

A Very Good Goodbye for *Science*

Shi V. Liu

Truthfinding Cyberpress (TFCP)
Apex, NC 27502, USA

Corresponding with im1@im1.biz

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HIGHLIGHT

Donald Kennedy has announced his decision to step down as *Science*'s editor-in-chief. This is actually a very good piece of news for scientific community because it may give *Science* a much needed opportunity for change.

ABSTRACT

Donald Kennedy is about to retire from his editor-in-chief position in *Science*. His work in *Science* has been highly praised by some AAAS officials. However, a quick review of his seven years' publicly visible achievements showed that not only two major publishing scandals have happened in *Science* but also a huge pile of retractions have been collected by *Science*. Facing so many problems and an apparent breakdown of the secret peer review system in *Science*, Kennedy has taken no real actions other than expressed some out of touch opinions. Kennedy's retirement is very good news to *Science* as well as scientific world. Let us wish the next editor-in-chief for *Science* will be a true leader in revolutionizing scientific publishing.

KEY WORDS

Science, AAAS, Editor, Donald Kennedy, *Scientific ethics*, TFCP, Shi Liu, Publishing, Revolution, Trust, Peer review, Retraction, David Baltimore, Misconduct

In June 22, 2007 *Science* announced to the world that its Editor-in-Chief, Ronald Kennedy, will be stepping down (2). I am very excited to hear this news because I think this may give *Science* a much needed opportunity for a long overdue change (30).

Over the past years I have seen the quality of *Science*'s publications being deteriorated and, more amazingly, flawed and even fraud papers being increasingly published. *Science* has not only published a study claiming a so far non-repeatable discovery of bubble fusion (50) but also published a so far still elusive return of the ivory-bill (6). Although any clear-cut misconduct has not been found or accepted for these publications, lacking solid scientific evidence should preclude them from being published as any true discovery at first, not to

say keeping them from retraction (*Logical Biol.* 5: 235-237, 2005; *Sci. Ethics* 1: 79-80, 2006).

Interestingly the publication of both the bubble fusion paper and the ivory-bill paper were strongly supported by the Editor-in-Chief, Ronald Kennedy as evidenced by his Editorials for these publications (17, 23). However, looking retrospectively, Kennedy's judgments are apparently wrong on both cases.

When Kennedy took control of *Science* fraud publication in *Science* was very rare (21). In fact, when the Jan Hendrik Schöne case was brought to the daylight (48), Kennedy was still quoting Philip Handler, a former president of National Academy of sciences, "that is was so rare that we shouldn't bother ourselves". He stated that "it would be unfairly premature to judge the Schöne case" (19).

Using the famous “Baltimore case” (51) (so named because Baltimore’s strong defense for the accused researcher Immanishi-Kari who was first found of guilty and then dismissed of the charge) as an example, Kennedy urged scientific community that “suspicions of this kind require cautious and considerate handling.” This was because, in Kennedy’s view, the “deferred justice ended years of underserved opprobrium for her [referring Immanishi-Kari] and for her senior colleague, David Baltimore” (19).

However, it turned out that the public scrutiny on Schöne’s flawed publications was not only right for scientific reasons but also led to the exposure of some severe research misconduct (47). Interestingly, Even with this verdict on a clear-cut data falsification misconduct, *Science* still did not retract those flawed papers immediately because “*Science* has a standing policy that all authors of a paper must agree to its retraction” (20). At the end, these papers were retracted by two Editorial Retractions (15, 16). That actually represented a landmark event for *Science* not only because the massiveness of the retracted publications at a single time also due to a fact that *Science* actually violated its own rule (a good “misconduct” indeed but changing the unreasonable rule may be a better way to handle this case and for the future cases).

However, *Science* really leant no good lesson from this hard blow. Kennedy stated that “There is nothing “wrong” with the peer review process, and there is little journals can do about detecting research misconduct.” He insisted that “Trust is a shared value of science” and “that’s where we have to put our faith” (19). He even complained that “it is asking too much of peer review to expect it to immunize us against clever fraud” (20). The publication of these flawed or fraud papers actually did no real (financial) harm to *Science* because not only more laypeople became interested in reading *Science* (the magazine part at least) because of these scandals its impact factor was also boosted by the citations collected for these bad publications which last even after their rejections (25, 26, 38).

The real victims for the bad publications are only the scientists, not only those being blamed for the flaw or fraud but also those trusted these publications. However, despite the apparent existence of increasingly more dishonest “scientists” and the increasingly revealed problems with the secret peer review system, Kennedy still played an old tune advocated by David Baltimore that “One has to trust one’s collaborators” and even declared that “Trust is a shared value of science” (19).

Unfortunately, scientists suffered more because this blind trust has led to the publication of more flawed and even fraud papers in *Science*.

The once rare retraction event in scientific publishing has not become a routine feature and, amazingly, *Science* is the world leader in publishing retractions (40). After the heavy blow by the massive retraction of the Schöne publications, *Science* was once again slapped hard by another most spectacular scientific scandal in the history of science (37). The high-profile publication of two stem cell landmark papers from Hwang’s group (9, 10) and then equally high-profile publication of an Editorial Expression of Concern (13) and an Editorial retraction (14) once again placed *Science* at the very top point of the world focus.

