

which cannot be said for IRV, especially in those jurisdictions that do not already have electronic voting equipment that would permit voters to rank candidates.

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#### References and Notes

1. S. J. Brams, P. C. Fishburn, *Approval Voting* (Birkhäuser, Boston, 1983).

## Candidate Number 2: Proxy Representation

IN DISCUSSIONS CONCERNING THE METHOD of elections to legislatures, the principal competitor to plurality elections in single-seat constituencies has, for a long time, been proportional representation. This has met objections, most of which are well known to those who have interested themselves in this subject. There are others, notably approval voting (AV), which is advocated in the Editorial by S. J. Brams and D. R. Herschbach ("The science of elections," 25 May, p. 1449). Another, which probably has been proposed by others, is proxy representation (PxR). This system meets many of the objections to proportional representation, has interesting similarities to AV, and produces a legislature even more precisely proportional than either of these or the current method (*I*). Its practicality is grounded in technology only available within the past 40 years.

With the PxR method, constituencies would elect several representatives, each having a voting strength in the legislature precisely equal to his "mandate," that being defined as the number of voters who have indicated acceptance of that representative in a preferential balloting. PxR gives to each voter, even more surely than AV, an acceptable representative. The voter, by the ballot cast, directly empowers the chosen candidate with exactly one additional vote on every issue before the legislature.

## Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the previous 6 months or issues of general interest. They can be submitted by e-mail (science\_letters@aaas.org), the Web (www.letter2science.org), or regular mail (1200 New York Ave., NW, Washington, DC 20005, USA). Letters are not acknowledged upon receipt, nor are authors generally consulted before publication. Whether published in full or in part, letters are subject to editing for clarity and space.

Representatives stand for people, not districts, and with PxR, representatives are empowered in a secret ballot to cast votes only on behalf of voters who have given them their proxy. The drawing of lines between constituencies would become considerably less important, and among the minor advantages would be the saving of the expense of primary and special elections. The result would also be a more direct democracy.

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#### References and Notes

1. Because the full analysis is too long for this letter, it has been made available at [www.math.wisc.edu/~beck/proxy.html](http://www.math.wisc.edu/~beck/proxy.html)

## SciTecPac Was Science's First Watchdog

CONTRARY TO THE OPENING SENTENCE OF the News of the Week article "Group raises hackles as well as funds" by A. Lawler (7 Sept., p. 1747), Republican Representative Vernon Ehlers of Michigan has not "created the first political action committee (PAC) to support preresearch candidates for Congress." The first science-based political action committee in Washington, DC, was

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founded in 1981 by former Congressional Fellows from the American Association for the Advancement of Science (publisher of *Science*), the American Chemical Society, and other scientific organizations. I was its co-founder and first chair.

The name of that organization was SciTecPac. Unlike the present PAC, however, it was nonpartisan and counted a number of senators, congressmen, corporate leaders, and leaders of scientific societies as advisory board members. Its task was to develop a grassroots lobby in support of science and science education.

According to the article, Neal Lane, former head of the National Science Founda-

tion, observes that "[T]he science community needs to be much more involved in the political process"—the same belief that prompted the founding of SciTecPac more than 20 years ago. I continue to agree strongly that the scientific community fails in its responsibility to support political candidates who have an interest in science. It is sad that we have made so little progress despite all the clarion calls for more involvement.

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## CORRECTIONS AND CLARIFICATIONS

**REPORTS:** "Late Holocene climate and cultural changes in the southwestern United States" by V. J. Polyak and Y. Asmeron (5 Oct., p. 148). In reference 13, the URL for the supplementary material was incorrect. The correct URL is [www.sciencemag.org/cgi/content/full/294/5540/148/DC1](http://www.sciencemag.org/cgi/content/full/294/5540/148/DC1).

**NEWS:** "The quandary of quantum information" by C. Seife (special issue on Computers and Science, 14 Sept., p. 2026). The article reports that Peter Shor worked at Lucent Technologies' Bell Labs in Murray Hill, New Jersey, when he discovered the prime factorization algorithm for a quantum computer in 1994. Shor was indeed working at Bell Labs in Murray Hill, but in 1994 it was owned by AT&T. Shor now works at AT&T Labs-Research in Florham Park, New Jersey. He has never been employed by Lucent Technologies.

**NEWS OF THE WEEK:** "Painting a picture of genome evolution" by J. Couzin (14 Sept., p. 1969). It was stated that the two bacteria, *Rickettsia conorii* and *R. prowazekii*, have 1.3- and 1.1-billion-base-pair genomes, respectively. The word "billion" is in error. The bacteria have 1.3- and 1.1-million-base-pair genomes, respectively.

**LETTERS:** "Chiral selection when stirred, not shaken," response by J. M. Ribó J. Crusats, F. Sagués, J. Claret, R. Rubires (24 Aug., p. 1435). The last sentence of the figure caption, written by *Science*, was misleading as to what the evidence from the research by Ribó and colleagues indicates. The sentence should have read, "These aggregates [of porphyrin molecules] then assemble into supramolecular chiral structures, oriented according to the vortex motion." There is no evidence of helicity of the supramolecular structures, nor conclusive evidence of the sign relation between absolute chirality and vortex direction, as suggested by the original sentence.