Bateson's Heterarchy of Learning

By WILLIAM J. ROTHWELL

What is the relationship between learning and change? Can people be challenged to improve their capacity to learn?

These questions were addressed by Gregory Bateson (1904-1979), husband of anthropologist Margaret Mead. During his life, he devised a theory of different types of learning.[1] Just as Maslow's hierarchy of needs has made it easier to conceptualize human motivation, so Bateson's heterarchy of learning can make it easier to understand the learning process.

But what is Bateson's heterarchy? What are its implications for HRD practitioners? How can it be used? By answering these questions, his theory of the relationship between learning and change can be introduced to a broader audience than the academicians now familiar with it.

What is Bateson's heterarchy?

The word heterarchy is formed from the Greek prefix *heter*, meaning different, and the Greek suffix *arche*, meaning to rank. Hence, it is a ranking by differences or by contrasts. It thus differs from a hierarchy, which is a ranking in order of importance.

Bateson's heterarchy is based on three key assumptions. It assumes that learning:
- *Denotes change*, but the degrees and the types of change may differ,
- *Is a communication process*, but the degrees and the types of communication may differ and
- *Involves the mastery of new approaches or solutions to problems.*

The heterarchy consists of five successive levels, which Bateson calls Learning 0, 1, 2, 3 and 4 (see Figure 1).

Learning 0, the most primitive, is the simplest form of behavioral change. It includes animal instinct, ritual and trial and error choice. For example, if a pine needle hits the eyeball, most animals or human beings will blink. Some event, situation or problem (a stimulus) triggers a response that requires minimal thought.

Learning 1, the next highest, includes memorization and purely instrumental change used to gain an immediate reward or to avoid anticipated punishment. For example, a student will be inclined to memorize a poem if threatened with punishment. Some event or problem situation thus triggers a response (memorization) that is the result of some, but not too much, thought in selecting a solution among a group of alternatives.

Learning 2 is the discovery of how one learns best. As Bateson explains, people "not only solve the problems set before them, where each solution is a piece of simple learning (i.e., Learning 1); but, more than this, they become more and more skilled in the solving of problems."[2] For example, if the student mentioned in the paragraph above was forced on many occasions to memorize different poems, he or she would not only learn those poems but also would become more skilled in memorization generally. An event, situation or problem triggers a response, and, through time and experience, people improve their ability to select the proper solutions to problems of the same kind.

Learning 3 is the discovery of how to change, improve or critique learning. It is exemplified in psychotherapy when patients are led to challenge their own assumptions or to recognize contradictions between their behavior and their own stated beliefs. They then can move beyond the beliefs that constrain them. For example, suppose the student mentioned in the two paragraphs above learned how to change the rate at which he or she memorized or learned to question why he or she bothered to memorize. Learning 3 would then be achieved.

Learning 4 is evolutionary change. Learning is adaptation, and evolution is its highest form. If all students devoted their lives to pure memorization over many generations, eventually the race would achieve, through natural selection, a greatly increased ability to memorize, according to Bateson.

What are the implications for HRD?

Bateson's heterarchy can be related directly to HRD. It can be linked to open systems theory,[3] organizational life cycles[4] and organizational learning.[5] When it is, the relationship between learning and

