THE PERILS OF A POPULARITY CONTEST

This crescendo of the political season is an ideal time to present one of my favorite recent articles, "The Mismeasurement of Science" by Peter Lawrence (Current Biology, 2007). It compares with "The Mismeasurement of Leadership," a paper I might have written had I been a political "scientist" rather than a natural one.

Increasingly, the evaluation of science leadership is moving away from a subjective assessment by expert peers toward a system of vote-counting in which the "vote" is a citation referencing a published paper. This method is ruining the potential careers of scientists who eschew self-promotion and launching those with centrist ideas, managerial skills and political instincts.

On the plus side, the tally of citations within the two years following publication is an objective and quantitative measure. On the downside, this method steers scientists toward careers based as much on citation-fishing and citation-bartering as on good science.

The double helix structure for DNA proposed by James Watson and Francis Crick was arguably the most important scientific paper published during the 20th century, especially in biology.

Yet, given its quiet debut and delayed recognition, this sort of scientific leadership would have been overlooked by the modern citation-voting system, which encourages its practitioners to: join larger, more well-connected and citation-prolific laboratory teams where entrepreneurship subordinates to group-think; add undeserving co-authors in a "you scratch my back and I'll scratch yours" exchange; propose projects based their likelihood of generating funding and citations, rather than on odd thought experiments and hunches; slice complex articles into self-referencing shorter ones; and be prepared to show off.

The political equivalents of these scientific career strategies are much more widely known: to follow fashion by being good-looking; spend more time campaigning than trying to solve problems; join with large, well-connected organizations with large voting blocks; embrace leaders in order to have them embrace you; launch policies designed to get votes rather than innovate; slice complex ideas into sound bites; and above all, self-promote.

With political elections, the empirical "best" person or team is the one getting the most electoral votes. One step below the Electoral College is the popular vote. That is a private decision made behind closed doors that depends on the degree to which our rational-practical judgments have overridden the subconscious soup of racism, ideas about the proper role of women in society, ageism, religion, patriotism, pride, fear and other visceral simmerings.

Below this point is the degree to which the voter has allowed the flow of external information, misinformation and disinformation access to their cerebral cortex. This flux coming our way from campaigns has voltage and amperage. The voltage measures the gap between what is new news vs. old news, ranging from 100 percent for the hermit with no societal contact to zero percent for the political junkie. The amperage measures the actual flux of information being broadcast, which is: independent of the individual voter; inevitably biased toward matters of the heart; and mostly about money.

Only below this layer in the election process do we get to the actual seeking out of information that will best inform individual votes. Sadly, many voters have already made up their minds or have had
had their minds made up by others by the time they get to the substrate of facts, principles and neutral judgments that form the true yardstick of leadership, rather than of mere popularity.

This has been a twice-told tale of mismeasurement. The tale of politics we must suffer through acutely every four years. The tale of science is a chronic problem that is not in the best interest of our nation's economy and prestige.