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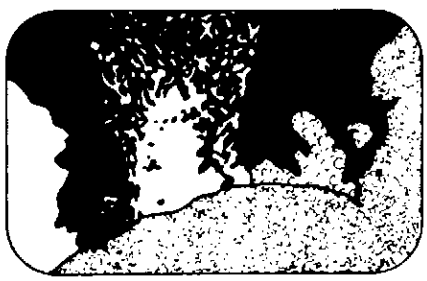

Pyroclasts

Ward Neale

The Slow Rise of Prophets

Was ever a Canadian scientist so showered with high honours as J. Tuzo Wilson, winner of the 1978 Vetlesen Prize which was set up as a Nobel equivalent by Columbia University because a Nobel Prize was not awarded in the geosciences? Tuzo, who holds just about every national and international honour available to a geoscientist, is about to become the first recipient of one that hasn't been available hitherto: the J. Tuzo Wilson Medal of our own Canadian Geophysical Union. All of us must derive pleasure from this recognition of our conceptual superman who has played a leading role in revolutionizing the earth sciences and who has generously allowed ideas to splash over the edges of his fertile brain pan into other fields such as economics, politics and the energy debate.

A recent local newspaper editorial praising his ideas on economics and economists brought to mind the fact that his controversial contributions were not always so readily accepted by his public and his peers. In the west we only have to think back five years and recall the hostile reaction to his MacLean's magazine article on the impending energy crisis. But let's remember how some earlier breakthroughs were received. His 1948 division of the Canadian Shield was rejected with disdain by most of his contemporaries. J. E. Gill made a similar division at the same time and it too made little impact although Gill's was considered more respectable because it was based on a collation of ground observations whereas Wilson's relied a great deal on new-fangled airphoto interpretation and isotopic dates. There is little mention in the Precambrian review articles of the 1950s of these two papers which form the basis of our present divisionof the Shield.

Lack of recognition of a prophet's brainwaves is not confined to his colleagues at home. I sat beside a distinguished British structural geologist at Birkbeck College in 1964 as J. Tuzo Wilson skillfully used paper and scissors to illustrate a new type of fault. My companion and others left before the question period, quite disgusted by this simplistic "cut-out" approach to problems that obviously required complex numerical analysis. That occasion was the first public pronouncement on transform faults, a keystone of plate-tectonic theory. Again, two years later in Ottawa, J. Tuzo spun a preposterous yarn to a few of us GSC chaps about the Atlantic Ocean closing and then re-opeing, leaving the Avalon Peninsula tacked onto Newfoundland as a souvenir of the old country. What untrammelled nonsense it seemed - yet in less than two years some of us were established in Newfoundland and virtually claiming the idea as our own.

One of many morals to draw from these recollections is that when the first of the scientist's outrageous hypotheses is finally accepted, those that follow don't require quite so long an incubation period. However, I'd like to dwell on another aspect concerning the promulgation of bold new ideas.

Freedom of the Geoscience Press

Although Tuzo Wilson's ideas rocked the status quo and disturbed the Establishment, he always managed to get them published in outlets as diverse as *Nature* and our own *CIM Bulletin*. Another prize winner is Ken North of Carleton who has recently received the Bancroft Award of the Royal Society of Canada. Ken was rather a pariah within influential circles four or five years ago because he had dared to challenge both governmental and industrial estimates of our oil reserves. Yet he was able to present his controversial ideas to a meeting of the Canadian Society of Petroleum Geologists and to publish them in the ultra-conservative *CJES* and even in *Geoscience Canada* (v. 1, no. 1, 1974).

The whole record of plate tectonics corroborates this freedom to publish - for most of its radical and upsetting ideas appeared in rigorously referred status journals, such as the *GSA Bulletin*, *JGR* and *Nature*. And the relationship of plate tectonics to mineralization was the subject of trail-breaking papers in *Economic Geology* and the IMM's *Applied Geology* before most of the members of the sponsoring societies (and possibly even some members of the Editorial Boards!) had read about let along accepted the new concept. This is why I disagree completely with Erich Dimroth's contention (in a letter in this issue) that peer review makes it difficult to publish new models and ideas. Good referees are active scientists, many or most of them fairly young (or young in heart) who are carefully chosen for their familiarity with the author's field. This type of person usually welcomes new ideas and departures from the norm. The main job of editors and their associates is to discard referees who resist new ideas or who tolerate mediocrity and worse. The record of the last two decades in North America suggests that

many of the much-cited journals have gone a long way to meeting these editorial responsibilities. Erich's criticisms hark back to another time and, possibly, another place

