

GETTING "YANKED AROUND" IS GOOD FOR YOU

In a conversation with Jan Fischer, a top executive from one of America's leading consumer products firms (call it Aventa), I took aim on her experience of being acquired by Aventa which she had gone through a few years earlier. She knew that the eventual restructuring could lead to the loss of her job. Over the next three years, as Aventa went about combining complementary resources and eliminating inefficiencies, she found the experience illuminating and personally satisfying. She brought a large number of her team to Aventa, but as a result of the restructuring only one of her staff lost his job. In contrast, more than half of the original team from Aventa were let go, and eventually she replaced the Aventa boss.

Her explanation of the process was revealing. She reminded me that nothing in her previous company was ever nailed down. Having consulted for that organization, I remembered that they were constantly restructuring processes, groups, teams, and even restacking locations at the headquarters building. After years of that, the successful professionals were those who not only adapt to change, but develop an openness towards it change, new teammates and new processes. In contrast, the people at Aventa had no experience with drastic change. Unable to work successfully with the new demands of the firm and the market, the productivity of the original Aventa employees suffered.

She summarized her story with this: People with real smarts come from companies "where change is expected, and 'getting yanked around' is the norm."

Although change at times can be frustrating, her conclusion is profoundly supported by the new research in neuroscience. Today's science tells us that enriched, changing environments play a terribly important role for long-term work effectiveness in the volatile business market. Indeed, I've concluded that entry-level workers, especially, need to begin their career in business settings where they can rub shoulders with talented personnel: where they can experience creative business methodologies reflective of a marketplace where change—even drastic change—is the norm.

What is enrichment?

In Marian Diamond's early research in the 1960's, enrichment for the rats meant the provision of "friends" and "toys." She sorted lab rats into three experimental conditions: enriched, standard and impoverished conditions. All the animals had free access to food and water and similar lighting conditions. The enriched environment was a large cage, provided for twelve animals. Five to six objects to explore and climb were put into the cage, and changed two to three times a week to provide newness and challenge. Frequent replacement of objects is essential to the definition of enrichment. The objects included wheels, ladders and small mazes. In stark contrast, of course, an impoverished environment was one rat alone in a small cage with no exploratory objects. This was one of the major studies supporting the early conclusions regarding neurogenesis in the adult mammal.

Enrichment for human beings is a different matter than that for lab animals. Not only is a controlled experiment impossible, but no two human brains are identical. We differ in our genetic background, environmental heritage, our education and work experience. Still, as a result of forty years of enrichment research, the standard

definition of enrichment, even for humans, has changed little since Diamond's rat science. Enrichment, according to Fred Gage of the Salk Institute, is "a combination of complex inanimate and social stimulation."

What does enrichment do for our brains?

Neuroscientists have institutionalized the fact that the human brain has built-in experience-expectant processes. The brain is waiting for enrichment. There are circuits waiting for the opportunity to respond and glom onto the sensory inputs from experience.

If you've watched very young infants develop, you've noticed that when you first put a mobile over their crib, they pay little attention to it. After a while, they hear the metal tinkling and start looking up, watching the mobiles move around as you push it with your finger. After a day or two, when you take the baby back to her crib, you may notice that she seems to automatically look up for her mobile, perhaps listening for the tinkling and paying attention to the color and shapes. In effect there was a circuit waiting to be used. With continual experience, the circuit takes shape in her brain, and she comes to expect that fun experience. As a result of the experience and the information she has incorporated about mobiles, a pattern of connections begins to take place. Seeing tinkling mobiles hanging on an outdoor porch, or a kinetic (moving) sculpture in a garden fits into her circuit pattern of connections, giving further meaning to those exposures. In effect, she's growing her kinetic, or motion intelligence. But without those enriching experiences, there are fewer mental connections for identifying moving works of any form or shape.

What do we know about the consequences of enhanced environmental stimulation?

- More developed neurons and cell structures for more mental tasks.
- Increased connections making it possible for ideas to talk to each other.
- Faster electronic signaling make for more interpersonal responsiveness and learning efficiency.
- Increased neurogenesis making survival and success more optimal.
- Recovery from trauma and organic disorders providing protection from stress and greater ability to heal when damaged.

Of the many studies demonstrating the impact of enrichment on the brain, one stands out. In 1993, Bob Jacobs of UCLA, researched an isolated portion of the human cerebral cortex—the location known to be responsible for word understanding. He compared the effects of environmental complexity in tissue from deceased individuals obtained from the Veteran's Hospital in Los Angeles. They had historical data on the individuals making it possible to separate those who had a college education from those who had only a high school education, and their sampling was evenly divided between men and women. Confirming their hypothesis, they demonstrated that the nerve cells in the college-educated showed significantly more dendrites than those with only a high school education. Dendrites are those bush-like projections through which a brain cell receives messages from other cells. They concluded that the brain changes—multiplying connections and building intelligence--in response to complex environments.¹

Getting yanked around on your job may not be so bad after all.

Developing work smarts depends a great deal on the richness of the social and physical environment of your workplace. An organization's culture, language, business processes and people can put anyone at either an advantage or a disadvantage. Depending on the novel challenges and changing opportunities as well as developing a network of talented colleagues go a long way toward building your intelligence, avoiding work obsolescence, and experiencing success.

¹ Jacobs, Bob, et al (1993) A Quantitative Analysis of Wernicke's Area in Humans, II: Gender, Hemispheric, and Environmental Factors. *Journal of Comparative Neurology*, **327**, 1, 97-111.