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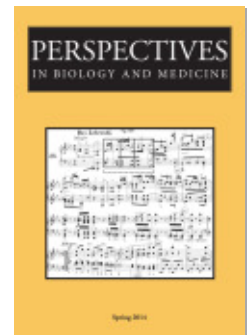
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## *BACCHUS IN THE LABORATORY: IN DEFENSE OF SCIENTIFIC PUNS*

SCOTT F. GILBERT\*

Puns are means by which boundaries between ideas and people are broken down and redefined. I hope to demonstrate that the pun in general and the scientific pun in particular are involved in two sets of boundary phenomena. In the first instance, the boundaries separating mutually exclusive concepts are broken down so that the meaning of one word penetrates into another. In the second case, the boundaries separating individual people are redefined on the basis of the appreciation of the pun. This latter property of puns has significant educational importance.

The basis of punning is the destruction of categories that separate one word or concept from another. A word with a precise definition is seen to partake in the definition of some other word.

A physicist had two boys who went into cattle ranching.  
When asked to suggest a name for the ranch, the wise old  
man suggested, " 'Focus.' It's where the sun's rays meet."

Here, two widely disparate concepts, that of two male sibs cattle ranching and that of refraction of solar light by a lens, are shown to have something in common. A connection has been made between the totally distinct ideas. Sometimes the pun suggests that the ideas are not so separate, as in the story of the bride at the church who thinks, "aisle, altar, hymn."

Punning makes forbidden connections, uniting what should rationally be kept separate. The notion of the destruction of boundaries was well known to the ancients. In word magic, homonymy meant that one concept mingled with the other. Indeed, two Confucian scholars were put to

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death by the Emperor Chu Yang-chang when they sent him a message using the word *sheng* for birth. The emperor felt that this was a pun on the word *seng* (monk), referring to his lowly origin. In the Bible, puns are used for their explanatory power. Adam, for instance, was made of clay (*adama*), and Jesus founded his church upon the rock (*petros*) of Peter. Puns were used for their very property of uniting disparate categories and words.

The god who destroys rational, duly constituted boundaries is, of course, Bacchus. It is Bacchus who (as in Euripides' *The Bacchae*) breaks down the prison walls and who dissolves the distinction between masculine and feminine, love and death, victor and victim. Bacchus is the god of wine, whose alternative name is *Liber*, itself a complex pun connoting free (*liber*; as in the liberal arts) and childlike (the Latin word for child is also *liber*). Bacchus is the *liberator*, the breaker of boundaries. Indeed, those who partake in the fruits of this god are made to feel both childlike and free from restrictions. Childishness is associated with puns, and alcohol is a great solvent for dissolving barriers and inhibitions. If one of the central notions of creativity is that it makes unseen connections between ideas, alcohol and puns have been useful tools for promoting creative acts. Freud's notion that punning is a regression to an infantile state before word boundaries were established is a useful concept, for a pun is a way of destroying the adult boundaries that society has established between ideas. Double entendres involve thinking in a way that is prohibited by responsible adults. It is no accident that so many puns involve the sexual and scatological. Similarly, Samuel Johnson's too-oft-quoted remark that a man who would pun would as soon pick your pocket is also apt. In picking a pocket, the social distinction between mine and thine is eliminated. The thief has no respect for socially ordained boundaries. Neither does the punster.

Punning is fun; and the fun is that of throwing a pie in Miss Grundy's sour face. The humor in a pun, however, is different than that found in other types of humor, for the humor of a pun does not derive from the injury or insult to a person or to a person's dignity. Rather, a pun's humor comes from the insult and injury to established boundaries. Observe the play of infants who are just learning language. They will carefully build up structures and then gleefully destroy them. The laughter of puns is in seeing the carefully erected boundaries come tumbling down. Punning is anarchistic.

Of all early scientific instruments, few were as bad as the Tate's compasses. These cut-rate lodestone devices got mariners so off course that it became common knowledge that "He who has a Tate is lost."

Did you hear that they closed down the restaurant on the moon? The food was great, but it had no atmosphere.

## II

At the same time that a pun destroys the proper boundaries between ideas, it creates new boundaries among people. Puns, like language itself, allow one to form inclusive groups of like-minded people, excluding all others. The people who understand a pun demonstrate this understanding by a response and recognize themselves as having similar backgrounds, different from those backgrounds of people who did not understand the pun. Puns draw boundaries around those individuals who grew up in certain places or who share certain traditions or educations.

When Syngman Rhee of Korea was on his deathbed, he asked his trusted lieutenant to fetch his son. The lieutenant told Rhee that his son was in America, where he was working for *Life* magazine. Rhee said that there was little time to spare and sent his lieutenant to America. Rhee's son, however, was on assignment, and the lieutenant had to search all across America for him. At last, he spied him on a street corner and said, "Ah, sweet Mr. Rhee of *Life*, at last I've found you!"

This pun is lost on people 25 years old or younger who do not remember Syngman Rhee, *Life* magazine, or the song title itself. Although the pun is in English, the joke is humorous only to a certain age group.

Similarly, puns can form boundaries among people of common ethnic background. When the *Philadelphia Inquirer* reported that the trial of accused murderer James Putz was inconclusive, its headline read, "Putz Trial Ends in Hung Jury." This was hysterical to all my friends who knew the sexual connotations of the word "hung" and the Yiddish word "Putz." The same newspaper later reported that Bo Derek's erotic movie *Bolero* was suppressed by "hardened studio executives."

