientific predicates – is preferable, is useless for practical purposes, is impossible to coherently formulate, is translatable into another one, or any other such judgment depending on the aims of the discussion.

Since discussions on reduction in general are a matter of explicating relations be-

tween two vocabularies, two schemes, two levels of description, when confronted with this separation between action predicates and scientific predicates, one can ask the following questions: Can the same domain (namely, human activities as described by action predicates) be adequately described using scientific predicates? What is the relation between theories employing action predicates and those employing scientific predicates?

3. What can action predicates be reduced to?

Let me now return to the first question mentioned in the introduction: What is the domain into which ordinary actions are supposed to be reducible? Answering this question should allow to specify the nature of scientific predicates into which action predicates are supposed to be reducible.

Two major ways to delineate this reducing domain can be distinguished. The first of these is the idea closely related to logical behaviourism that ordinary action predicates can be reduced to bodily movement predicates. The doctrine of logical behaviourism hoped to solve the ontological puzzle of mental states by showing them to be abbreviations for behavioural patterns and dispositions. The rationale behind the behaviourist project was this: if one is to analyze mental states as behavioural dispositions, one has to have a way to characterize behaviours without mentioning mental states themselves (e.g., Carnap 1959; Hempel 1949). Actions must be nothing but types of (sequences of) bodily movements. (Some behaviourists, including Rudolf Carnap, argue that this reducing domain can also include 'micro-structure of the human body' (Carnap 1959: 187).) Similar idea motivates attempts within analytic functionalism to provide 'topic neutral' analyzes of mental states (e.g., Armstrong 1968; Lewis 1972; Shoemaker 1981). This way of constructing scientific predicates will be briefly discussed in section 4.

The second way to delineate the reducing domain can be traced back to action theoretical critique of behaviorism: behavior can be treated as action only if it has mental antecedents of the right kind. These mental antecedents are supposed to rationalize the action and, if one accepts a causal theory of action, these antecedents should also cause the action (in the right way). It is in the nature of actions that they are accompanied by mental states – these mental states provide their individuation conditions. Mental antecedent, and its content in particular, is part of the identity of an action. Let me quote Dagfinn Føllesdal and Charles Taylor on this point:

> What qualifies a movement as an action is that it is explained by a reason explanation rather than by a purely causal explanation. (Føllesdal 1982: 312)
>
> Thus if we look at human behavior as action done out of a background of desire, feeling, emotion, then we are looking at a reality which must be characterized in terms of meaning. (Taylor 1971:13)

According to this second approach, action predicates cannot be directly reduced to movement predicates. Reductive analysis of action predicates, if possible at all, must proceed via reductive analysis of mental predicates.

These two separate directions – action to movement and action to psychology – provide two separate ways to construct the

reducing domain. Either (a) action predicates should be directly reducible to movement or other physiological predicates (by showing that action predicate *x* is extensionally equivalent to some movement predicate *y*) or (b) reductive analysis of action predicates should go via some mental predicates, which, in their own turn, should be reducible to some complex of neurophysiological and/or functional predicates. Picking any of these two directions at the end will likely lead a reductionist all the way to the bedrock of physiological predicates. However, the paths taken are different, even opposite.

4. Extensional equivalence of predicates

In philosophy of action, reductive analysis is usually construed as depending on there being a possibility to establish (necessary or contingent) extensional equivalence between predicates of the reduced and the reducing theories, i. e. action predicates and predicates of some other, perhaps more basic theory. Antireductionists, then, attempt to provide arguments against the possibility to construe scientific predicates in a manner which could supply such an equivalence (e.g., Davidson 1970; 1980; Lennon 1990; Moya 1990; Taylor 1964).

Perhaps the most influential ideas to the effect that analysis based on extensional equivalence is possible was the idea common in logical positivism that actions can be definitionally reduced to sequences of bodily movements. For example, Carnap writes in his 'Psychology in Physical Language': "The class of arm-movements to which the protocol-designation 'beckoning motion' corresponds can be determined, and then described in physical concepts" (1959: 182). Further he calls such descriptions as "characterizable in terms of kinematic (i.e. spatio-temporal) concepts" (ibid: 186). Carnap refers to this process of deriving 'kinematic diagrams' as 'physicalization' and sees its practical implementation as a precondition to the successful unified science of human behavior. Such definitional equivalences can be treated as a species of bridge laws connecting action predicates and some other predicates from a more basic theory, like kinematic predicates or neurological predicates. Bridge laws (constructed either as biconditionals or as identity statements) allow to connect different theories via extensional equivalence of terms and thereby construct a reduction.

