

Bolzano on Finding Out Intentions Behind Actions

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Introduction

In paragraph 386 of his *Wissenschaftslehre* (*WL*), Bernard Bolzano presents the 28th special rule of his heuristics. The purpose of this rule is to help observers and researchers to discover intentions of given actions. Bolzano does not have an explicit theory of action, but at the beginning of the mentioned paragraph he shortly characterizes the concepts of intention (*Absicht*) and motivation. He considers intentions to be a certain kind of judgments. On the other hand, he studies intentions in a causal context. This brings his view of intentionality to a systematic connection with his theories of judgment and causality.

Bolzano distinguishes two kinds of research situations:

- (1) It is known to the researchers that a given phenomenon has been produced at will by a person (or animal) and thus has a purpose.
- (2) It is not known whether a given phenomenon has or does not have an intention behind it.

Finally, Bolzano studies five kinds of errors which can be made when the task of finding out intentions is accomplished.

Below, Bolzano's intention-finding rule is first put into its proper context in his heuristics and against the background of his theories of judgment and causality. Then his formulation of the main problem concerning intentions is studied. After that, Bolzano's advices are analysed and evaluated.

1. The context of the special rule 28

The fourth part of *WL* bears the name "Erfindungskunst" (i.e. the art of invention, or heuristics) and covers paragraphs 322-391 of this large book, which contains 718 paragraphs and is divided into five parts. In the heuristics part, Bolzano presents 13 general rules and 33 special rules, plus numerous other suggestions to facilitate researchers of various disciplines to reach their goal. That goal is said by Bolzano to be the truth. General rules are meant to be useful for any research, and this applies to most of the special rules as well.

The rules have several interconnections. They are also closely tied to the theories which have been developed in parts 1 (foundations), 2 (basic logic) and 3 (epistemology) of the book.

The first part of *WL* is *Fundamentallehre*, and it contains a proof to the effect that there are "truths in themselves" and that human beings are capable of knowing these. The second part, *Elementarlehre*, contains Bolzano's theories of concepts, of propositions, of true propositions, and of forms of logical derivation (*Schlüsse*). The third part, *Erkenntnislehre*, concerns the conditions which have to be fulfilled in order that truth be knowable for us. Heuristics thus contains the rules which have to be considered in the business of reasoning when the aim is to find the truth. Finally, the "*WL* proper", the fifth part of the book, contains the rules which have to be followed in the allocating the whole area of truth into special sciences and in the

presentation of these in specific textbooks. The book has five parts and consists of four volumes.

Those special rules which are concerned with *action* are, except for the rule of finding intentions (28), the following: that of finding suitable means to given purposes (25), of scrutinizing the judgments of others (27), of interpreting given signs (29), of finding available testimonies (30), of testing the trustworthiness of given testimonies (31), and of judging the trustworthiness of a sentence on the basis of the reputation of all those who either accept or reject it (32).

Bolzano says of rule 29 that it is a special case of the task of discovering intentions (28). Sign interpretation is thus closely connected to the explication of intentions: behind signs, there are always the intentions of those who have created them. As to rule 28, Bolzano says that it is a special case of a previous special rule 23, which is that of finding the causes of given effects.

Accordingly, intentions are a particular kind of causes – those causes which bring about actions as their effects. The intentions are had by "verständige Wesen bei ihren Unternehmungen" (*WL* 3, par. 386, p. 534); i.e., something attributable to sensible beings in their efforts. Intention (*Absicht*) or purpose (*Zweck*) is an expected effect of an action; it has determined the will of the agent to that very action, or given the motivation (*Beweggrund*) for this action. The expectation in question can be justified or is unjustified.

Moreover, Bolzano claims that every intention is only a kind of judgment. Therefore, rule 28 is also a special case of another rule, that of scrutinizing the judgments of others (27).

