In a previous installment of this series (Vol. 26, No. 4), I urged writers and editors to consider whether each of the subject-verb and subject-verb-object relationships expressed in their sentences is literally true. In medical writing, we deal mainly with facts. Thus, most of what we write should be literally true. However, it is sometimes acceptable and even necessary for medical writers to use figurative language, such as metaphors and metonyms, that don’t express literal truth. Scientists use metaphor and analogy to make sense of the world and to express their ideas to others. For this reason, scientists often use metaphors in their writing.

Literal or Figurative Language
The word literal comes from the Latin word literalis, which means “of or belonging to letters and writing.” It came to mean “according to the exact meaning of the word” (e.g., the word’s dictionary definition). In contrast, the word figurative refers to figures of speech. A figure of speech is any deviation from literal meanings or common usage. This could mean using some deviation from ordinary grammar or word order, or it could mean using a word to mean something other than its customary meaning. Shakespeare often used figurative language to express intense emotion:

But soft, what light through yonder window breaks?  
It is the east, and Juliet is the sun.  
Arise, fair sun, and kill the envious moon, 
Who is already sick and pale with grief 
That thou, her maid, art far more fair than she.

—William Shakespeare, Romeo and Juliet, Act 2, Scene 2

This paraphrase captures the literal meaning of Romeo’s speech but fails to express the intensity of his infatuation. Romeo had previously been smitten with Juliet’s cousin, Rosaline: “The all-seeing sun / ne’er saw her match since first the world begun.” But now, he is saying that Juliet is the sun.

Metaphor
A metaphor is a figure of speech in which a word or phrase (e.g., the sun) is applied to an object or action to which it is not literally applicable (e.g., Juliet). The word metaphor comes from the Greek for to transfer. In a metaphor, some attributes are being transferred from a figure (also called a vehicle) to a ground (also called a tenor). In one of Romeo’s metaphors, the sun is the figure and Juliet is the ground. In another, he calls upon the sun to kill the moon. That command contains 3 figures (sun, kill, and moon) and 3 grounds (Juliet, displace, Rosaline).

Many scientific terms started as metaphors. For example, Robert Hooke used the word cell, which literally meant a small room, to refer to the microscopic structural units he saw in plant tissue. The so-called cells in plant and animal tissue are not literally rooms, just as Juliet is not literally the sun. Nevertheless, the word cell came to be the official name for the smallest structural and functional units of all living things.

Extended Metaphor
Once Romeo has established that Juliet is, metaphorically speaking, the sun, he can use the moon as a metaphor for some lesser woman. Thus, he is using an extended metaphor, which is a metaphor that sets up several subsidiary subjects or comparisons.

Mixed Metaphor
A mixed metaphor (sometimes playfully called a mixaphor) is one that leaps from one identification to a second identi-
Fication that is inconsistent with the first. Merriam-Webster’s dictionary offers this one:

If we want to get ahead, we’ll have to iron out the remaining bottlenecks.

You use an iron to smooth out wrinkles, not to remove bottlenecks.

Mixed metaphors can be confusing. Sometimes, they are used for comical effect. Avoid them unless you are a professional comedian.

**Dead Metaphor**

The expression *dead metaphor* is itself metaphorical because a metaphor is never literally alive. A dead metaphor is a metaphor that has lost its metaphorical force through common usage. In other words, it is no longer a figure of speech. Many technical terms, such as the word *cell*, started as metaphor only to become standard terminology. Once the biologists’ definition of the word *cell* was added to the dictionary, the use of the word *cell* to refer to the smallest structural and functional unit of an organism stopped being a figure of speech.

A metaphor is *merely* dead if the term’s new meaning has become widely accepted. A metaphor is *really most sincerely* dead if its original meaning has been forgotten. For example, a mainstay was originally the rope or wire that held the ship’s mainmast in position. Today, few people know the terms for nautical rigging. However, they commonly use the word *mainstay* to mean something on which someone or something depends (eg, rice is the mainstay of the diet in much of Asia).