Another influential suggestion as to the nature of bridge laws joining two theories is due to Paul Oppenheim and Hilary Putnam (1958). Their suggestion was that such bridging analysis should be conducted on a basis of mereological part-whole relations: "Any thing of any level except the lowest must possess a decomposition into things belonging to the next lower level. In this sense each level, will be as it were a 'common denominator' for the level immediately above" (ibid.: 9).

Carnapian analysis of action predicates is best construed as of 'action to movement' type, whereas Oppenheim and Putnam are less explicit but it seems fair to say that they see human behaviour as decomposable into events at the level of human physiology including neurophysiology. Both approaches are good examples of reducing action predicates to scientific predicates via extensional equivalences.

Arguably, similar extensional equivalences should be employed in any 'topic neutral' analysis of mental predicates (e.g., Armstrong 1968; Field 1978; Lewis 1972; Shoemaker 1981), which characterizes any given mental state as a node in a complex causal network connecting mental states with environment, behaviour and other mental states. The difference from logical behaviourism is that other mental states also enter the causal story. Topic neutral analysis of mental terms functions as a device that allows to separate mental talk from non-mental talk and thereby shows how the former can be introduced by the means of the latter, either one mental term at a time or as the whole folk-theoretical mental vocabulary at the same time. Thus, the strategy requires a principled separation between the two vocabularies.

Here is an example due to David Lewis of what such analyses can look like:

> When someone is in so-and-so combination of mental states and receives sensory stimuli of so-and-so kind, he tends with so-and-so probability to be caused thereby to go into so-and-so mental states and produce so-and-so motor responses. (1972: 256)

His suggestion was to collect all the common knowledge 'platitudes' of this form and then treat the names of mental states as theoretical terms introduced in order to account for the other terms, sensory stimuli and motor responses in this case. This strategy presupposes that there is a way to characterize 'motor responses' independently from mental terms – names of motor responses are treated as 'pre-theoretical' terms, which could in principle be understood before the mental terms are introduced (ibid.: 250). This intention can be clearly seen in terminological choices of the functionalists: they avoid talking about actions and tend to talk, just like logical behaviourists, about 'motor responses' (ibid.), 'behaviour' (Armstrong 1968: 82), 'motor outputs' (Putnam 1975: 434), 'bodily movement' or 'overt behaviour'. Action predicates seem to be dependent on prior ascription of mental states and therefore they are not suitable for a theory which attempts to do precisely that – introducing mental states.

Let me now provide a sketchy summary of what I believe are the two most influential arguments against the possibility to secure extensional equivalence between action predicates and scientific predicates.

5. Against extensional equivalence: multiple realizability

Perhaps the most common argument against the possibility of extensional equivalence of action predicates and scientific predicates is the argument from multiple realization. This is the thesis that one action type can be realized by many different scientific types. Arguments of this sort were common already amongst the early critics of behaviourism. For example, David W. Hamlyn writes:

> With movements we are concerned with physical phenomena, the laws concerning which are in principle derivable from the laws of physics. But the behaviour which we call 'posting a letter' or 'kicking a ball' involves a very complex series of movements, and the same movements will not be exhibited on all occasions on which we should describe the behavior in the same way. No fixed criteria can be laid down which will enable us to deci-

> de what series of movements shall constitute 'posting a letter'. Rather we have learnt to interpret a varying range of movements as coming up to the rough standard which we observe in acknowledging a correct description of such behaviour as posting a letter. (Hamlyn 1953: 134–135)

If there is nothing in the movements themselves that allows to construct movement predicates that are extensionally equivalent to action predicates, then the unity displayed in the action predicates should come from something other than common features of different movements. This question of what could supply the required unity is often answered by claiming that it is the meaning or the content of the mental antecedents of behavior that allows to identify a piece of behavior as an action of a particular type (e.g., Davidson 1970; Føllesdal 1982; Heider 1958; Taylor 1964).

