Twenty-five years ago at Berkeley, a linguistics professor and a visiting philosopher began a little book with the following words:

Metaphor is for most people a device of the poetic imagination and the rhetorical flourish—a matter of extraordinary rather than ordinary language. Moreover, metaphor is typically viewed as characteristic of language alone, a matter of words rather than thought or action. For this reason, most people think they can get along perfectly well without metaphor. We have found, on the contrary, that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.

The book, *Metaphors We Live By* (University of Chicago Press), has sold briskly ever since and is still in print. It was the right book at the right time; a year later, a *Village Voice* article credited the authors, George Lakoff (the linguist) and Mark Johnson (the philosopher), with starting a publishing boom in books about metaphor. George Lakoff (now billed as a cognitive scientist) has once again hit the best-seller lists with another little book, *Don’t Think of an Elephant!* (Chelsea Green Publishing, White River Junction, VT), which deals with the power of metaphor (now called *framing*) in the American political process.

In the quarter-century between these two little books, the cognitive processes collectively and variously known as metaphor, schemas, simile, analogy, or framing (depending on one’s theoretical bent) have surfaced again and again in places where they hadn’t been expected. Why should the average communicator care? Because metaphor’s ability to direct attention and convey ideas subliminally is simple, powerful, and universal—and it’s impossible to avoid noticing it in action everywhere, once you’re attuned to it. Your favorite writers already understand this, which is why they’re your favorites.

**Metaphors we compute by**

A case in point can be found in the single most significant technological development of the last quarter-century: the advent of the personal computer. There were personal computers in 1980, but they were simply smaller versions of mainframe computers (remember DOS?). However, this was about to change. The Macintosh was under development when *Metaphors We Live By* came out; copies were obtained for the
development team, and the desktop metaphor began to enter conversations. The result was historic, to say the least.

The desktop revolution was not, of course, completely due to the efforts of Lakoff and Johnson; ideas like this were in the air all around computerland, and still are—which is hardly surprising, since computers were straightforwardly designed to be metaphors. The original impetus behind computing was the attempt to subcontract human brain labor to a machine by building a sort of a model of what the brain does in calculating. This led, in turn, to a whole new set of experiences with computing and the consequent need to talk about them.

But because there were no traditional ways to talk about these new experiences, the entire computing enterprise became a hot-house for metaphors. Exotic blooms are continually being pulled in from elsewhere and assigned new metaphorical meanings: editor, file, folder, spreadsheet, hacking, jump drive, slide show, the Net, the Web, surfing, spam, overflow, virus, worm, cut-and-paste, cyberspace, garbage, troll, wizard ... the list goes on. And changes constantly, like any living thing.

This is just one area where recent technology has reframed our language use. We now, for instance, have to use retro-qualifications like acoustic guitar, analog watch, and brick-and-mortar store to indicate what was used to be understood simply as a guitar, watch, and store; and we will soon need a good term for a camera that uses film instead of a CCD (charge-coupled device).

**Life, the universe, and everything**

But it’s not just technology, though that’s the clearest, most obvious recent case. It’s always been the case that people use metaphors to talk about difficult ideas by taking terms from common experiences and situations (frames, in the trade) and using them in different contexts (frame mapping) to mean different things. Thus, while the concept of time is something we talk about all the time, we rarely use words that are exclusively temporal to do so; indeed, only half a dozen or so English words refer exclusively to time: now, then, when, during, duration, endure. Instead, we talk about time using two major metaphor themes: Time Is Money (save an hour, spend an hour, waste an hour, lose an hour, thank you for your time) and Time Is Spatial (before, after, a long time, a short while, from 9 to 5, look forward to, see it coming, put it behind you). It’s difficult, if not impossible, to discuss time in English without using these metaphor themes, which are standard resources for everybody.

**Time** is not the only human imponderable that metaphors help with. When one talks about being enchanted by, falling in love with, or being crazy about somebody, one is using metaphor themes—respectively, Love Is Magic, Love Is Out of Control, and Love Is Madness (a subtype of Love Is Out of Control)—to talk about humanity’s favorite mystery. Less heady forms of love, such as long-term relationships, use themes like Love Is A Journey (at a crossroads, a dead-end relationship, not going anywhere, on the rocks, and Freud’s famous railroad/tunnel symbols).

