Letters

The New Format

I applaud the new look of *Science*. The reordering of the editorial sections means that I can now read the issue from front to back for a change. The multiple fonts and character weights are reminiscent of outlining techniques learned in the distant past. The typography of the main text gives an impression of welcome lightness. . . .

I thoroughly enjoy the dot over the I. It has the same sense of nonconformity as the glyph of the Illinois Central railroad. But I must protest the use of the two lowercase c's. No respectable font mixes upper- and lowercase forms in a given heading, except for initial letters. Unfortunately, the two c's and the otherwise admirable dotted I now provide a three to three upper/lowercase split in the small letters, with a resulting hermaphroditic "New look". . . .

All in all, at least a solid A minus. With some fine tuning, it can become an A.

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Koshland is correct in assuming that the dotted capital I may elicit comment, and I begin forthwith. Ever since my undergraduate days I have been sensitive to the often rather broad suggestion that those engaged in the sciences are apt to be found wanting in the area of literary skills. I am therefore scrupulously careful in my own writing to avoid providing evidence that this is so. When the foremost journal of its type in this country sees fit to adorn its masthead with a flagrant transgression, I am offended.

The dotted capital I, along with other abominations such as gratuitous quotation marks, belongs on hand-lettered placards at flea markets and roadside fruit stands. It does convey a strong message, although the hyperbole in Daniel E. Koshland, Jr.'s editorial "A new look" (3 Jan., p. 9), while poetic enough, misses the point. I am not able to get past my first "gut reaction" to read into it all of the imagery that Koshland suggests it conjures up, except to opine that a black spot may not represent light at the end of a dark tunnel.

Lest I be thought entirely negative, let me hasten to say that a new look to the old journal is welcome. Except for the one flight into the "avant-garde," I find the new look appealing and well done.

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Although I do not usually like design changes in magazines, I very much approve of most of the changes that have been made in *Science*. It is an excellent idea to move News and Comment to the front of the magazine. News and Comment is certainly one of the most respected and best read sections of *Science*. Perhaps *Science* will eventually move the Book Reviews forward as well.

Science is already one of the most interesting magazines in the country. With more of the kind of imagination *Science* is showing, it could be one of the most important magazines as well.

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Congratulations on *Science*'s 'New look"! The 3 January issue is beautiful and very accessible. I shall not long mourn the departed old look, specifically,

1) The contents page and the listings of new books are much easier to read.

2) The order of types of articles is more sensible.

3) The abstracts of feature articles, an important addition of a couple of years ago, are even better now that they run at the top of the articles.

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Hooray for the new *Science* format! The larger, bolder print for titles in the Books Received section, plus printing it in running pages, will save readers thousands of hours in scanning time.

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Koshland refers to the new look of *Science* as "cosmetic surgery." If I had had a face-lift that turned out this bad, I'd sue the surgeon.

Way back when the very first four-color cover appeared, I thought it was an interesting diversion but not really necessary to lure readers to *Science*. Then, *all* the covers became four-color and, although I felt the strong hand of Madison Avenue tactics, the covers themselves were so beautiful that I quelled the impulse to resist the hype and just enjoyed them—along with the changes made on the inside.

And now we have this—the worst of both worlds. Sorry, but I don't understand why. Granted, much of it is probably a matter of taste, but not all. For example, why should *Science* follow the advertising world in using a huge typeface that makes you feel as if you're sitting in the front row at a movie? Surely no one needs to read an article title from across the room.

At any rate, I won't stop my membership over this uglying up of *Science*. I'll just reaffirm my old conviction that people who are members don't have to be tricked into reading its contents, so who cares what it looks like anyway so long as the information is still there.

I almost forgot to mention the dot over the I. To Koshland it represents "willingness of scientists to battle conformism." To me, it represents a lack of willingness on the part of the editor to buck the "cutesy" trend found in so many popular magazines.

JOANNE DUFILHO
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Regarding Koshland's editorial of 3 January, has E. B. White died in vain? Why not, "Times change, *Science* changes; we like it, we hope you like it"?

Yes, I do like the new style, but I don't like the editorial!

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The new design of *Science*'s pages is a big improvement, but Koshland's fantasies about the dot over the capital I are wide of the mark. The new logo comes from the same esthetic impulse that makes people named "Cindi" and "Suzi" draw smiley faces instead of dots over the i's. The errant dot's only virtue is that it distracts attention from the curls of the two C's, which are in an ugly typographical battle with the serifs of the E's.

Perhaps we could forget about "balloons rising above earthbound reality" and restore some worldly grace to the logo.

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Editor Daniel E. Koshland, Jr., explains the beautiful new format of *Science* by asserting that "the dot over the capital I . . . represents a balloon rising above earthbound reality from which to look forevermore for distant intellectual horizons." His additional comments are truly erudite, poetic, and fascinating.