The problem of multiple realizability was seen by Jerry Fodor (1974) as a crucial obstacle in the way of unity of science. He claims, contra Oppenheim and Putnam, that predicates of special sciences will not be joined with physical predicates via bridge laws since matching predicates on the more basic level would be 'wildly disjunctive', i e., predicates of the higher level would be matched by either infinite or open-ended disjunctions of lower level predicates (Fodor 1974: 103). Physical occurrences picked out by some action predicate, say 'signaling', would form a rather diverse collection of movements that do not constitute any definable kind at the reducing level, thus blocking the possibility to provide bridge laws necessary for reduction via extensionally equivalent predicates.

6. Against extensional equivalence: rationality, coherence and normativity

The second influential argument against the possibility of extensional equivalence between action and scientific predicates is linked to the considerations of rational interpretation of human actions. In order to run this argument one has to concede that ordinary action predicates are part of a complex conceptual network covering folk practices of describing, explaining, and predicting human actions in terms of mental state ascriptions. Then the argument establishes that the whole network is constrained by requirements of rationality, coherence and normativity, and thus intentional characterizations of actions and their application are within the scope of these constraints as well (see, e.g., Davidson 1970; 1980; Dennett 1971; Lennon 1990; McDowell 1985; Moya 1990). As indicated by Davidson:

> If we are intelligibly to attribute attitudes and beliefs, or usefully to describe motions as behavior, then we are committed to finding, in the pattern of behavior, belief and desire, a large degree of rationality and consistency. (1980: 237)

Finally, the case is made that extensional equivalence of action predicates and scientific predicates is not possible since these holistic constraints applicable to reason-giving relations do not apply at the level of scientific predicates. Let me quote Davidson at length for a version of this view:

> Any effort at increasing the accuracy and power of a theory of behaviour forces us to bring more and more of the whole system of the agent's beliefs and motives directly into account. But in inferring this system from the

> evidence, we necessarily impose conditions of coherence, rationality, and consistency. These conditions have no echo in physical theory, which is why we can look for no more than rough correlations between psychological and physical phenomena. (ibid.: 231)
>
> Physical concepts have different constitutive elements. Standing ready, as we must, to adjust psychological terms to one set of standards and physical terms to another, we know that we cannot insist on a sharp and law-like connection between them. Since psychological phenomena do not constitute a closed system, this amounts to saying they are not, even in theory, amenable to precise prediction or subsumption under deterministic laws. The limit thus placed on the social sciences is set not by nature, but by us when we decide to view men as rational agents with goals and purposes, and as subject to moral evaluation. (ibid.: 239)

Davidson's version of this antireductionist argument is rather complex but more succinct versions are easy to come by. Quotes from Føllesdal and Taylor in Section 3 point in the same general direction by introducing requirements of 'rational explanation' and 'characterization in terms of meaning'. Another example is Arthur Danto's (1973: x) claim that the same sort of arm-rise can be characterized both neutrally (as 'arm-rise') and as a '*significant* bit of behavior' (as 'an admonition', 'a blessing', 'an affirmation', 'a rejection'). He then proceeds to claim that:

> It is obvious that the description of it as an arm-rise underdetermines the description of it *as* this gesture or that. ...The predicates which apply to it in this neutral sense are logically independent of and scarcely then definable in terms of predicates through which it is described in human or cultural terms. (ibid.)

The argument from multiple realizability and the argument from rationality constraints often go hand in hand. One may claim that it is exactly this whole network of rational interpretation that provides means to consider very different pieces of behaviour as actions of the same kind and therefore the problem from multiple realizability will become pressing as soon as holistic practices of rational interpretation are done away with. I cannot go much deeper into analysis of these two arguments but let me repeat that the prospects of reduction of ordinary action predicates to scientific predicates via extensional equivalence depend on answering or dismissing these two arguments. By the same token, antireductionists are well advised to attempt to further strengthen these arguments. Much of work in philosophy of action during past 50 years is precisely that.

7. Reduction and theory change: theoretical possibilities and practical considerations

Discussions of reductionism and antireductionism are closely related to the issue of theory change. Reductionist proposals open up possibilities for a relatively smooth introduction of new theoretical approaches to the study of human activities based on a different set of concepts designed to parse and describe human activities. Antireductionism, on the other hand, requires us to stick to one of the two vocabularies and either preserve ordinary action predicates or abandon them in the process of radical theory change.

