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The recent cancellation of the National Compact Stellarator Experiment (NCSX; PHYSICS TODAY, July 2008, page 25) calls to mind the fact that exactly 40 years ago the amazing Russian T-3 tokamak results burst upon the world and blindsided the US stellarator program. The ensuing shutdown of stellarator work at the Princeton Plasma Physics Laboratory and the rapid adoption of tokamaks at PPPL and other US laboratories were arguably the most important episodes in the US magnetic fusion program.

Successively more powerful tokamaks with ever more impressive performance came on line. Nevertheless, new stellarator projects were eventually funded by the US Department of Energy (DOE) at fusion labs in Tennessee, Wisconsin, and elsewhere, with at best lackluster results and usually far worse. As suggested by your article, stellarators are more complicated magnetic confinement devices than tokamaks, and thereby have always appealed to theoreticians who possess complicated minds and access to supercomputers, but nature is indifferent to both.

Having learned nothing from decades of tokamak progress and continued stellarator debacles, in the mid-1990s the directorate at PPPL and its counterpart at DOE reversed the 1968–69 revolution: They decided to shut down the flagship US tokamak fusion test reactor and replace it with a stellarator of unimaginable complexity, the recently aborted NCSX. Those foolish decisions have served only to expedite the ongoing demise of the US magnetic fusion program. Now, with the well-deserved termination of the NCSX project, perhaps limited resources can be refocused on the tokamak family as the only proven approach to magnetic fusion energy.

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Peering into peer review

Given that publications play an important role in the making or breaking of a person's academic career, I think a re-

examination of the peer-review process is in order. Over the years, as I've written and submitted papers, I have come across reasonable reviews, horrible reviews, and even personal attacks embedded in mediocre reviews. I suspect many researchers have received similar treatment. And in the end product of papers published in journals, we see the good and sometimes the awful.

I think it's time for each of us to take responsibility for what we say. I propose that reviews and reviewers' names be made public after each review is complete. The original intention of an anonymous review system, presumably, was that it would protect the writer and the reviewer, but the system has been abused.

Reviewers need to be responsible for what they say by revealing their identity and their comments. If that were done, I'm sure reviewers would be much more cautious about what they write, and we would see both the reviews and the published papers improve. Fewer erroneous reviews would be passed on authoritatively to the editors, and personal attacks in the reviews would cease. This revised system would require reviewers to focus on a paper's science content rather than allowing them to air their personal feelings.

We have the resources for this task. With the growth of online journals, it won't take much to post the paper, whether accepted or rejected, online with the reviews alongside it. That way, we can at least have an idea of whether the reviewers did their job properly and appropriately. We can also go a step further with online forums that allow reader feedback on papers and reviews.

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Early x-ray burst sighting

We were intrigued by the story "X-ray Outburst Reveals a Supernova Before It Explodes" (PHYSICS TODAY, August 2008, page 21), which describes the likely discovery of a core-collapse supernova by Alicia Soderberg and colleagues.¹ The story's figure 1 resembles a similar x-ray light curve, reported by collaborators at Los Alamos National Laboratory,² from an x-ray outburst that occurred on 7 July 1969 and preceded by two days the x-ray nova Centaurus XR-4.³

The spin periods of the Vela satellites

that recorded the 1969 event were roughly 1 minute, and any location within the instruments' field of view would be sampled for 2 or 3 seconds out of that period, followed by subsequent samplings every 60 seconds or so. When first observed, the precursor to the Cen XR-4 nova was already at its highest level, but the subsequent decline is almost identical to that of SN 2008D.

The outburst was discernable above background for seven minutes;² the PHYSICS TODAY item indicates a similar duration for the outburst of SN 2008D. The x-ray nova part of the transient Cen XR-4 was observed two days later on 9 July 1969, the next time the satellites' detector scanned that part of the sky.

An article about the original discovery of Cen XR-4 was published right around the time the nova phase was rapidly declining. By 24 September 1969, the source was no longer visible above background. In a second article covering the known life of the Cen XR-4 x-ray nova,³ we stated that there was no definite optical identification of Cen XR-4; a nova outburst had not been reported at the location of the source.

It is not clear whether Cen XR-4 was a core-collapse supernova as the similarities between it and SN 2008D suggest. But it is certainly clear that the occurrence of x-ray precursors to energetic cosmic processes was documented in the 1972 event and again in 2008.

References

1. A. M. Soderberg et al., *Nature* **453**, 469 (2008).
2. R. D. Belian, J. P. Conner, W. D. Evans, *Astrophys. J. Lett.* **171**, L87 (1972).
3. W. D. Evans, R. D. Belian, J. P. Conner, *Astrophys. J. Lett.* **159**, L57 (1970).

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Coleman tribute

Regarding Sheldon Glashow's tribute to Sidney Coleman in the May 2008 issue of PHYSICS TODAY (page 69), I should add another side of Sidney. He would come to the physics graduate students' parties and sit on the floor, back to the wall, and recite all the words Lord Byron ever wrote. As a physics graduate student's wife and a humanities major, I so enjoyed that Sidney.

Sandy Alyea
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