Unfortunately, his explanation is incomplete. The entire symbolism of this metamorphosis has been revealed to me in a

strange dream, in which I was a student at Aldebaran University in 2986 A.D. Our science professor, Dr. Megistus Pansophus, assigned to us a book entitled *History of Science Journals*, where I read the following: "The greatest scientific journal of all time, *Science*, altered its format in 1986. However, it was only recently that historians of science, assisted by spectacular scientific discoveries that this journal inspired, at last understood the startling symbolism of the dot over the I—which is meaningfully adjacent to the letters c and e. As is well known, around 1000 B.C., the Phoenicians and other Semites introduced the letters c, i, and e, which mean camel, hand, and window, respectively. One can easily visualize, then, the phantom of a medieval Arab astronomer, riding 'the ship of the desert,' holding a thaumaturgic round glass, and prophetically peering through a new cosmic window that has finally uncovered countless mysteries of the universe."

Professor Pansophus closed his relevant lecture with the following poem:

DOT OVER I
(A Pandebar)

Draco's delta, dazzling *dot!*

* * *

Arab sage, his *camel* riding,
Glass in *hand*, with light colliding,
Found a *window* in the sky—
Magic window, Truth's ally.

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The "new look" has one old look about it that I wish were not there. The address label still comes on top of the wonderful cover illustration. Can the addressing machinery be programmed to put the label somewhere else? Even across the word "*Science*" if necessary?

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I would like to protest in the strongest possible terms the changes in the format of *Science*. I find the new typeface much more difficult to read than the old style. Also, I find the new column width distracting and the entire format a great leap backward, comments in Koshland's editorial notwithstanding. Please bring back at least the old typeface.

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I must admit that the sight of the new *Science* set me back a bit. But I am sure that, with time, it will grow on me. I have one question, though. Will your readership be faced with the choice between the new *Science* and the old "Classic" *Science* several weeks from now? I understand it is all the rage in advertising circles.

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Ice-Nucleating Bacteria

Eugene P. Odum (Letters, 27 Sept., p. 1338) implies that there is proof of the necessity for bacterial ice nuclei to initiate precipitation processes. However, this theory has not been tested because of the difficulty of tracing the origin of ice nuclei in nonviable particles and detecting low concentrations of viable cells containing ice nuclei in the atmosphere. It is known that living plants, plant debris, and soil are sources of ice nucleation–active (INA) bacteria (*1*) and that these INA bacteria become airborne in small numbers under natural conditions (*2*). But there are no published data on the concentration or activity of bacterial or bacterially derived ice nuclei in clouds.

In spite of this, the possibility that INA bacteria may be involved in precipitation processes has been considered by scientists advocating the release of genetically engineered INA^- bacteria and by the National Institutes of Health Recombinant DNA Advisory Committee and the Environmental Protection Agency during their evaluations of the proposed experiments. The important question to ask in relation to the risks of releasing INA^- bacteria is not whether INA bacteria influence precipitation (since that question cannot easily be resolved) but whether the release of INA^- bacteria could have a significant impact on the number of INA bacteria available for such natural "cloud seeding." The available data indicate that the experiment we have proposed (*3*) and even the widespread use of INA^- bacteria on the low acreage specialty crops for which they are designed, will have essentially no impact on available INA. The only instance in which release would have a significant impact on the number of INA bacteria available for transport into the atmosphere would be if the released organism monopolized the surfaces of many plant species in a large geographical area and stopped the growth of resident INA bacteria. The INA^- deletion mutants to be released in our proposed field trial have been extensively characterized with this in mind, and they lack the capability to establish epiphytic dominance on many plant species or to reduce existing populations of INA bacteria. Without a large population density advantage (which the strains will be given by direct spray application, but will not have during subsequent transport away from the experimental area), these INA^- strains have no preemptive competitive advantage over INA bacteria.

Another way of assessing the risk of the proposed experiment is to compare the expected INA reduction with the INA reduction that already occurs due to unregulated practices such as the use of bactericides and copper-containing fungicides, the planting of crop varieties that are resistant to *Pseudomonas syringae* colonization, and crop species selection. Experimental releases of unregistered pesticides containing naturally occurring bacteria on areas less than 10 acres are not restricted in spite of the fact that populations of INA bacteria may be reduced in these tests.

We applaud Odum's concern for sound management of the ecosystem, but feel that concentrating on irrelevant issues will hinder such management. In the case of ice-nucleating bacteria, the effect of crop selection on bacterial populations should be considered. INA bacteria are not found in equal numbers on all plant species: wheat, almonds, and snap beans may harbor very high populations (greater than 10^5 colony-forming units per gram of leaf tissue), whereas corn and citrus usually have much lower populations, and conifers harbor few if any INA bacteria. The continent-wide effects on INA populations from changing land use are enormous. Surely the whole picture must be considered.

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2. J. Lindemann, H. A. Constantinidou, W. R. Barchet, C. D. Upper, *Appl. Environ. Microbiol.* **44**, 1059 (1982).
3. *Fed. Reg.* 50, 33841 (21 August 1985).

Erratum: In the article "Americans scarce in math grad schools" by Gina Kolata (News and Comment, 15 Nov., p. 787), the fifth sentence of the second paragraph should have read, "New York University's Courant Institute has five Americans among its 25 first-year graduate students with financial support."