Let me now distinguish two factors that frame the prospects of theory change in action theory. First, there is a question whether reduction is possible at all. The

two main arguments against extensional equivalence of action predicates and scientific predicates briefly introduced in sections 5 and 6 exert significant influence on discussions of theory change in action theory. On the one hand, much ink is spilled defending and strengthening these arguments in order to deny the possibility of extensional equivalence of action predicates and scientific predicates and, respectively, reductionism in action theory. On the other hand, there are attempts to overcome these arguments, primarily, by naturalizing mental content and rationality constraints and thus removing some obstacles from the road to reduction of action predicates to scientific predicates.

Second, there is a question which of the two vocabularies should be given priority. This is primarily a matter of practical needs. For example, Ernest Nagel claims that even were the reduction of social sciences possible using predicates differing from the ones we currently use, this won't be of any practical use. For those are the predicates we use for practical purposes (Nagel 1961: 506–508). Similar position is defended by Ran Lahav in the context of action theory:

> A conceptual scheme that classifies human events differently – that, for example, cuts across the distinction between the states of going to open a window and to drink coffee – will not capture these regularities [of practical importance], and is very like to capture states that do not evolve in accordance with any interesting pattern. In particular, a network of concepts that cuts human events into more fine-grained classes, as for example neurobiology often does, will probably miss such patterns of behaviour altogether. (1992: 103)

Another argument in this field concerns the explanatory strength of everyday action explanations. Some believe that folk-psychological vocabulary is a powerful tool of prediction and explanation and thus should be and will be preserved in a refined theory of mind and action (e.g., Fodor 1987; Horgan and Woodward 1985; Kitcher 1984; Lahav 1992). Others believe that predictive power of folk psychology is relatively weak and the whole theory is stagnating and therefore should be superseded by some new theory, perhaps some new neuroscientific theory, which is currently still in its infancy and the contours of which cannot be as yet clearly defined (e.g., P. M. Churchland 1981; 1986; P. S. Churchland 1986; Stich 1983).

While discussing the prospects of eliminative materialism in the philosophy of mind, Steven Savitt (1974) introduced an important distinction between ontologically conservative and ontologically radical theory change. This distinction is often referred to as a distinction between retention and elimination of predicates by the succeeding theory. For example, caloric fluid is no longer a part of chemistry and possessions by demons are no longer a part of psychiatry, these predicates were eliminated in the process of theory change. Planets, on the other hand, have survived the demise of the Ptolemaic system, thus planet-predicates were retained. Arguments concerning practical needs, like the ones supplied by Nagel or Lahav, can be used to argue whether the future science of action should be a vindication of ordinary practices of description and explanation of human actions and therefore use action

predicates or some slightly refined version of them, or whether it should use something of a completely different kind, perhaps some predicates from neuroscience or computer science.

Having in mind the distinction between reductionist and antireductionist theories and this distinction between radical and conservative theory change, or between retention and elimination of predicates, several possibilities can be delineated. Let me summarize them in a table.

The first two positions, both reductionist, – (I) Action predicates are reducible to scientific predicates but scientific predicates should be employed in action theory and (II) Action predicates are reducible to scientific predicates but action theory should still use them – hardly have any recent defenders. Antireductionism seems to be a strongly entrenched orthodoxy and one has to look rather far into the history to find examples of reductionist philosophy of action. Logical behaviorists defended a version of (I), albeit they seem to have oscillated between reductionism and eliminativism, and Nagel (1961) seems to have been defending (II).

Position (III) – Action predicates are not reducible to scientific predicates and scientific predicates should be employed in action theory – is eliminativism concerning ordinary action predicates (e.g., P. M. Churchland 1981; 1986; P. S. Churchland 1986). According to this view, since there is no way of translating between action predicates and scientific predicates or mapping them on one another in some more general way, ordinary action vocabulary will be ultimately dismissed. Ordinary action predicates will not be used in a scientific account of human behavior – a new language will be introduced.

Radical, eliminative theory change in action theory is usually seen as a part of a larger conceptual revision, where action predicates will be eliminated together with the whole of folk-psychological conceptual framework of mind and action. If folk psychology is systematically incorrect, one will have to find a way to characterize actions without folk-psychological vocabulary and reason-giving links.

