75th Anniversary of Pure and Applied Geophysics

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This editorial commemorates Pure and Applied Geophysics on its 75th year of existence. It supplements histories presented in earlier volumes written for its 50th and 60th anniversaries, and adds some later developments. The first of those histories was written by then Editor-in-Chief for regular issues, Professor Emil Okal, in 1989 and the latter by me in 1999.

Let me first summarize the evolution of the journal's editorial structure made from the birth of the journal until the 60th anniversary memorial article in 1999. First, the original name of the journal was not quite Pure and Applied Geophysics, but instead, its Italian equivalent *Geofisica pura e applicata*. Professor Mario Bossolasco, then director of the Royal Institute of Geophysics and Geodesy in Messina, founded the journal in 1939. At that time, there were no organizations in Europe that published papers strictly in the field of geophysics. Professor Bossolasco served as the only editor of the new journal and also saw that accepted manuscripts were sent to the printer between the years 1939 and 1963. That period saw the production of 56 volumes, all of which were printed in Milan.

Birkhäuser Verlag, in Basel, Switzerland, took over the journal in 1964, adopted its current title, and used the acronym PAGEOPH to identify it informally. Bossolasco continued to serve as editor until 1973 when a board of editors was formed. It appears that 10–15 persons comprising the board handled the review process for all submitted papers. Bossolasco remained on the board of editors, but only as an honorary member.

Emile Okal, in the 50th anniversary volume, noted that, in 1939, Europe was feeling the early effects of World War II and scientific publishing came to a near standstill. Those papers reaching publication were mostly about the application of geophysics to the identification of mineral resources in Italy, a situation that was much narrower than that originally envisioned by Bossolasco. In the 1940s, however, the manuscripts increased considerably in both number and scope, allowing PAGEOPH to become a true international journal.

Okal further noted that, in 1948 shortly after the war, the journal published its first topical issues. There were two of them, one honoring Giovanni Agamennone (a seismologist) on his 90th birthday, and the other recognizing the 100th anniversary of the birth of Lorand Eötvös. Birkhäuser has, since the early to mid 1970s, produced topical issues on a regular basis. Their growth in number has been phenomenal and those issues now comprise more than half of all of PAGEOPH's published papers. Topical issues continue to grow in number and prestige. In 1998 and 1999 there was even a series of seven issues, each covering a different methodology for monitoring a comprehensive nuclear test ban treaty.

An issue related to the publication of topical issues is that those issues tended to broaden the number of languages used in submitted papers. The first non-Italian manuscript, which appeared in 1947, was in German; two topical issues, the next year, contained papers in English, Spanish, and French. German and Italian were the most commonly used languages used in the 1950s, but the number of submissions in English grew rapidly and after the 1970s was the dominant publication language with occasional papers being accepted in German and French. After I became Editor-in-Chief in 1994, several years passed

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with no papers being submitted in a language other than English—consequently, I eventually made English the required language for PAGEOPH submissions in the 1990s.

Okal described as noteworthy three topical issues published in the 1970s in the areas of earthquake prediction, seismic gaps in subduction zones, and the ozone layer, and cited several papers in regular issues that were clearly ahead of their time.

To these I would like to add a paper by Edward Irving that is of great historical interest. Irving's paper, which provided the first physical evidence for continental drift, appeared in *Geofisica Pura e Applicata* in 1956 and was titled *Palaeomagnetic and palaeoclimatological aspects of polar wandering*. It reported results he obtained using the recently-developed tool of paleomagnetism. Irving, while working as a research fellow at Australian National University, concluded that "prior to Tertiary time, the pole has not only shifted its position with respect to certain land masses, but also that these land masses have moved relative to one another". This paper is thought to have caused Irving to be denied a Ph.D. degree. When the scientific community agreed that Irving was correct, Cambridge University awarded him the degree of Doctor of Science (Sc.D.), his highest earned degree, in 1965. He has since been honored with numerous prestigious awards.

In recent years, we have continued to stress innovation and an international outlook for all aspects of Pure and Applied Geophysics. For instance, regarding innovation, in late 1994 graduate students and I developed a gopher index (possibly the first of its kind) by which readers could search for papers by author, title, or time window without leaving their office. When the internet expanded we converted the

index to HTML with CGI query capabilities. Springer publishing, after purchasing Birkhäuser Verlag, developed a broader version of the index that is still being used.

For a few years after becoming editor-in-chief for regular issues, I followed the submission procedure used by most journals—we required authors to submit paper copies in triplicate by regular mail. Two copies were sent to reviewers and one was held as a backup by the editor-in-chief. Authors were pleased, however, when we, in about the year 2000, started a submission procedure in which they had to submit only a single electronic copy. We used that procedure until we converted to Editorial Manager 2009. The many features of that system allows us to reduce greatly the amount of mundane work required in the review process and to process submissions efficiently.

As indicated earlier, PAGEOPH has, since the 1940s, been an international journal—that is especially true today. Those on the editorial board for regular issues and those invited to handle topical issues have come from all of the five habitable continents. Both regular and topical issues contain papers submitted by authors throughout the world, and in the past year we have received many submissions from authors in countries from which we have never before received one.

The number of manuscript submissions to Pure and Applied Geophysics has increased tremendously since we initiated the Editorial Manager system—so much so that we have had to be very selective in the manuscripts that we publish. This selectiveness, along with great care taken by dedicated editors caused the PAGEOPH impact factor to increase by 90 % between 2009 and 2011. We hope to see additional increases in the years to come.