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**USENIX & SAGE**

The Advanced Computing Systems Association &  
The System Administrators Guild

**by Rob Kolstad**

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## Mental Nutrition

When we talk about nourishment, we often mention concepts like vitamins, carbohydrates, calory counting, food groups, and so on. But the physical spirit isn't the only part of the body that requires careful feeding.

What you feed your brain is also important. I awoke early on that September 11th when the World Trade Center went down. Just before 7:00 am, my living room laptop beeped (CNN alert, ya know) that a plane had run into one of the towers. Recalling news reports of the plane that ran into the Empire State Building in the 1930's, I switched on the TV. I continued to watch in fascination and horror for eight hours.

That was a mistake.

I fed my brain a full day of fear, uncertainty, and incitement. I spent background intellectual time for several days coming to grips with the experience and trying to get back to a regular pace.

Normally, I try to nourish my brain a bit more carefully. I've spent a little time figuring out what to feed and how it all works.

The input circuits appear to be connected to the standard five senses: sight, sound, taste, smell, and touch (we'll ignore the ESP senses and so on for this discussion). For information bandwidth, sight and sound are the big leaders. Some people think that sight is the big winner, since it obviously takes more bits to represent in data (just look at the number of bits on DVDs vs. CDs). However, if you've ever tried watching TV without the sound or listening to TV without looking at the picture, it often appears that sound has the more important data.

Years ago The Diagram Group published a book about the human body (*The Male Body: An Owner's Manual*) that showed two caricatures of the human body with senses exaggerated by data rate and also by impact on the psyche. Intriguingly, the low bit-rate "touch" sense was the big winner in the second diagram.

I feed facts and logical information to my brain from many sources: the Web, newspapers, trade magazines, hobby magazines, television, electronic mail, books, and the occasional movie.

While on my sabbatical a couple years ago, I found I was spending two hours every morning just to keep up with technical and trade magazines. (This number is borne out by results from the SAGE salary survey that show that a sizable fraction of administrators spend this much time, continually, just keeping up).

Recently, I've observed some other people feeding their brains. I hadn't realized that one can feed "junk information" to your brain just like one can feed "junk food" to your body. Empty information, useless databits, wasted time (time, of course, is the ultimate non-renewable resource) are consumed just as handily as potentially more stimulating works.

One of my longest-term friends has only recently begun to read fiction. He used to eschew it completely, saying ". . . but there's so much non-fiction to read!" He finally discovered that exploring things that might be or could be can lead to insights that simple deductive thinking might not reveal nearly so quickly.

These days I'm a real fan of those personal video recorders (like Tivo and Dishnet). They enable 30 minute television shows to be viewed in as little 18 minutes, with the added bonus of eliminating commercial announcements that often border on the inane. (Don't construe this comment as saying the shows are always that much better; no guarantees there, either.) When combined with the living room laptop multiplexed for web-surfing, light programming, or light e-mail reading, evenings can push lots of data (not necessarily information, unfortunately) into the brain. I am continually amazed that it's hard to keep up even when spending a few hours per night on such activities. The internet truly is a firehose of data.

I am also a big fan of "resting the brain" (i.e., vacations, "easy" activities, sleeping, etc.) but some things do seem like they don't nourish as well as others. Some people hang out in chatrooms whose conversation is little more than "hello" and "goodbye" to a seemingly endless procession of visitors. Maybe these are more like popcorn than they are like protein-rich alternatives.

I often try to find data that stimulates my thinking. This includes identification of issues important to me (technologies, a few world and political issues, a couple local issues) and sources for reliable information about them. The google news robot (<http://news.google.com>) is interesting because it presents news stories from dozens (more usually hundreds) of news sources. Reading the Bahrain newspaper's viewpoint of the Iraq war is sometimes more illuminating than that of our local newspaper's.

Every so often, I try to read opposing viewpoints to cherished beliefs. Occasionally, new data emerges that requires me to reassess various thoughts that I hold dear. Of course, this is somewhat frustrating, but it does seem like a “good thing to do”.

The popular site Slashdot (<http://www.slashdot.com>) is interesting. It has a huge readership and a few hundred reader-commentators who write snippets about the various articles. Among other things, I have learned that I am apparently now officially an “old fart” (simply too old to participate in the “Linux movement” based on my chronological age). Apparently, I read the articles and commentary on slashdot dramatically differently than the majority of the contributors. Is it my years of experience and wisdom? Is it simply being completely out of touch with “the new generation of programmers?” Am I really just an old fart? I don’t know. It’s fascinating to watch in small doses, though.

Have you ever thought about what you feed your brain? Such contemplation makes for a very interesting week or two as you watch what it eats. It’s then equally interesting to see how your brain processes the data. Good brain nutrition is as important as good body nutrition. I’m just sure that proper brain-food will lead to the same sort of happier, more productive lives that good body-food does.

## Corrigendum

In the April issue (Vol. 28, No. 2) the reference to the CAIDA Sapphire worm should have included all the authors who contributed: David Moore, Vern Paxson, Stefan Savage, Colleen Shannon, Stuart Staniford, and Nicholas Weaver. The fascinating article in its entirety is available at <http://www.caida.org/outreach/papers/2003/sapphire/sapphire.html>.

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