A Model Point of View

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Commentary on “Pragmatic Reasoning With a Point of View” by
Keith J. Holyoak and Patricia W. Cheng

Patricia Cheng and Keith Holyoak have played a central role in revealing the mysteries of the selection task (Wason, 1966). They argue that the mind contains "pragmatic reasoning schemas"; that is, principles such as:

If the preconditions are not satisfied then the action must not be taken

and they have shown that when a selection task is likely to map onto the appropriate schema, subjects are likely to make a correct selection (Cheng & Holyoak, 1985). Likewise, Holyoak and Cheng (this issue) argue that the phenomena of "point of view" can be explained by combining the schemas governing permission and obligation. Readers new to the selection task may be puzzled by what it is, and so we will begin with a brief history (see also Evans, Newstead & Byrne, 1993).

The pioneer of formalism, Jean Piaget, wrote that if individuals have to verify whether x implies y, then they "will look in this case to see whether or not there is a counterexample x and non-y" (Beth & Piaget, 1966, p.181). The selection task confronts this beautiful hypothesis with an ugly fact. The task itself consists in asking subjects to choose which of four cards should be turned over in order to find out whether a conditional assertion is true or false. In a typical version of the task, the four cards have a number on one side and a letter on the other side, which the subjects know, and the cards are laid out on a table with A, B, 2, and 3 uppermost. The conditional to be tested is:

If there is an A on one side of a card, then there is a 2 on the other side.

Intelligent adults tend to select the A card, or the A and the 2 card, and they fail to select the 3 card. In other words, given a rule of the form: if x then y, they select x, but conspicuously fail to select not-y. It is as though they have still to learn what counts as a counterexample to a conditional. However, when they are asked to generate a falsifying instance of a conditional, they usually construct
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PHARMACISTIC ANSWER WITH A POINT OF VIEW
Mental Models. The Selection Task.

A AND OR VIEW

The mental models in the selection task are presented in the table below.

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