**Metonym**

Metaphors are often confused with metonyms. A metaphor creates a new link between two concepts from separate conceptual domains (eg, Juliet belongs to the domain of humanity and the sun belongs to the domain of astronomy). In contrast, a *metonym* relies on an existing conceptual link. For example, people in the United Kingdom, Canada, and other Commonwealth realms often use the word *crown* to refer to the monarch (who occasionally wears a crown) or to the national government in general.

**Simile**

A metaphor is an implied comparison, often made by using a linking verb to connect ground with figure (eg, Juliet is the sun) or by simply referring to the figure in a way that suggests the ground, such as by using the phrase “the elephant in the room” to refer to an obvious problem. In contrast, a *simile* is an explicit comparison of two unlike things, typically by using words such as *as, like, or than*. However, not all comparisons are similes. Similes take the grammatical form of a literal comparison but express something that is not a statement of fact:

> My love is like a red, red rose.  
> — Robert Burns

**Clichés**

Some metaphors and other figures of speech are so overused that they become clichés. A *cliché* is an overused phrase or opinion that betrays a lack of original thought. Examples include “crystal clear” and “cool as a cucumber.” Some clichés are metaphors, and some are not.

- She dangled a carrot in front of his nose. (metaphor)
- The explanation was as clear as mud. (simile)

**Figurative Language in Medical Writing**

There are no unbreakable rules for using figurative language in medical writing. On the one hand, medical writers are mainly concerned with conveying facts and truth as opposed to expressing emotion artistically. Thus, medical writers should be cautious about using figurative language, especially when their audience includes poor readers or non-native speakers of the writer’s language or if the text is going to be translated. On the other hand, a large proportion of the technical vocabulary used in medical writing consists of dead metaphors, such as the word *cell*, as well as metaphors that are not quite dead yet.

There are several good reasons for using figurative language in medical writing. One is to help your readers understand some complicated system or relationship. To do that, you may draw an analogy to something that they already understand or that you can at least explain. For example, many of the terms used for talking about how cells communicate with each other came originally from radio (eg, signal, amplification, gain, feedback). These terms were originally metaphors but lost their metaphorical force through common usage among cell biologists.

Another reason for using figurative language is convenience. For example, evolutionary biologists often talk about the evolutionary strategies of bacteria, plants, and lower animals. This use of the term *strategy* is a dead metaphor. It is a metaphor because the “strategies” in question do not represent anything that an organism is consciously choosing to do. *Evolutionary strategy* is a dead metaphor because the dictionary already tells us that the word *strategy* can mean an adaptation or set of adaptations that contribute to evolutionary success. Among microbiologists, the word *strategy* is a shorthand for that concept.

*Shorthand* is itself a dead metaphor. *Shorthand* originally meant a method of rapid writing that involved abbreviations and symbols. Thus, a *shorthand* came to mean a short and simple way of expressing or referring to something. Some
members of a lay audience may not understand that an evolutionary strategy is not something that the organisms are planning to do. So, depending on your intended audience, you may have to avoid using a shorthand or at least explain what the shorthand means.

Metonyms can also be used in medical writing, albeit cautiously. For example, the word practice is often used as a metonym to refer to a type of business in which a medical practitioner or group of practitioners provide care to patients. So, you might use the term “the practice” when you want to refer to such a business as a business or when you don’t want to specify a particular part of the business. For example, you could encourage patients to “contact the practice” without specifying which person or even which office to contact. Your goal should be clarity. If the patients can contact any member of the staff, you can urge them to contact the practice.

In general, you may wish to avoid unnecessary use of figurative language in a technical report, such as a clinical study protocol—especially if it is going to be translated. However, there is considerably more room for literary inventiveness in an opinion piece. In such pieces, authors may wish to express their own emotions and to evoke emotions in the audience, especially to underscore the importance and urgency of their message. In that situation, the writer may use figurative language for rhetorical effect.

Learn More
Metaphors, similes, and metonyms are not the only forms of figurative language. The Silva Rhetoricae Web site (http://rhetoric.byu.edu/), maintained by Dr Gideon Burton of Brigham Young University, provides an extensive list of figures of speech, all of which are named, defined, and categorized. Many of these rhetorical figures have Greek or Latin names because they have been recognized since classical times to be valuable in persuasion.

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