The fourth position – (IV) Action predicates are not reducible to scientific predicates and action predicates should be employed in action theory – is both antireductionist and conservative. It dominated action theory during the early 'post-Wittgensteinian' years and it still remains the

Table. *Modes of theory change in action theory*

	Action predicates are reducible to scientific predicates	Action predicates are not reducible to scientific predicates
Scientific predicates are preferable	**I**	**III**
Action predicates are preferable	**II**	**IV**

dominating and rarely challenged orthodoxy among philosophers of action. This theoretical option covers an astonishing variety of positions spanning from Taylor's teleological anti-causalism to Davidson's causal theory of action embedded in his metaphysical framework of anomalous monism but all the positions agree that ordinary action predicates are here to stay.

8. Conclusions

Analytic philosophy of action since its establishment as a distinct branch of philosophy in mid-20th century was and still is almost exclusively antireductionist and conservative. However, much of its development can be seen as a constant effort to defend its antireductionism and its commitment to ordinary action predicates. And since there were few reductionist or eliminativist philosophers of action, the enemy was always from somewhere outside of the philosophy of action – mostly from within philosophy of mind and philosophy of science.

A characterization of philosophy of action should take into account the arguments that have been and still are shaping the discussion. Reductionism and eliminativism may not have many defenders among philosophers of action, but theoretical possibility of these alternative positions, made more credible by the developments in other fields of philosophy, has kept many a philosopher of action busy.

REFERENCES

Anscombe, G. E. M., 1963. *Intention*. Ithaca, NY: Cornell University Press.

Armstrong, D. M., 1968. *A Materialist Theory of the Mind*. London: Routledge.

Austin, J. L., 1957. A Plea for Excuses. *Proceedings of the Aristotelian Society* 57: 1–30.

Brand, M., ed. 1970. *The Nature of Human Action.* Glenview, IL: Scott, Foresman.

Bunzl, M., 1987. Reductionism and the Mental. *American Philosophical Quarterly* 24: 181–189.

Carnap, R., 1959 [1932–1933]. Psychology in Physical Language. In: Ayer, A. J. *Logical Positivism*. Westport, CT: Greenwood Press: 165–198.

Churchland, P. M., 1981. Eliminative Materialism and Propositional Attitudes. *Journal of Philosophy* 78: 67–90.

Churchland, P. M., 1986. Some Reductive Strategies in Cognitive Neurobiology. *Mind* 95: 279–309.

Churchland, P. S., 1986. *Neurophilosophy: Toward a Unified Science of the Mind/Brain*. Cambridge, MA: MIT Press.

Danto, A. C., 1973. *Analytical Philosophy of Action*. Cambridge: Cambridge University Press.

Davidson, D., 1963. Actions, Reasons, and Causes. *Journal of Philosophy* 60 (23): 685–700.

Davidson, D., 1970. Mental Events. In: Foster, L. and Swanson, J. W. eds. *Experience and Theory*. Amherst, MA: University of Massachusetts Press: 79–101.

Davidson, D., 1980 [1974]. Psychology as Philosophy. In: Davidson, D. *Essays on Actions and Events*. Oxford: Oxford University Press: 229–244.

Dennett, D. C., 1971. Intentional systems. *Journal of Philosophy* 68: 87–106.

Field, H., 1978. Mental Representation. *Erkenntnis* 13: 9–61.

Fodor, J., 1974. Special Sciences (or: The Disunity of Science as a Working Hypothesis). *Synthese* 28 (2): 97–115.

Fodor, J., 1987. *Psychosemantics*. Cambridge, MA: MIT Press.

Føllesdal, D., 1982. The Status of Rationality Assumptions in Interpretation and in the Explanation of Action. *Dialectica* 36 (4): 301–316.

Hamlyn, D. W., 1953. Behaviour. *Philosophy* 28: 132–145.

Hart, H. L. A., 1949. The Ascription of Responsibility and Rights. *Proceedings of the Aristotelian Society* 49: 171–194.

Heider, F., 1958. *The Psychology of Interpersonal Relations*. New York: Wiley.

Hempel, C., 1949 [1935]. The Logical Analy-

sis of Psychology. In: Feigl, H. and Sellars, W. eds. *Readings in Philosophical Analysis*. New York: Appleton-Century-Crofts: 373–384.

Horgan, T., and Woodward, J., 1985. Folk Psychology is Here to Stay. *Philosophical Review* 94: 197–226.