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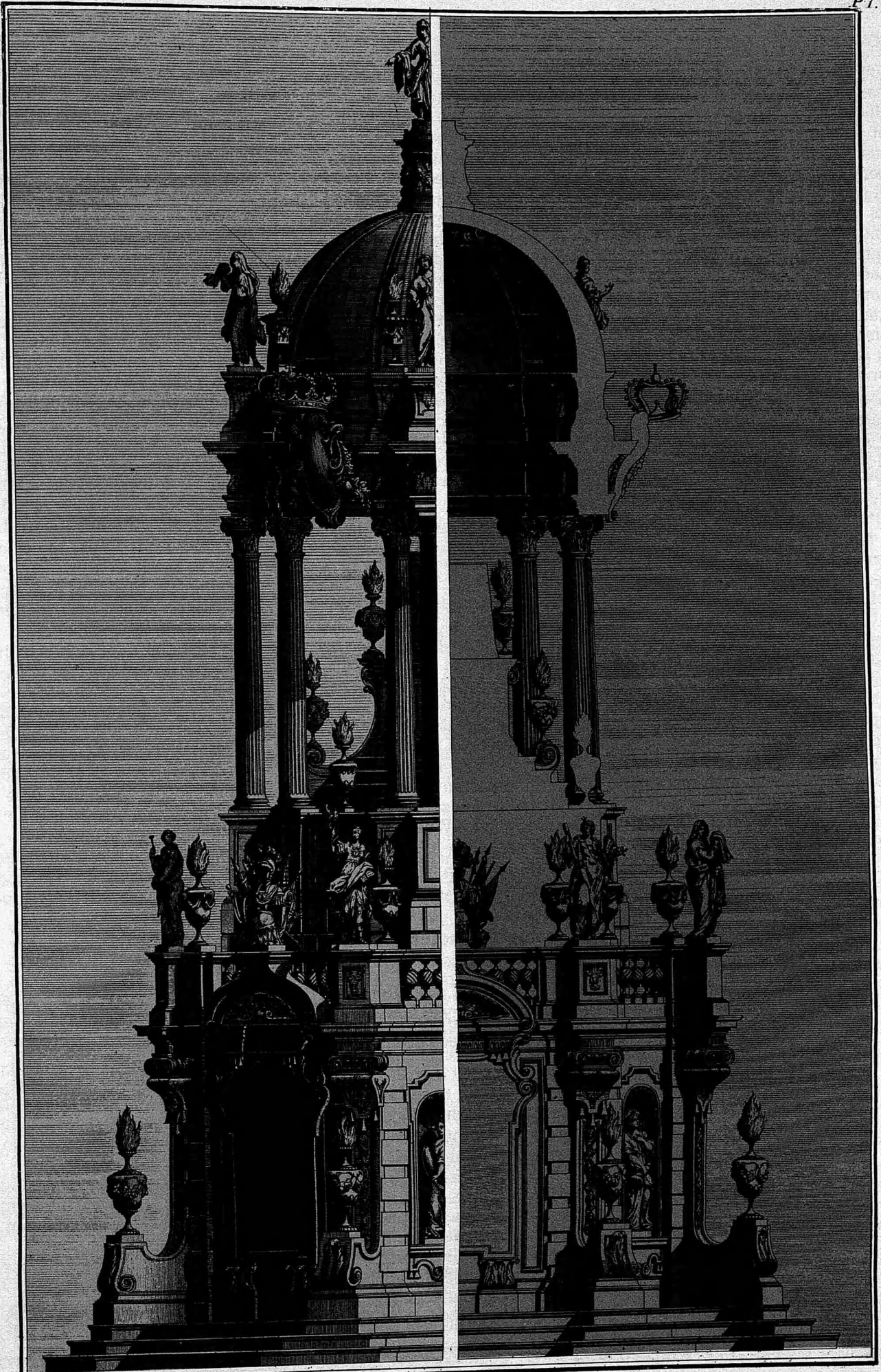
change in individuals and organizations becomes apparent.

Open systems theory maintains that organizations attempt to adapt to their environment. The theory of organizational life cycles asserts that organizations pass through stages of development in which some concerns are emphasized at the expense of others. Organizational learning theory states not only that each organization "must be viewed as an institution for problem-solving and learning"[6] but also that "just as individuals are the agents of organizational action, so they are agents for organizational learning."[7]

With this new information, Bateson's Learning 4 can be interpreted as an organization's ability to learn through time. It will be easier to induce change (learning) when an organization is ready for that change. For example, Cribbin has shown that most organizations evolve from an entrepreneurial stage where the chief goal of leadership is to ensure organizational survival.[8] It would be difficult to establish a formal training department during this early stage of the organization's life cycle.