Surprisingly, unlike the openness in expressing opinions on the Schöne case, Kennedy was very quiet during the storming months of the Hwang scandal and even stopped publishing his regular Editorial (27, 45). As a matter of fact, the only Editorial he has published on the Hwang stem cell research and publishing scandal is a relief that the so-called “outside” committee found that “its editors and peer reviewers not only followed the procedures in place here and at other top-tier journals, but made a substantially greater effort than for most papers to ensure that the science was sound” (22). However, this report from the “outside” committee pleased *Science* but worried more readers (35).

Thus, for the Hwang case, Kennedy basically ignored the many demands for explanations why this invasive fraud could happen again in *Science* (30). I alone submitted many letters to *Science* (addressed to the Editor-in-Chief). However, not only these letters were all rejected by *Science* (later published in Truthfinding Cyberpress journals such as *Scientific Ethics* at <http://im1.biz>), their existence was even ignored by Kennedy (29) when he opened his mailbox (18). Kennedy and *Science*’s ignorance of a public demand for revealing its editorial mistake in handling Hwang’s flawed and fraud submissions further damaged the public trust to *Science* (30).

In the end, *Science* still did not learn any lesson from the high-impact Hwang scandal (31). It not only continued its business as usual (41) but also forfeited its published promise to publish the so-called “external” review on its editorial handling of the Hwang paper (28, 35).

Now *Science* is once again in a hot spot. Its retraction (3) of another high-profile publication by Nilsson’s research group (8) which was even considered as the 3rd Runners-up in the

Breakthrough of the Year (1) did not clear a scientific “misconception” but led to an exposure of potentially more severe scientific misconduct (33). This case is currently being hotly debated in *The Scientist* (52) and a public demand has been issued for *Science* to answer some tough questions (32).

The nightmare for *Science* is not going to end any time soon. Besides a need for answering some questions related with the Nilsson publication and thus likely the opening of a can of worms, some other high profile *Science* publications have already been investigated for possible misconduct (12, 46). However, expressing concerns will not stop flawed and even fraud submissions from rushing into this error-prone publishing warehouse if real action is not taken (39, 44).

In addition, some other *Science* publications have also been challenged in some new-generation scientific journals. These include a challenge (24) against the claimed magnetotactic bacteria (49), a challenge (42) against the claimed dedifferentiation-based germline stem cell regeneration (4) and a challenge (34) against the claimed differentiation reversion-based immortality (7). If a universal scientific standard is upheld for deciding what to retract (43), then more publications will be retracted and many of them will come from *Science* and other “top” journals (36).

So the seven year period is not a long time for scientific history but enough for Kennedy to leave a huge pile of retractions to *Science*. Amazingly, facing such a poor performance (at least much poorer than *Nature*), AAAS CEO Alan Leshner still praised Kennedy highly as “Don Kennedy has provided superb leadership to *Science*” (2). It was even predicted that “it will be very hard to find a successor” because “He’s set the bar very high.”(2)

Well, based on my seven years’ experience as an Editor-in-Chief for not just one but several scientific journals single-handedly created and managed by myself in my off-career-duty spare time (see <http://im1.biz>), I know for sure that I will not come even close to the high bar of retraction as set by Kennedy for *Science*. However, I do believe that the low or even no impact factor journals that I edited today will retrospectively be regarded as some truly top journals, in terms of communicating many great discoveries to the scientific world but not or hardly having any need to retract.

Fortunately, a search committee has been established to conduct an international search to find a replacement for the retiring Kennedy. I just wish that, if American Association for Advancement of Science (AAAS) really wants to find someone who can advance science by

performing a better job in communicating good science, it should look beyond the traditional publishing circle and open its eyes to the new horizon of scientific publishing.

However, I am worried what kind a successor will be chosen for Kennedy to take the responsibility for science (not just a position in *Science*). This is because the Chairman for this searching committee is no other person but the AAAS President David Baltimore, a person who “is best known for his role in an affair of alleged scientific misconduct” (51). Even though Baltimore is a great scientist as shown by his winning of a Nobel Prize in 1975 (<http://nobelprize.org>), it is truly a tragedy that his name has been associated with alleged/confirmed misconduct not just once but twice: first in the Thereza Imanishi-Kari case in the 1980s (11) and now in the Luk van Parijs case in 2005 (5). However, I wish that worry will be totally unfounded and hope Baltimore’s penetrating vision in seeking truth in science and his close observations of some misconduct may give him some unique insights for finding a really scientific as well as ethical Editor-in-Chief for *Science*.

For the bright future of *Science*, let us hope a true leader in scientific communication can be found to take the responsibility of communicating the best science in the world for the position of Editor-in-Chief in *Science*. I know someone who’s tracking record in publishing good science is at least much better than that of Kennedy and this person actually speak two major languages in the world. So if AAAS really cannot find any replacement for Kennedy I can introduce one.

Now let us say a very good goodbye to Kennedy and make some necessary preparations for ushering in a post-Kennedy era for *Science*.

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