Everyone must agree with his contention that competition between jounals is a good thing but a competition for excellence really doesn't require the existence of journals with low standards. We all know that a few journals from commercial publishing houses are acknowledged leaders in their fields but many are very erratic due to poor editorial standards - their mastheads decorated with an international selection of geological giants from a bygone era, their refereeing system incomprehensible. Libraries must subscribe to these journals because they all publish at least a few very good papers - by scientists who want to take the easy way out and avoid comments by tough referees which would make their good papers even better. With the prestigious journals of geoscience societies experiencing financial problems, possibly the eventual answer is for the commercial publishing giants such as Elsevier to form stong links with societies such as GSA to produce profitable publications with high editorial standards. One result would be 50 per cent fewer published papers which would be good for everyone and everything except authors' egos. Another outcome, because of increased price, would be a 50 per cent reduction in individual subscriptions.

Warming Up Cold Potatoes

Erich Dimroth states that the best symposia have only internal review systems. This could be true and it should be easy to check out because there have been so few good published symposia. I'm more inclined to agree with J. Sebastian Bell's assessment (letter in this issue) which suggests that some symposia consist of old potatoes, which are older still by the time they are wrapped in their fancy bindings. The trouble is that after a scientist has invited his colleagues to participate in a symposium, he often finds it hard to tell them their manuscripts really aren't worthwhile. If it's his first attempt at editing, he's also likely to become sick of the whole enterprise and anxious to get it off his hands as soon as possible. Some of the world's worst papers appear in symposium volumes and the editors always say "we had to include them for the sake of completeness, you know". Our association (GAC) has been very wise to insist on external refereeing in recent years.

The Saints March In (Obscured by Haloes)

The most selfless people I know of in the geosciences are the volunteers who referee journal articles. Some referee six to ten papers per year for various journals. Each paper may take anywhere from several hours to several days. Often they will put nearly as much into the final product as the author himself and yet he might neglect even to acknowledge their contribution. Why do they do it? - for the communal good and also because as authors themselves they feel they should repay debts to the refereeing system.

The question of whether or not the referees have the right to remain anonymous and even if the author himself has a right to anonymity when his work is reviewed has been debated by learned and concerned people for many years. A thoughtful argument against anonymity is presented in Gyorgy Ozoray's letter in this issue.

A few years ago, I would have endorsed his stand. Not now. Referees make enormous sacrifices of their time and they deserve the right to avoid personal conflict with authors. All authors are understandably sensitive but some are widely known as volatile paranoids who strike up lifelong vendettas at the slightest hint of constructive criticism. Surely a volunteer referee merits protection from such hassles. How is the poor author protected? - by giving him or her the right of appeal and further (presumably anonymous) reviewing.

Referees are generally objective saints, whether veiled in anonymity or not, but their forked tails sometimes show through their heavenly vestments when they send in their own papers and have to face the refereeing system head on.

Congratulations

- To *Kathy Sullivan* for being part of the first great leap forward in geoscience transportation since Cliff Lord, Mac Wright and Ken Eade took to helicopters in the N.W.T. a quarter century ago. Kathy has just completed her Ph.D. at Dalhousie and is now off to NASA, chosen to become part of the elite astronaut corps who will crew the Space Shuttle vehicle and commute 325 km above earth in order to get to work on their remote probing of our planet.
- To *Hank Williams* for dreaming up the idea of an Appalachian Tectonic Map 18 months ago, compiling it and now publishing and printing it in a multitude of beautifully contrasting colours. And to *Memorial University* for generously financing the production of this super map in world record time. Usually the dreaming alone takes 18 months.
- To *University of Alberta geoscientists* who published more papers (45) in CJES during 1974-77 than any other university group. Second was U. of Toronto (40). Western Ontario and Memorial tied for third (37) and U.B.C. was fourth (32). No other universities came close to these leaders. The entire GSC published 78 CJES papers during this interval and other EMR groups (chiefly the Earth Physics Branch) published 50.

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