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Pyroclasts

Publish and Perish

by J. D. Aitken

In geology at least, the doctrine of "Publish or Perish" has gone far beyond a bad joke. On the one hand, the doctrine is demonstrably important in the alarming inflation of geological literature, the downgrading of the standards of geological publication, and the promotion of a totally cynical approach to the questions of geological research in general and publication in particular. On the other hand, the necessity (under the present regime) for young (and not-so-young) geological researchers to play the "Publish or Perish" game is undeniable.

To put the situation in perspective, let us rate published works in geology on the Richter scale. On such a scale, those rare works that shake the world would be rated at magnitude 7.0 and up. Examples would be Darwin's *Origin of Species*, and Archdeacon Pratt's discovery of the deficiency of mass beneath the Himalayas. A much larger body of significant, but less earth-shaking papers, representing important, though not revolutionary advances, could be rated at magnitudes between 4.0 and 6.9. Examples might be Walcott's identification of stromatolites in the Belt "Series" as structures of algal origin, and Cloos's study of penetratively deformed ooids in the Appalachians.

Judged on this scale, practically nothing presented at the most recent annual meetings of the Geological Association of Canada or the Geological Society of America reached magnitude 3.0, and a shocking proportion of the papers fell below 1.0! An assessment of the technical content of the 1976 International Geological Congress would be almost equally bleak. I decline to give examples.

To use another metaphor, we may have gone to the meeting hoping to be shown, if not great monuments, at least solid dwellings, but instead saw mostly boards, bricks, and half-bricks. I do not suggest that the sawyers of the boards and the bakers of the bricks were in general unrealistic in their private assessments of the magnitude of their contributions.

Every reader of this column understands how this situation, at once tragic and ridiculous, has come about: the promotion committees of both universities and governmental research agencies, and the review committees of the agencies granting research funds, have chosen *published* research results as the prime criterion for advancement and/or monetary support. Each committee must review far too many cases to *evaluate* each paper or abstract presented as evidence of progress, hence rarely gets beyond counting titles, or possibly pages. Those whose output is to be judged in this way are well aware of all this. Although the more thoughtful, at least, recognize that a gifted geologist would do well to turn out papers of magnitude 4.0 or greater more than a few times during his productive life, the competitive scramble started by a few cynics and egomaniacs and now self-reinforcing compels him to emphasize quantity rather than quality. Grind out the titles, inflate the literature and the technical programs, and *abandon hope* of ever completing a thoroughly mature study! If there is a Charles Darwin among us today, he will never write his own equivalent of *The Origin of Species*, except he be independently wealthy!

Is there an alternative to ballooning meetings and exploding literature? Yes. Consider that the microseisms of geological literature have value mainly as evidence of work in progress. There is little, if any justification for their publication in full, and even less for their presentation at the meetings of learned societies, where they interfere with the presentation and thorough discussion of mature works. What is needed, first, is a periodical devoted entirely to brief progress reports, not exceeding two pages. The reports could include diagrams, and should specify the repository of raw data. Such reports could be reviewed satisfactorily by immediate peers. At the same time, both the conveners of meetings and the

editors of journals must adopt much higher criteria of significance, and initially at least, much higher rejection rates.

Let the familiar journals emphasize the works that result from two to five years' involvement with major problems, leavened with those papers, necessarily few, that arise out of ten or fifteen years of deep thought.

The expense of technical meetings of the learned societies can scarcely be justified, other than by the valid argument that an oral presentation permits immediate discussion. Let, therefore, a day's program consist of four papers, not 20, with lots of time for unhurried discussion, and let those papers be ones that challenge, change, or expand the minds of the audience.

I suspect (and I am not alone) that many papers are presented at meetings mainly to justify their author's attendance and his expenditures for that purpose. If this is true, administrators must be re-educated as to the benefits, both to individual researchers and the science at large, of scientific meetings.

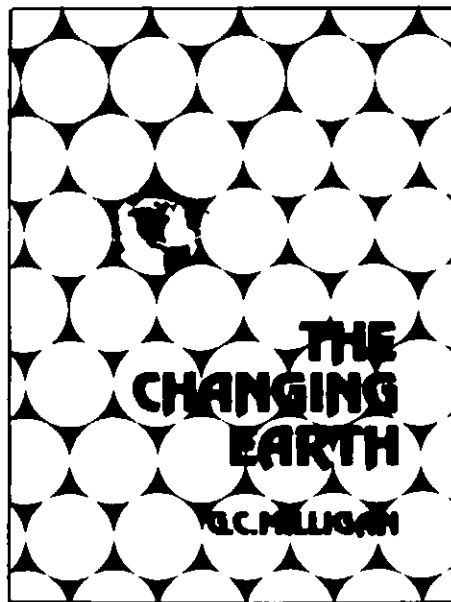
These proposals fly in the face of "Publish or Perish". Can reform along some such lines as these take place? The problem is one for which reform from the bottom up cannot work; reform *must* commence at the top, that is, at the level of the administrations of the universities, governmental research bureaux, and granting agencies.

I call upon the president of the Geological Association of Canada to convene a Council of the masters of the research geologists. Let it be held near Peterborough, so that it may be known as the *Second Council of Trent*. Bring before these Councillors witnesses to the reality of the situation described here and advocates to plead reform. Let the Councillors and ourselves relearn the meanings of the words "research" and "standards of scientific publication". Let us all relearn also both the price and the potential value of a page of print.

Surely it should be possible to convince our masters that the processes of evaluation now in vogue serve only to defeat the goal of scientific excellence, and guarantee *their failure* to carry out the responsibilities given them.

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Note: The pyroclasts column is under the editorial guidance of Ward Neale, who welcomes communications from anyone who has a deeply-felt opinion to express



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