The Price of Metaphor

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When I first began to read Japanese kana, I could keep only one or two characters in mind at a time, as if my entire field of view were no wider than the two that spell the word *kana*: one sign, then the next; a syllable, then a word; a word, then a line. It was an oddly self-referential limitation: I could read *kana* in the same narrow way I could think about it. As my time in Japan lengthened, so too did the stretches of script I could perceive, and eventually words would pop out of the orthographical noise and embed themselves ballistically into my consciousness without my having meant to read them at all.

This kind of CHUNKING – grouping and recalling things together to free up memory and attention – is often thought to be a key factor in language learning, and so, as a language teacher, I've spent quite a bit of time thinking about it. Years ago, I reached an epiphany: CHUNKING is a metaphor. Or, if you like it cleaner: CHUNKING is metaphor, and metaphor is CHUNKING.

Perhaps this won't strike you as epiphanic, but to me it was momentous, the way Robert Pirsig's home-run realization that "good is a noun" in *Lila* had to have been to him. Psychologists and applied linguists talk about CHUNKING all the time as if we knew what it was, as if we could point to it, as if we could watch it happen – when really we can't. We've simply mollycoddled ourselves into believing that we do, charmed by the allure of a comfortable metaphor, the sort you can fall asleep inside.

Memory is fallible. It drops, it edits, it invents. Obvious, perhaps, but it bears repeating. Grouping things into chunks can reduce the memory load, but sometimes at the cost of accuracy. We're not computers, and our memory is at liberty to make changes and inspired connections.

In 1956, George Miller described the limits of immediate memory and introduced the notion of CHUNKS in his paper *The Magical Number Seven, Plus or Minus Two*(Miller, 1956). His observation was that most of us can hold about seven pieces of information in short-term memory until it's forgotten or replaced by something else. Try reading the following list, covering it up, and then reciting it – recalling it: *blue*, *3*, *Marx*, *sarcophagus*, *the holy ghost*, *October*, *linguistics*.

That's nine words, but most of us have created a single unit out of *the holy ghost*; we've chunked it, and by doing so we've increased the total amount of information we can fit into short-term memory. Each CHUNK counts as one piece of information, chunk size being more or less irrelevant.

Try to recall this later, and *the holy ghost* may become *the Holy Ghost*; the *Holy Ghost* may become *God*.

Perhaps we imagine mental brackets, a compacted parcel, an index entry, a virtual mouse click – each pointing to a specific page in memory. The fantasy here isn't the mouse click but rather the idea that there's a "there" there to click on at all.

This kind of imagery is wonderful for explaining that. It explains, and it explains well. It may also explain us out of the desire to discover how. While we convey our findings vividly and memorably, there is a danger that we buy into our own simulacrum. It has been said that "the price of metaphor is eternal vigilance".

For me, the aphorism itself functions as a CHUNK. Seven words, one rhythm: it stuck. Seven words, one unit: it stays. So now, if you put it in a list of seven items for me to hold in short-term memory, it could be a single piece of information.

I first heard it in the CBC radio series *Ideas*, in an episode about Richard Lewontin, in whose mind the CHUNK had stuck as well – or at least so he thought.

In later scientific literature the line is sometimes attributed to Arturo Rosenblueth and Norbert Wiener(Mindell, 2013). Rosenblueth and Wiener did publish an influential essay on purposeful behavior in *Philosophy of Science* in 1950(Rosenblueth & Wiener, 1950). The phrase itself has a much older lineage. Misattribution invites correction; correction invites searching; searching invites another misattribution.

In 1790, John Philpot Curran, speaking on the election of the Lord Mayor of Dublin, declared, "the condition upon which God hath given liberty to man is eternal vigilance"(Berkes, 2010b).

In 1809, a biography of Major General James Jackson by Thomas Usher Pulaski Charlton used the pithier form: "the price of liberty is eternal vigilance"(Charlton, 1809).

The wording proved elastic, flipping its order and growing small additions. The line can be(Berkes, 2010a, 2010b):

- "the price of liberty is eternal vigilance"(Charlton, 1809).
- "eternal vigilance is the price we pay for liberty"(Berkes, 2010b).
- "eternal vigilance is the price of liberty"(Berkes, 2010b).
- "the price of liberty is eternal vigilance, but the price of the Star is only one cent"(Berkes, 2010a).

By the nineteenth century the line was well-known and increasingly detached from its source, and over time it was frequently misattributed to Thomas Jefferson(Berkes, 2010b). Jefferson's afterlife has been unusually busy in other people's quotation practices.

The metaphor version, at least in my own search, doesn't surface until much later. Not, that is, until the 1940s. When I searched the Google Books search engine for this particular value of x for that particular decade, it proffered up Erwin Schrodinger's book *What is Life?* as having an exact match. When I clicked the "snippet view" link, no view, snippet or otherwise, was forthcoming. Click back to the general results page and there it's again; reach for the prize and it vanishes – there it's again – existing only in a kind of quotation superposition that can't be observed directly without it collapsing. Even Google's memory fails.

Finally, 1953 turns up a more robust observation, not exactly the same, not nearly as pithy, but surely, I thought, the admonishment that Lewontin had been trying to recall. In *Scientific Explanation*, Richard Braithwaite wrote, "the price of the employment of models is eternal vigilance"(Ruse, 1973). A metaphor is a kind of model: Is this the original CHUNK, Lewontin's inspiration? A model simplifies to make inquiry possible; a metaphor simplifies to make comprehension possible. Both repay us in insight; both charge us in vigilance.

I wrote to him, to ask. He was both gracious and grateful, saying that he had recently become aware of the misattribution and had been searching for the source. Unfortunately, he has no memory of ever reading Braithwaite. The story, at least, is consistent with its own thesis.

Perhaps it was inevitable. If memory is a kind of model-making, then model-making is a kind of memory. To remember more, we compress; to remember truer, we restrain. And to remember at all: vigilance. In the end the aperture narrows again, and what we can keep in view depends on how carefully we keep it.

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