Educational traditions, too, are reflected in the boundaries established by puns.

A group of professional surfers brought beach property to start their own club so that only true surfers would be able to enter. Those who were just there to sunbathe and watch would be turned away. One person, though, just stood by his surfboard, never entering the water. After some time, the director challenged him to go in the water or go home. The young man replied, "He also surfs who stands and waits."

It is unfortunate that most medical students will not understand the humor of this pun, but it will unite the former English majors among them.

Puns enable us to discover who has a background similar to our own, and they serve to mutually validate one's learning. Furthermore, they are vehicles of mutual appreciation. The tellers of and the responders to puns make a bond between themselves. Those are the main characteristics of scientific puns. These puns are esoteric in that they are only

understood by people interested in the same relatively narrow subject. Yet, the puns validate our education, and the appreciation of such puns means membership in a closely knit but far-flung community of scholars.

What do you get when you cross a grape and an elephant? Answer: Grape-elephant sine theta.<sup>1</sup>

For two summers, I worked as a teaching assistant for a scientist at an NSF-sponsored course for high school students. During one laboratory, the professor, an inveterate punster, asked the class if anyone knew the name for the machine used to section tissues for the microscope. Smiling, he looked at me and said, "It sounds like the name for a small but weighty book." I smiled back and replied, "Hiss." His smile vanished, to be replaced by a broad beam. I had not only understood his pun, but I had answered in kind. Wilhelm His (pronounced hiss) was the inventor of the device he asked about, the microtome. From that time on, I was accepted as a young colleague.

It has been my experience that the more esoteric the pun, the greater the bond between those people who understand it. It is not unlike two Americans meeting at a party and finding that they both speak fluent Icelandic. The chances of one meeting a person with such common experiences are rather slim. Since much of college education consists of introducing students to the language and techniques of a discipline, puns made in the newly acquired language of the field are especially important, for they reinforce the students' feeling that they now understand something that they previously did not. They are now members of a scientific community. During a laboratory exercise on insect metamorphosis, I asked the class if they had heard about the new epic movie that George Lucas was making on the eradication of the gypsy moth. When they asked its name, I replied (in a deep voice), "Instar Wars." The response was surprisingly loud. Their understanding of the joke (that instars are the scientific term for caterpillars, grubs, and maggots) was relatively new. They realized that they were able to understand the humor of a joke that they would not have understood before. It both validated their newly acquired knowledge and showed that they had entered into a larger community of cognescenti.<sup>2</sup> Responding to a pun is a form of mutual congratulations.

Any breaking down of barriers by technical wordplay reinforces this

<sup>1</sup>This is a pun on the word "cross." Its biological context (the hybridization of two organisms) is opposed to its mathematical context (the multiplication of two vectors). Its humor can only be appreciated by those individuals who have progressed further than introductory algebra. Another pun involving this word concerns the scientist who studied panda genetics. Unable to obtain any of these animals from the Chinese government, he had to start his own breeding colony. Now he has his own bears to cross.

<sup>2</sup>For a more general overview of the role of humor in group cohesion, see W. H. Martineau, "A Model of the Social Function of Humor," chapter 5 in *Psychology of Humor*, ed. J. H. Goldstein and P. E. McGhee (New York: Academic Press, 1972, pp. 101–125.

sense of newfound community. Science majors will often say things like, “I plan to do my laundry sometime, but I have to overcome the energy of activation.” This, of course, refers to the physics concept of the extra amount of energy needed to initiate a reaction that, once started, proceeds on its own. A scientific term has been appropriated to a different situation. The humor can be appreciated only by those who have taken similar courses. Bacchus is not only the god of wine, he is a god of initiations. Wordplay is the privilege of initiates. Punning and its appreciation are possible only in communities defined by common language and assumptions.

There is another function that scientific puns play in addition to their roles of validating knowledge and defining communities. This function is to relieve stress. The demands and stresses of technical education almost force one to play on words (for who else is there to play with). One keeps one’s sanity by playing with the words that one has to learn. What musically inclined medical student has not thought of playing Einthoven’s triad or composing a mediastinal mass? A game can be made out of the knowledge that one has to learn. What are the birds of the thoracic cage? I recall the thoracic duck and the coronary artery. Any others? Punning is not only the emblem of membership in a scientific community, it aids in admission as well.

### III

There is one concept from science that I think would be most helpful for those who tell or study puns. This is the concept of “absolute value.” Absolute value refers to the magnitude of a property, irrespective of its direction. Positive five and negative five have the same absolute value—namely, five—even if they are in opposite directions. The response to a pun should always be measured in terms of absolute values. A loud groan is equivalent to a profound belly laugh. A moanful shaking of the head is the same response as a chuckle. It is the magnitude of the response that counts, not its direction! Any response indicates that the pun has been appreciated, thereby creating a bond between the speaker and listener.

In conclusion, scientific puns are operating on several levels. Like all puns, they break down the barriers segregating ideas into separate categories. In this sense, they are elements of creativity. Second, they validate knowledge. The pun can only be appreciated when one has mastered certain skills. Third, the realization on the part of the listener that he or she has understood the pun indicates membership in a community of like-minded individuals. Fourth, the play on words relieves stress from the act of learning those very words. Puns have traditionally been elements of the educational process, and they remain a valuable means for teaching new generations of scientists.