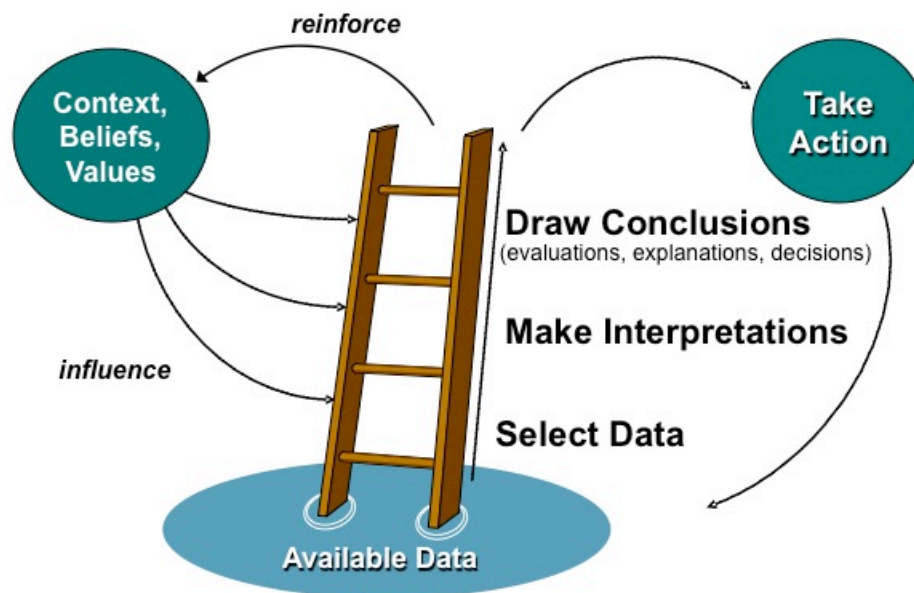


The Ladder of Inference

Philip W. McArthur

The Ladder of Inference is a key tool of action science, one approach to action research. The Ladder is a model of our reasoning steps as we assess a situation and decide what action to take (Ladder of Inference Figure 1). This entry describes the features of the Ladder, and how it can be used to help people reflect on their behavior and the reasoning behind it.



Source: Adapted from Chris Argyris

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At the bottom of the ladder are the available data: numbers on a spread sheet, the content of a memo, what others say, their non-verbal behavior, etc. Given the limits of the human mind, we can't pay attention to everything. We select, often without being aware of it, the information that is most salient, and ignore the rest (first rung). Next, we interpret what those data mean (second rung), and from these meanings, we draw conclusions: we evaluate, explain, make predictions and decide what to do (third rung). Based on the decisions we make, we then take action, and these actions become part of the data pool from which we, and others, draw further inferences. This is particularly important in interpersonal interaction. While we are typically aware of how others' actions affect us, we are often not aware of our own actions and our impact on others. Yet, the actions we take become data that others use to make inferences, attributions and evaluations about us, which may be different from what we hope or intend.

Chris Argyris developed the ladder of inference as a tool for double-loop learning - learning that produces change in values and assumptions, not simple behavior change (see entry on double loop learning). Initially developed for research and intervention, it is useful for anyone engaged in a difficult conversation where the quality of the conversation is critical for effective action. While there are alternative versions of the ladder of inference in the literature, all of them have a common focus and purpose: how people make inferences, and the need to make our inferences explicit so that we can discover and correct errors in our reasoning.

A premise of action science is that any action with an intended consequence is informed by reasoning, and the effectiveness of your action depends on the quality of your reasoning. The difficulty with improving our reasoning is that it is often invisible to us. We “go up our ladder” so quickly – at the speed of thought - that we are not aware of our interpretations and inferences. Our conclusions feel obvious; therefore, we see no need to check their validity. When people say, “The fact of the matter is...!” listen closely. What you are likely to hear is a conclusion based on implicit reasoning steps, not data that others with different perspectives would see as valid.

How we move up our ladders of inference – from data to interpretations to conclusions – is not random or accidental. Our inferences are influenced by past experience, current context, emotional state, values, and assumptions. For example, in some cultures, arriving to a meeting after the scheduled start time is considered late, and is reprimanded. In others it goes unnoticed. If your subordinate says, “We need to do X to solve Y,” you hear them requesting resources. If your boss says the same, she is telling you what to do. In a meeting with someone you mistrust, you are likely to select and interpret their actions in a way that confirms your view they are not trustworthy. Others who do not share your history may interpret the other person’s behavior differently.

Much of the time our ability to see larger patterns from limited data works to our advantage. It’s efficient and enables us to act quickly and effectively. In routine situations, reflecting on your reasoning steps and underlying beliefs and assumptions is unnecessary. In a crisis situation, it may be impractical or dangerous. However, for novel, complex, or ambiguous situations, the speed at which we draw conclusions, our assumption that we are right, and our tendency to notice only data that confirm our beliefs, can be a problem. While scientists are trained to test their assumptions and disconfirm their hypotheses, for most people this is unnatural. Failure to do so, however, can create unintended consequences. For example, a professor in a course on cross-cultural business implemented a strict “no cell phone” rule in his class, which students frequently ignored. One day, he saw a student at the back of the class using her phone. At the limit of his patience, he strongly scolded the student for breaking his rule. The student (not a native English speaker) held up her device and said, “I’m sorry, it’s my translator.”

The ladder of inference can be used for different purposes: to reflect on your emotional reactions, to facilitate discussion of substantive issues, and to give people feedback. It provides a guide for effective advocacy and inquiry. The key points for using the ladder of inference to promote productive conversation and effective action are: 1) be aware of your reasoning steps, publicly check your inferences, and encourage others to do the same; 2) look for information that challenges your own and others’ assumptions and beliefs; and 3) be aware of how our own actions become information that others use to make inferences about us, so that we can change where we have the most leverage – ourselves.

The value of any tool depends on the attitude and skill of the person using it. Staying at the top of your ladder of inference, stating only your conclusions is a form of self-protection. If you believe you are obviously right and others are obviously wrong, asking others for data is likely to be perceived as a gimmick, or a trap, and can evoke a defensive reaction. To use the ladder of inference skillfully, you must be open to learning – genuinely curious about others' views, willing to subject your reasoning to scrutiny, and interested in discovering and correcting your own errors.

Philip W. McArthur, *The Sage Encyclopedia of Action Research*, Ed. David Coughlin and Mary Brydon-Miller, Sage Press 2014.

See also: Theories of Action, Action Science, Double Loop Learning, Learning Pathways, and Advocacy and Inquiry

Further reading

Argyris, C. (1982). *Reasoning, learning, and action*. San Francisco: Jossey Bass.

Noonan, W. (2007). *Discussing the undiscussable: A guide to overcoming defensive routines in the workplace*. San Francisco: Jossey Bass.

Smith, D. (2011). *The elephant in the room: How relationships make or break the success of leaders and organizations*. San Francisco: Jossey Bass.