Because of the subsumptive relations between rules 23 and 28, on the one hand, and the rules 27 and 28, on the other hand, the theory of causality and the theory of judgments give foundations to the search for intentions. Rule 29 in turn presupposes the rule 28 (cf. above): finding an intention is essential for interpreting signs. In sum: rule 28 presupposes both rule 23 and rule 27, whereas rule 29 presupposes rule 28.

Let us now clarify the connection of the rule 28 to the theories of causality and judgment. Causes and effects are occurrences which are coordinated to each other in an analogous way as reasons and consequences. True sentences which express the existence and character of a cause can be considered as reasons, and those which maintain the existence and character of an effect, can be considered as consequences (*WL* 2, par. 168, p. 208).

Judgment is a person's stand to a sentence when he thinks or maintains that that sentence is true. It is a thought or an outward expression of a thought. It exists in the mind of the person who thinks it or presents a judgment. Cf. *WL* 1, par. 19, p. 78: "...Fürwahrhalten, oder Urtheile...Nur der gedachte oder behauptete Satz, d.h. nur der Gedanke an einen Satz, ingleichen das einen gewissen Satz enthaltende Urtheil hat Daseyn in dem Gemüthe des Wesens, das den Gedanken denkt, oder das Urtheil fällt...".

2. The problem

Bolzano raises the following questions concerning our knowledge on the phenomenal level: when are we justified to maintain that a phenomenon which we encounter has a purpose, and how is it possible for us to find out what that purpose is?

Bolzano elucidates the problem by indicating that this is mostly a difficult task, because even if we know that certain occurrences were produced by an agent's action, it is not possible to conclude that they were also anticipated by the agent let alone wanted by him. (*WL* 3, par. 386, p. 536). In other words, Bolzano distinguishes two dimensions in purposeful action: what is *expected*, and what is *intended* by an agent.

The expected and the intended do not necessarily coincide. An optimist may expect that the outcomes of his actions will correspond to his intentions; a realist counts with possible frustrations, and a pessimist even expects that the course of occurrences will deviate from that which is aimed by him. These connections between expectations and intentions do not belong to the themes of Bolzano's analysis, but one may continue the study of intentionality into this direction.

3. The procedure of finding out the intention

Let us suppose that I myself or a person whom I observe acts in a certain way which sufficiently indicates that the action has a purpose. According to Bolzano, in order to be able to say what the purpose is we must ponder on following questions: what does the acting person know? By which attention does he act? How much previous deliberation does he put into his action? Does he have an adequate knowledge of the causal connections which surround his action? Only after having answered these questions can we with a certain confidence say, which outcomes the agent has imagined his action to have – or has even in principle been able to imagine.

Even this is not enough. Not only must the agent have imagined a course of events as the effect of his action, but that course has to be such that he could want it to happen.

How to narrow down the search? Bolzano's suggestion is the following: one has to consider the set of possible outcomes and discard those which do not comply either to the duties of the agent or cannot appear favourable for him. One can then conclude that these outcomes certainly do not belong to the intentions to be found.

The real intention which brought about the decision of the agent lies in the possibilities which are left over after the above scrutiny. When we choose one of these possibilities and identify it with the agent's intention, our explanation of the action is completed. Bolzano adds to his analysis what can be called a *coherence principle*: our explanation will have a higher credibility, when the purpose which we attribute to the agent conforms to his other purposes.

4. Whether to ascribe an intention or not

We may presume that human actions and their products are intentional or have a purposeful constitution. This is a different supposition than to presume that something is done with a purpose, because our reactions to stimuli can take place without our putting a purpose behind them -

and, moreover, because sometimes we act by chance and are partly inadvertent even in our goal-oriented efforts. Theologians like Bolzano attribute purposes to gods and to the world created by God. In general, intentionality leaves its traces on the course of events. David Hume has formulated the following principle which can be followed in ascribing intentionality to given occurrences:

So far as the traces of any attributes, at present, appear, so far may we conclude these attributes to exist. (Hume 1992, ch. 11. p. 113).

