

The journal Kvant is only 30 years old after all!

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Abstract. The journal Kvant has been published since 1970 — a favorite scientific popular physical and mathematical journal of several generations of schoolchildren and students. A short history of this remarkable journal is presented in this anniversary note.

The birthday of quantum theory is considered over the entire world to be December 14, 1900, when Max Planck delivered to the German Physical Society in Berlin a report on the theoretical derivation of the radiation law and, perhaps for the first time, pronounced the word *quantum*. Naturally, at that time nobody could imagine that 70 years later the word *Kvant* (quantum) would be born once more, on the cover of a physical and mathematical journal for schoolchildren, which started to be issued in Moscow in 1970.

At that time, to publish a new journal one had to receive the permission of the Central Committee of the Communist Party of the Soviet Union. A letter addressed to the Ideological Department of the Central Committee was written by academician P L Kapitza away back in 1965. The letter was also signed by academicians I K Kikoin, I V Obreimov, M A Lavrent'ev, A N Kolmogorov, and P S Aleksandrov. Stating the goals of the future journal, Kapitza wrote:

“It is universally accepted that science can develop successfully only when scientific research institutes are replenished with well-chosen talented youth. In order that this choice be most successful, it is necessary to cultivate the youth from their school days the main features necessary for energetic scientific activity. These features are: creative imagination, courage and care for research (...). Such a task can be carried out with a special journal, which we propose to create (...). This journal is intended for orientation and systematic help for school pupils and students in their work in physics and mathematics without assistance. (...) It is desirable that the Academy of Sciences take patronage over this journal. (...). This journal should be headed by a respected person — an academician.”

The idea of creation of such a journal was actively discussed by those enthusiasts who, in the 1960s, organized physical and mathematical boarding schools at the greatest universities of the country, the All-Union and All-Russian olympiads for schoolchildren, and summer and correspondence physics and mathematics schools. They were not only academicians, professors of leading high schools, and teachers. For many scientists, post-graduate students and teachers, the work with schoolchildren, popularization of scientific knowledge, and organization of circles and olympiads sometimes became a no less important activity than their own scientific research. Such was the time — the science needed talented young people, and the journal should help to find them and to bring them up.

The editor-in-chief of *Kvant*, when it was founded, was Isaac Konstantinovich Kikoin, his first deputy — Andrei Nikolaevich Kolmogorov. I K Kikoin headed *Kvant* almost 15 years, and after his death the academician Yuri Andreevich Osip'yan became the editor-in-chief.

And, of course, *Kvant* started from the quantum. In the first issue of the journal in 1970, an article by Ya A Smorodinskiĭ was published who told the readers what a ‘quantum’ was. In 2000, as an appendix to the journal, the *Guide Through Kvant for 30 Years* was published. Looking through its pages one can convince oneself that there were no important problems which were not discussed in the journal by physicists and mathematicians, explained popularly and at the same time seriously and easily understandably for the readers — schoolchildren, students and their teachers.

The high scientific level, on the one hand, and the easy understanding for all interested and intellectually curious, on the other — these two requirements are always satisfied by all the journal's publications. More difficult is the situation with the section ‘*Kvant* problembook’ which existed from the first issue. As a rule, the schoolchildren solve the problems, but sometimes (and this is not rare) ‘adult specialists’ raise their voices — they say that the problems are too difficult even for them.

Let us here briefly enumerate some other sections of *Kvant*: ‘Science news’, ‘From the history of science’, ‘*Kvant* for junior schoolchildren’, ‘*Kvant* kaleidoscope’, ‘School in *Kvant*’, ‘Elective Physics’, ‘Laboratory in *Kvant*’, ‘Mathematical circle’, ‘Practical work of university entrant’.

This list does not exhaust the content of *Kvant* but can give some notion of it and how the journal is created. Regularly *Kvant* publishes materials on school olympiads, information on scientific societies of schoolchildren, on physics and mathematics tournaments and festivals, on evening and correspondence schools at different high schools of the country.

Kvant does not lack the page ‘*Kvant* smiles’ — there is a place for humour too. It is worth mentioning that *Kvant* is a splendidly illustrated journal.

For many years *Kvant* was a monthly journal. Unfortunately, during the last years it has been issued only every two months. In parallel with the journal is published an ‘Appendix’ — a small book which contains articles and problems published in previous years. The ‘Appendix’ is certainly of help to readers, for the majority of whom the old issues are unavailable.

It is also worthy of mention that the Publishing House ‘Nauka’ (Chief Editorial Board of physical and mathematical literature) has published over the years about hundred booklets in the ‘*Kvant* library’.

Several generations of physicists and mathematicians have grown up on the materials of *Kvant* and the ‘*Kvant* library’. The journal played and continues to play an important role in the preparation of good entrants, students

and ultimately scientific workers. There is no doubt that *Kvant* is also useful for those who will not become scientific workers. It is not by chance that older people, teachers and lecturers of high schools with pleasure subscribe to and read *Kvant* for years.

The Russian journal has foreign ‘brothers’ too. Since 1990, Springer-Verlag has published *Quantum* in the USA, co-edited by Sh Glashow, Yu A Osip’yan and W Tarston. About half the materials for it are prepared by the Russian Editorial Board of the *Quantum*, the other half by American physicists and mathematicians. Since 1993, *Quantum* has been translated into Greek, and individual papers have been published in Japanese, French, German, Italian and other languages.

One can hardly overestimate the role of *Kvant* in the propaganda of physical and mathematical knowledge, and in preparation of young specialists.

The Editorial Board of the journal *Uspekhi Fizicheskikh Nauk* congratulates the Editorial Board and all the colleagues of the journal *Kvant* on its anniversary, wishing *Kvant* new prosperity, new authors and new grateful readers!

From the Physics – Uspekhi Editorial Board