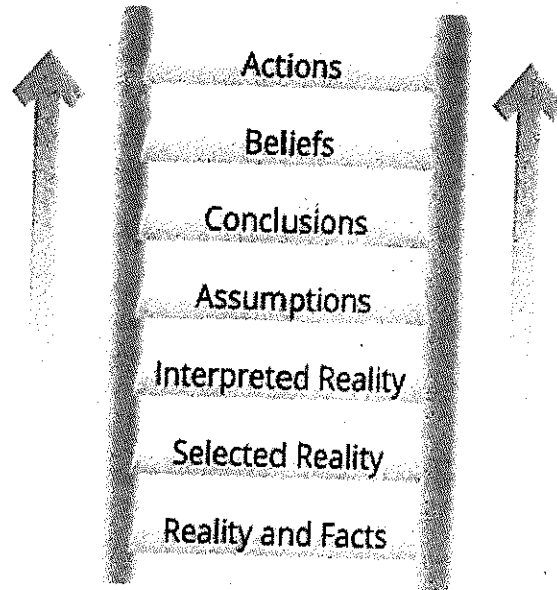


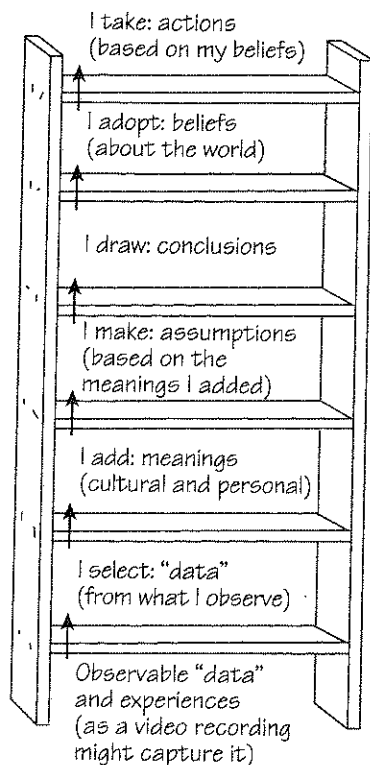
The Ladder of Inference

We live in a world of self-generating beliefs that remain largely untested. We adopt those beliefs because they are based on conclusions, which are inferred from what we observe, plus our past experience. Our ability to achieve the results we truly desire is eroded by our feelings that: Our beliefs are the truth. The truth is obvious. Our beliefs are based on real data. The data we select is the real data.



For example: Let's say I am a teacher presenting a proposed change in the science curriculum at a faculty meeting. Doris, an experienced teacher and department chair, sitting at the end of the table, seems bored out of her mind. She turns her dark, morose eyes away from me and puts her hand to her mouth, barely stifling a yawn. She doesn't ask any questions until I'm almost done, when she breaks in: "I think we should wait until next year." In this school, that typically means "Let's forget about this and move on." Everyone starts to shuffle papers and put notes away. Doris obviously thinks that I'm incompetent—which is a shame, because these ideas are exactly what she needs. Now that I think of it, she's never liked my ideas.

Clearly, Doris is a power-hungry jerk. By the time I take my seat, I've made a decision: I'm not going to propose anything again to any group that includes Doris. She will always undermine me. It's too bad I have an enemy



The reflexive loop
(Our beliefs affect
what data we select
next time.)

who's so prominent in the school system.

During the space of a few minutes (or less), I have climbed up a mental "ladder of inference"—a common mental pathway of increasing abstraction, often leading to misguided beliefs:

- I started with the observable data: Doris's comment, which is a part of common experience.
- I selected some details about Doris's behavior: her glance away from me and apparent yawn. (I didn't notice her listening intently one moment before.)
- I added some interpretations of those details. (Doris wanted me to hurry up and finish).
- I moved rapidly up to assumptions about Doris's current state. (She's bored.)

- I concluded that Doris, in general, thinks I'm incompetent. In fact, I now believe that Doris (and probably everyone whom I associate with her) is opposed to me.

Thus, as I reach the top of the ladder, I've concluded that my belief is the truth, that the truth is obvious, and that it is based on real data. It all seems so reasonable, and it happens so quickly, that I'm not even aware I've done it. Moreover, all the rungs of the ladder take place in my head. The only part visible to anyone else is the directly observable data at the bottom and my own decision to take action at the top. The rest of my trip up the ladder is unseen, unquestioned, not considered fit for discussion, and enormously abstract. (These leaps up the ladder are sometimes called "leaps of abstraction.")