Learning 3 has implications for the individual and the organization. It occurs when there is an attempt to change or critique learning. For individuals, it takes place when they are prompted to reconsider their fundamental assumptions about how they learn; for organizations, it takes place when the culture—the environment created by the composite management styles of all managers in it—is changed.[9] For example, an individual might believe that she learns fastest on the job, but later she attends an especially useful classroom session. She then reconsiders whether she really does learn fastest on the job. Another example: an organization may have an informal taboo against holding staff meetings which top managers believe waste time and produce little. After a year without any staff meetings, one is scheduled to solve some major

problems among several departments. The results are so impressive that top managers change their minds about meetings. When such changes are sustained, Learning 4 occurs.

Learning 2 suggests that individuals and organizations alike will improve their abilities to solve certain kinds of problems as they gain experience with them. It is an important discovery for people to learn how they learn best, and it is an equally important discovery for an organization to find out precisely how decisions are made. For example, a secretary who proofreads letters daily will become more adept at proofreading, until his or her skills rival those of a magazine editor. The discovery of how this skill was acquired is a major one.

Similarly, some managers might believe that most decisions in their organizations are the result of cool, rational logic that equates profit with a certain action. However, if they were shown that decisions sometimes reflect past solutions to problems or that individual managers favor certain decisions for their impact on that manager's future career, then an important discovery about the organizational culture has been made. When people can change how they learn or organizations can alter how decisions are made, Learning 3 occurs.

How can the heterarchy be applied?

How can HRD practitioners help others discover how they learn or prompt people or organizations to challenge or to change how they learn?

While Bateson never addresses these questions directly, he does suggest an approach—called the "therapeutic double bind"—that can facilitate Learning 3 for the individual. Others have advocated a compatible means to induce organizational change.

Consider how Bateson's technique can be applied. For example, a large manufacturing firm has a vice president of produc-

tion who is perceived as stubborn, independent, highly task-oriented and quite insensitive to others. First, the change agent demonstrates to the vice president through employee turnover and attitude surveys how others see him or her. Second, the change agent elicits an admission from the vice president that his or her actions are guided by the belief that they will improve production. Third, the change agent offers reading material that shows the outcome of acting in a manner that alienates others.
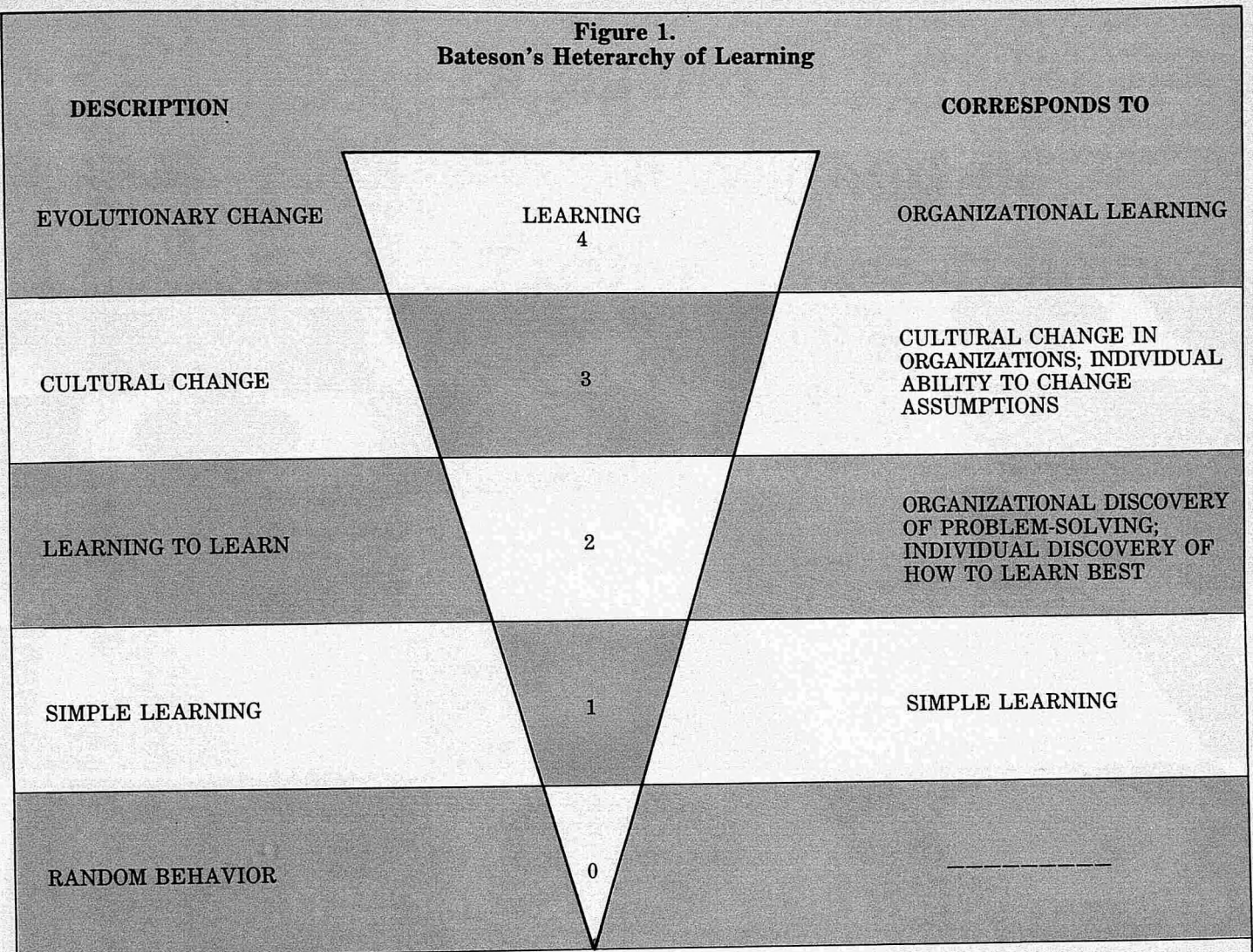
At this point, the change agent issues a challenge: Change your behavior and judge the results yourself; however, if you do not change, you merely demonstrate how stubborn you really are. This challenge is a therapeutic double bind, because it forces the client either to admit to a problem or to commit to changing behavior. The vice president has, in effect, been pushed to Learning 3.