And then there are science and math. All scientific theories and all of mathematics are metaphors—very complex and carefully worked-out metaphors, but metaphors nonetheless. Maxwell’s equations, for instance, which describe the properties of electricity and magnetism, were swiped wholesale from hydrodynamic equations of fluid motion, as in Electricity Is A Liquid,
whence also electrical terms such as current, flux, conduction, and juice.

Math is based on numbers, which are based on the process of counting, which comes from the oldest human activity: collection of resources, typically food—the gathering part of hunting and gathering societies. (It’s recently been established, incidentally, that the part of the brain involved in counting and mathematics is precisely that part that controls the hands, also used in gathering.) This is why people have trouble understanding negative numbers if they’ve been taught subtraction as \(5 \text{ take away } 2 \text{ leaves } 3\); to them, \(2 \text{ take away } 5 \text{ leaves } \text{ minus } 3\) makes no sense at all—until they learn a metaphor different from the gathering one.

**Seeing is believing**

Finally, religion and philosophy grow by the accretion and elaboration of metaphors, just like other branches of human knowledge and activity. It’s easy to see animistic religion as just the personification of natural forces such as lightning, rain, and sun; what’s not so obvious is how metaphorical the bases of recent successful religions are. Christianity, for instance, is permeated by the concept of Light. Saints and holy people glow with halos; Christ repeatedly uses actinic metaphors like the Light of the World; a convert is said to have seen the light, and so on.

This is a very old metaphor, traceable to prehistoric times and beyond. In Proto-Indo-European—the reconstructed language ancestral to Indic, Iranian, and European languages, including English—the root *vid-* which is the source of the English words wit, wise, and wisdom, is also the source of video and vision (from Latin) and idea (from Greek). The basic idea (pardon the expression) is that thinking is seeing and, therefore, thought is a light medium. This comes through very clearly in the Sanskrit word *Veda*, the name of the holiest of Hindu holy works, which also comes from *vid-* and means, literally, wisdom. This metaphor is well established in our culture, too, as can be seen from the phrases it dawned on me, I see what you mean, a brilliant idea, or terminally dim. Not to mention the picture of a lightbulb over a cartoon character, or the meaning of images such as the light in the attic.

Buddhism, by contrast, is based on the metaphor of Waking Up; in fact, *Buddha* means “The One Who Woke Up,” a reference to his meditation that resulted in *Setting in Motion the Wheel of the Law*, as his first sermon came to be called. This theme is responsible for Buddhism’s emphasis on meditation and consciousness; the basic concept here is that most people are asleep, just reacting, driven by unconscious desires, and they need to wake up and take conscious control of their appetites and actions. This is, in fact, quite similar to Christian moral ideas, as there’s a strong coherence between the metaphors of Light and Waking Consciousness: light comes in the daytime and wakes us up; when we’re awake, we can see things in the light and behave consciously—and morally.

**Ontology recapitulates physiology**

At their root, all these metaphors (and the many thousands of others that make up our cognitive systems) have one thing in common—the only thing that all humans have in common, and thus the only thing everyone can understand experientially: the human body. Our metaphoric concept of counting comes ultimately from a grasping hand, thinking from a perceiving eye, marriage from a couple setting out together on a long journey, and so forth.

This is perhaps the most significant discovery of cognitive science in the past 25 years: that abstract knowledge proceeds ultimately from metaphoric extensions of human physiological perception and motor programs. In short, the mind is a metaphor—a metaphor, in fact, of the body.

The mind/body problem has been solved; and with its solution comes a realization, in cognitive terms, of what great writers have always understood—that we have no choice in the matter: We have to use metaphors to understand the world around us. We expect others to use them, too; we depend on those others to suggest metaphoric ways we can use to do that, and these understandings are most powerful and empowering when they are couched in themes drawn from the human body and its (our) experiences. No writer can afford to be ignorant of these facts.

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