Kenny, A. J. P., 1963. *Action, Emotion and Will*. New York: Humanities Press.

Kitcher, P. S., 1984. In Defense of Intentional Psychology. *Journal of Philosophy* 81: 89–106.

Lahav, R., 1992. The Amazing Predictive Power of Folk Psychology. *Australasian Journal of Philosophy* 70 (1): 99–105.

Lennon, K., 1990. *Explaining Human Action*. London: Duckworth.

Lewis, D., 1966. An Argument for the Identity Theory. *Journal of Philosophy* 63: 17–25.

Lewis, D., 1972. Psychophysical and Theoretical Identifications. *Australasian Journal of Philosophy* 50: 249–258.

McDowell, J., 1985. Functionalism and Anomalous Monism. In: Lepore, E. and McLaughlin, B., eds. *Actions and Events: Perspectives on the Philosophy of Donald Davidson*. Oxford: Blackwell: 387–398.

Melden, A. I., 1961. *Free Action*. New York: Humanities Press.

Moya, C. J., 1990. *The Philosophy of Action: An Introduction*. Cambridge: Polity Press.

Nagel, E., 1961. *The Structure of Science: Problems in the Logic of Scientific Explanation*. London: Routledge.

Oppenheim, P., and Putnam, H., 1958. Unity of Science as a Working Hypothesis. In: Feigl, H., Scriven, M. and Maxwell, G. eds. *Minnesota Studies in the Philosophy of Science*, vol. 2. Minneapolis: Minnesota University Press, 3–36.

Putnam, H., 1975 [1967]. The Nature of Mental States. In: *Mind, Language and Reality. Philosophical Papers*, vol. 2. Cambridge: Cambridge University Press, 429–440.

Savitt, S., 1974. Rorty's Disappearance Theory. *Philosophical Studies* 28: 433–436.

Sellars, W., 1956. Empiricism and the Philosophy of Mind. In: Scriven, M., Feyerabend, P., and Maxwell, G. eds. *Minnesota Studies in the Philosophy of Science*, vol. 1. Minneapolis: University of Minnesota Press.

Shoemaker, S., 1981. Some Varieties of Functionalism. *Philosophical Topics* 12 (1): 93–119.

Skinner, B. F., 1953. *Science and Human Behavior*. New York: Macmillan.

Stich, S., 1983. *From Folk Psychology to Cognitive Science*. Cambridge, MA: MIT Press.

Taylor, Ch., 1964. *Explaining Behavior*. London: Routledge & Kegan Paul.

Taylor, Ch., 1971. Interpretation and the Sciences of Man. *The Review of Metaphysics* 25 (1): 3–51.

Tolman, E. C., 1938. The Determiners of Behavior at a Choice Point. *Psychological Review* 45: 1–41.

White, A. R., ed. 1968. *The Philosophy of Action*. Oxford: Oxford University Press.

Wittgenstein, L., 1953. *Philosophical Investigations*. Oxford: Blackwell.

REDUKTYVIZMAS IR VEIKSMUS ŽYMINTYS PREDIKATAI

Vilius Dranseika

S a n t r a u k a

Straipsnyje siekiama apibūdinti analitinėje veiksmo filosofijoje vykstančias diskusijas dėl reduktyvistinių ir antireduktyvistinių požiūrių į kasdienių veiksmus žyminčių predikatų analizę. Išskiriami du antireduktyvistiniai argumentai, atliekantys ypač svarbų vaidmenį formuojantis diskursui: materialiojo įkūnijimo įvairovės argumentas ir racionalumo reikalavimų argumentas. Abu šie argumentai yra nukreipti prieš galimybę sistemingai sutapatinti kasdienių veiksmus žyminčių predikatų ir mokslinių predikatų ekstensijas. Straipsnis baigiamas trumpai aptariant praktinius sumetimus, kurie, sykiu su teoriniu galimybės atlikti kasdienių veiksmus žyminčių predikatų redukciją įvertinimu, nužymi galimus konservatyvios ir radikalios teorijų kaitos veiksmo filosofijoje scenarijus.

Pagrindiniai žodžiai: veiksmo filosofija, redukcija, eliminavimas, materialiojo įkūnijimo įvairovė, racionalumas.

Įteikta 2012-12-04