Because this approach is manipulative, it should be used with care and a concern for ethics.

Those who advocate so-called critical research aimed at inducing organizational change adopt a method similar to Bateson's double bind.[10] The following steps would facilitate Learning 3 for an organization:

1. The change agent identifies those individuals in an organization who strongly advocate progress on a range of sensitive issues (e.g. job security in an organization about to announce layoffs).

2. The change agent examines how progressive individuals view the organization's environment and compares it with how less progressive individuals view it.

3. The change agent traces the history of events that lead some to want change while others do not.

4. The change agent identifies those people in the organization who mold opinions or constrain progressive actions.

5. The change agent critiques the organizational ideology, pointing out any contradictions between the way the leaders of

Figure 1.
Bateson's Heterarchy of Learning

DESCRIPTION		CORRESPONDS TO
EVOLUTIONARY CHANGE	LEARNING 4	ORGANIZATIONAL LEARNING
CULTURAL CHANGE	3	CULTURAL CHANGE IN ORGANIZATIONS; INDIVIDUAL ABILITY TO CHANGE ASSUMPTIONS
LEARNING TO LEARN	2	ORGANIZATIONAL DISCOVERY OF PROBLEM-SOLVING; INDIVIDUAL DISCOVERY OF HOW TO LEARN BEST
SIMPLE LEARNING	1	SIMPLE LEARNING
RANDOM BEHAVIOR	0	——————

the organization say it should act and the way in which it really does act.

6. The change agent sponsors a confrontation meeting between those who constrain actions and those who want progress. The topics for discussion are the most sensitive issues, whatever they may be in that organization.

7. The change agent establishes a program to relieve tensions between the two groups and to focus attention on issues and alternatives (rather than on personalities).

It is step 5 in this sequence that corresponds to Bateson's therapeutic double bind. Through this approach, an organization's culture may be changed.

Conclusion

Although Bateson's heterarchy can never be proved or dis-proved, it does provide a way for the human resource and organization development practitioner to conceptualize the relationship between learning and change. By considering it, practitioners can expand their range of thinking about learning and be rewarded with, as Bateson writes, "a nameless, shapeless, unlocated hope of enormous achievement."

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