According to Bolzano, when we attribute intentions to other beings, we are reasoning from our experience of their conduct that they must have a soul and be able to make observations and develop ideas, like we are. This is an argument from similarity of effects to similarity of causes, i.e. an argument on analogy. By probabilistic reasoning, we proceed first to ascription of intention and then to its identification as that very intention which it is presumed to be. Occasionally, conflicting probabilities have to be weighed against each other. Bolzano presents a beautiful example. On an uninhabited isle seamen encounter lines in the sand reminiscent of the figure which is used to illustrate Pythagoras' theorem. Have the lines been brought about by a purely causal, natural process, or have they been intentionally drawn in the sand? Both of these alternatives may be probable.

5. Errors in reasoning concerning intentions

In ascription and identification of intentions, various mistakes can be made. Bolzano mentions the following sources of error:

a) Conclusion from us to others. We may be underestimating the significance of personal differences. Especially the impressions, ideas and wishes of another being may be different from ours. b) We may take something to be God's intention that in reality is not that. For instance, believers may try to justify their actions through an appeal to God's purposes. c) We may think that some occurrences have been purposefully produced by a person when in fact they happen coincidentally, i.e. without any preceding knowledge and will of that person. d) It may be that there are several purposes behind a given action, while we are satisfied only with identifying one purpose; or even if we lay our account with several purposes, we do not subsume them into a proper order in relation to each other. e) We are inclined to deceive ourselves in attributing intentions to our own action. We may persuade ourselves that something that we did came out unintended, while in fact it was meant by us to happen as it did. We may also be convinced that we were led by an innocent intention, while in fact a wholly other intention was leading us.

Bolzano completes his analysis of the fifth error by a Socratic remark. A person must have a firm will of learning to know himself as he really is. Here, systematic self-observation and checking of one's conduct in the light of judgments expressed by others may help one to avoid self-deception. (Cf. special rule 27: Research of the judgments of other persons, par. 385, and general rule 7: Considering the judgments of others and of the experience, par. 331).

6. Conclusion

Bolzano's heuristics is not only an amazing collection of rules. Usually in a paragraph which introduces a rule in its title, Bolzano charts the relevant area of research, gives advices for inquiry and warns of possible shortcomings in the application of the rule in question.

It is in rule 28 that Bolzano speaks of intention (*Absicht*) and intentionality. As has been indicated above, this rule has many connections to other rules and its theme is also connected to the issues concerning causality, judgment and interpretation. Bolzano studies intentionality in connection with action and motivation. Because intention is a kind of judgment and judgments are formed in the mind, Bolzano comes close to the idea that intentionality is characteristic of mental phenomena in general. It was Brentano who was to take this step in his celebrated book *Psychologie vom empirischen Standpunkt* in 1874 (*WL* appeared in 1837).

One may raise critical questions concerning intention identification. When Bolzano narrows down the search, he advices one to concentrate on those effects of an action which the agent may consider favourable, or to those which conform to the agent's duties. Bolzano even claims that one is definitely justified to exclude other possible effects. However, agents may have irrational or immoral intentions. This possibility complicates the search, but it belongs to the options of a realistic heuristics.

Also Bolzano's coherence principle raises questions. According to it, correct explanation of action gets more probable when the suggested purpose conforms to other purposes of the agent. Coherence principles are vulnerable to suspicions of circularity. However, a more drastically critical point lies in the possibility of unpredictable behaviour, which is unfortunately a feature of some agents and has to be taken into account.

Bolzano's idea of several purposes (cf. above point d)) is thought-provoking. If an action has more than one purpose, it is possible that these stay in discord. Such a conflict makes an intention complicated. Bolzano himself does not consider that possibility but is rather thinking of a subsumptive order among purposes. This suggests what has been called practical syllogisms: reasoning structures by which an agent organizes his subgoals so that they help him to reach the main goal of his action.

Literature

Bolzano, Bernard 1981 *Wissenschaftslehre*, 2. Neudruck der 2. Auflage Leipzig 1929, Aalen: Scientia Verlag.

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