I've probably leapt up that ladder of inference many times before. The more I believe that Doris dislikes me, the more I reinforce my tendency to notice her malevolent behavior in the future. This phenomenon is known as the "reflexive loop": Our beliefs influence what data we focus on next time. And there is a counterpart to this reflexive loop in Doris's mind: As she reacts to my strangely antagonistic behavior, she's probably jumping up some rungs on her own ladder and forming certain

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conclusions about me. For no apparent reason, before too long, we could find ourselves becoming bitter enemies.

Now imagine me, Doris, and three others are on, say, a school curriculum committee, and we have these untested assumptions and beliefs. When we meet to deal with a concrete problem, the air is filled with misunderstandings, communication breakdowns, and feeble compromises.

Doris might indeed have been bored by my presentation—or she might have simply been eager to read the report on paper. She might think I'm incompetent, she might have other things on her mind, or she might be afraid to embarrass me. More likely than not, *she* has inferred that *I* think *she's* incompetent. We can't know, until we find a way to check our conclusions.

Unfortunately, assumptions and conclusions are difficult to test. For instance, suppose I wanted to find out if Doris really thought I was incompetent. I would have to pull her aside and ask her, "Doris, do you think I'm an idiot?" Even if I could find a way to phrase the question, would I believe her if she answered no? And would I forgive her if she answered yes?

You can't live your life without adding meaning or drawing conclusions. It would be an inefficient, tedious way to live. But you can improve your communications through reflection and by using the ladder of inference. For instance, once Doris and I understand the concepts behind the ladder of inference, we have a safe way to stop a conversation in its tracks and ask several questions:

- What is the observable data—that anyone would agree is real—that has led you to make that statement?
- Does everyone agree about the nature of the data?
- Can you run me through your reasoning?
- How did we get from that observable data to these abstract assumptions?

I can ask for data in an open-ended way: "Doris, what was your reaction to this presentation?" Or I can simply test the observable data by making a comment like this one: "You've been quiet, Doris." To which she might reply: "I'm taking notes; I think there's a lot of potential here."

Note that I don't say "Doris, I think you've moved way up the ladder of inference. Here's what you need to do to get down." The point of this method is not to diagnose Doris's attitude but to make everyone's thinking processes visible, to see what the differences are in our perceptions and what we have in common. (You might say, "I notice I'm moving up the ladder of inference, and maybe we all are. What is the data here?")

The ladder can be used in staff development, in the classroom, and

I won't propose new ideas to Doris; she'd use them against me.

Doris is a power-hungry jerk.

Doris has never liked my ideas, even when they're right for her.

Doris isn't listening to me.

Doris put her hand to her mouth while I was speaking.

We've either got to find a way to motivate Jean or ask her to leave.

Jean's not really interested in working with us.

She's probably been forced to show up, but she leaves as soon as she can.

She must not really be interested in the committee.

Jean, one of the teachers on our joint parent-teacher committee, left early today.

in a variety of school and community meetings. When teaching, for example, instead of letting arguments among students escalate, you can ask: “What did you actually hear or see that led you to this conclusion?” The ladder of inference can often be used to resolve seemingly irreconcilable differences within school districts and among educators. For example, there are three pervasive mental models held by educators and experts in education today: 1. Each student is an individual, and education is most effective when it takes into account those individual differences (“there are all kinds of minds”). 2. Schools are responsible to educate everyone within their reach (“no child should be left behind”). 3. Schools are high-leverage institutions: The quality of a nation’s democracy, culture, and economy all depend on the quality of its public schools. These are all three reasonable statements in themselves; but when combined without examination, they can lead to difficult and polarizing conclusions. Much of the debate about education takes place through leaps up the ladder of inference related to these three statements. Education is most effective when it takes account of individual differences; therefore, any kind of standardized “drill and practice” is valueless. Many young people are illiterate or inadequately educated; therefore, schools are failing. Critics of public school overlook their obvious value to democracy; therefore, they must have a hidden agenda. Any or all of these conclusions may be true; the point of the exercise is not to debunk them. Rather, the point of the exercise is to bring to light our thinking so that we can consider them objectively and dispassionately, often in the company of people who hold the opposite view.