

ON THE ORIGINS OF THE JOURNAL OF APPLIED MATHEMATICS AND MECHANICS

It so happens that the year 1988 serves as the occasion of celebrating not only the 40th anniversary of the founding of Pergamon Press, and the 65th birthday of its founder, Robert Maxwell, but is also the 30th anniversary year of the *Journal of Applied Mathematics and Mechanics*. It is thus a particular pleasure for me to set down here a few remarks concerning the origins of this journal, which represents a cover-to-cover translation of the Soviet Journal *PMM (Prikladnaia Matematika i Mekhanika)*.

At the conclusion of the Second World War, and even more strongly during the 1950's, it became recognized in the Western world, and particularly in the United States, that Soviet scientists and engineers were publishing valuable research results, but that these technologically important advances went essentially unnoticed in the West. As a consequence, much time and effort was unnecessarily spent in Western countries in duplicating progress in science, since most Soviet scientists were publishing in Russian in Soviet journals. In the U.S. many committees and commissions were formed to study this problem and even involved the Congress. Some people thought for a while that the problem would go away by itself, because it appeared that more students were getting instruction in Russian as a foreign language. But it did not take long to realize that the total number of such science and engineering students was miniscule as compared to the number of people who would benefit in their work from a knowledge of Russian progress in their field of specialty. Thus the only viable solution appeared to be a cover-to-cover translation of leading Soviet periodicals. (A partial translation of selected articles would not do because the selection process as to what is relevant and what is not would be lacking objective criteria.) It was the U.S. National Science Foundation which was charged with providing the initiative and support for the publication of cover-to-cover translations of selected leading Soviet periodicals.

In my own field of Applied Mechanics, I knew for many years that the Soviet journal "Applied Mathematics and Mechanics", published in Moscow bi-monthly under the auspices of the Soviet Academy of Sciences, was by far the most prestigious Soviet periodical. I consulted it regularly for many years and knew quite well that it contained a wealth of material of interest to English speaking scientists and engineers. In fact, as an example, while still a student during the war at the Swiss Federal Institute of Technology in Zurich, I made one of the articles in *PMM* a basis for a research project in the field of elasto-plastic stability of plates. After my move to the United States upon the completion of graduate studies in Switzerland, I became involved beginning in the early 1950's in making some Soviet research results available in various forms to interested groups of engineers.

It was during one of the Anglo-American Conferences, held during the summer of 1957 in Folkestone, England, that I met Bob Maxwell for the first time. Shortly after we were introduced, our conversation focused on the ways and means as to just how to make Soviet research progress available in an efficient and timely manner to the Western world. I recall how deeply I was impressed by Bob's knowledge of many languages and of his appreciation of the needs and desires of working scientists. Even though Bob himself is not a scientist by training, he understood perfectly well how to approach scientists on their own level. This gift was and still is serving him extremely well.

During our conversation in Folkestone, we soon converged on *PMM* as one of the desirable candidates for a complete translation among Soviet periodicals in my field. Bob expressed his interest and willingness to produce and publish the translated version of *PMM*, provided the necessary backing could be found.

To acquaint me with the activities and accomplishments of the then relatively young and fledgling Pergamon Press, Bob suggested that I spend a few days in London after the conclusion of the Folkestone Conference. I was fortunately able to accept this invitation and a stay at Fitzroy Square allowed me to meet several staff members, some of whom I am in contact with to the present day. Bob let me see his various facilities which would be useful in the production of the translations of books and journals, and we had ample time to discuss further details

of various translation projects, *PMM* being one of them. I was impressed by the great informality, yet efficiency of the various ongoing activities. I was also impressed by the fact that Bob, being already extremely busy throughout the day, always found time to open and examine his own mail as it was delivered.

Upon my return to the United States in the fall of 1957, the *PMM* translation and publication project was formally initiated. Support of the National Science Foundation was secured through a grant to the American Society of Mechanical Engineers. An Advisory Committee on Translations from the Russian of the Applied Mechanics Division was formed, consisting of Professor W. Prager from Brown University, Professor L. Trilling from the Massachusetts Institute of Technology and myself as acting chairman. A panel of translators was assembled and a rather efficient operation was established, with continuous personal support and encouragement by Bob, for a timely translation, production and distribution of the English version of *PMM*.

Something rather obvious was soon recognized, namely that to be a good translator, a person needed not only a reading and writing command of both Russian and English, but required also to be very familiar with the special and always evolving vocabulary of several particular areas of mathematics and mechanics. Thus many members of the rather large original panel of translators were themselves active, original workers in the field. The names which come to mind include Professor L. Bers (then at New York University), Professor J. Kestin of Brown University, Professor A. Roshko of the California Institute of Technology, and Professor M.D. Van Dyke of Stanford University. They all thought that the project was most worthwhile, and did their translation work as a service to the scientific community.

To illustrate that literal translations of scientific literature often miss the point, I recall a story the great Theodore von Karman used to tell. He and I once met in his office in Paris, where he was head of the Advisory Group for Aeronautic Research and Development (AGARD), and we discussed problems of dissemination of scientific knowledge, among other subjects. He mentioned, laughingly, that someone had translated a title (from the German, I believe) of a paper as "The Flapping of Turbine Shovels" while it should have read "The Flutter of Turbine Blades". The first version was a perfectly accurate translation of the German original, but made no sense whatever in English.

During the course of the ensuing years, many favorable comments were received from readers of the translated journal, *PMM*. The National Science Foundation, however, probably following some policy of the time, unfortunately terminated its support in 1963. Not having available any of its own funds for this project, the American Society of Mechanical Engineers had to pull out also. Were it not for Bob Maxwell's resolve, to continue to make available to English speaking readers the best in Soviet scientific literature, the project would have died right then and there. But the translations and the publication proceeded without interruption, now with the support of the Pergamon Institute, a non-profit foundation dedicated to the furtherance and dissemination of scientific knowledge.

And so it has continued to the present day. Over the years of course numerous changes in personnel took place, both regarding the translators and the production staff. But we who are involved at any given time, aspire to maintain both a high quality of scientifically accurate translations, as well as effective and timely production and distribution of the final product. In this the scientific community should be grateful for the unwavering support of Robert Maxwell. On the occasion of the 65th Anniversary of his birth and the 40th Anniversary of the founding of Pergamon Press, it gives me great pleasure to join scores of others in wishing both of them all the best and also to see the *Journal of Applied Mathematics and Mechanics* enter its fourth decade of existence.

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