

Fragments from Radical Constructivism: A Way Of Learning by E. von Glasersfeld

[...]

Pattern of Action Scheme:

1) Perceived Situation → 2) Activity → 3) Beneficial or Expected Result

This new perspective can be indicated by a change of terminology, and I have come to specify the three parts of schemes as follows:

1 Recognition of a certain situation;

2 a specific activity associated with that situation; and

3 the expectation that the activity produces a certain previously experienced result.

This tripartite pattern, I believe, is crucial for the proper understanding of the functioning of assimilation and accommodation.

The 'recognition' in part 1 is always the result of assimilation. An experiential situation is recognized as the starting-point of a scheme if it satisfies the conditions that have characterized it in the past. From an observer's point of view, it may manifest all sorts of differences relative to past situations that functioned as trigger, but the assimilating organism (e.g., the child) does not take these differences into account. If the experiential situation satisfies certain conditions, it triggers the associated activity.

Accommodation

The activity, part 2, then produces a result which the organism will attempt to assimilate to its expectation part 3. If the organism is unable to do this, there will be a perturbation (Piaget, 1974a, p. 264). The perturbation, which may be either disappointment or surprise, may lead to all sorts of random reactions, but one among them seems particularly likely: if the initial situation 1 is still retrievable, it may now be reviewed, not as a compound triggering situation, but as a collection of sensory elements. This review may reveal characteristics that were disregarded by assimilation. If the unexpected outcome of the activity was disappointing, one or more of the newly noticed characteristics may effect a change in the recognition pattern and thus in the conditions that will trigger the activity in the future. Alternatively, if the unexpected outcome was pleasant or interesting, a new recognition pattern may be formed to include the new characteristic, and this will constitute a new scheme. In both cases there would be an act of learning and we would speak of an 'accommodation'. The same possibilities are opened, if the review reveals a difference in the performance of the activity, and this again could result in an accommodation.

Piaget's notion of scheme is not a simple affair. It cannot be properly understood unless one realizes that assimilation and accommodation are presumed to be subjective and depend on unobservable states in the particular cognizing agent. Assimilation has a generalizing effect in that it enables the agent to engage in a goal-directed action, even if, from the observer's point of view, the triggering situation is not quite the same as on previous occasions. If the goal is not achieved, the ensuing perturbation may lead to an accommodation. Either a new restrictive condition is added to the initial recognition process, which may serve in the future to prevent the particular 'unproductive' situation from triggering the activity. Or, if an unexpected result happens to be a desirable one, the added condition may serve to separate a new scheme from the old. In this case, the new condition will be central in the recognition pattern of the new scheme.

There is yet an added complication. The recognition of the activity's result 3 again depends on the particular pattern the agent has formed to recognize the results obtained in the course of prior experiences. That is to say, it, too,

involves acts of assimilation. Given this analysis, it is misleading to state, as do so many textbooks, that accommodation is simply the inverse of assimilation. In my interpretation of scheme theory, accommodation may take place only if a scheme does not yield the expected result. Hence it is largely determined by the cognizing agent's unobservable expectations, rather than by what an observer may call sensory 'input'.

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As this brief exposition shows, scheme theory, like any other scientific account, involves certain presuppositions. According to it, cognizing organisms have to possess at least the following capabilities:

- The ability and, beyond it, the tendency to establish recurrences in the flow of experience;
- This, in turn, entails at least two further capabilities: remembering and retrieving (re-presenting) experiences, and the ability to make comparisons and judgments of similarity and difference; and
- The presupposition that the organism 'likes' certain experiences better than others; which is to say, it must have some elementary values.

Learning

The learning theory that emerges from Piaget's work can be summarized by saying that cognitive change and learning in a specific direction take place when a scheme, instead of producing the expected result, leads to perturbation, and perturbation, in turn, to an accommodation that maintains or re-establishes equilibrium.