

100th anniversary of the birth of B.S. Sokolov: the role of personality in the history of science

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There would be no history without history of personalities.

B.S. Sokolov, 2007

Academician B.S. Sokolov was one of the brilliant team of Soviet scientists who propelled Soviet and Russian geology in the post-World War II period to a leading position in the world. He called this period “the golden age” of Soviet geology that involved the heroic efforts of dozens of Soviet scientists from academic, industrial research, and educational institutions in collaboration with production geologists and geophysicists that resulted in the successful implementation of an unprecedented government program for regional geological exploration over the entire territory of the Soviet Union and the development of raw material base including oil, natural gas, coal, diamonds, and a variety of ore mineral resources. The unique system of implementation of large-scale national economic projects that emerged in the USSR at that time was based on the creation of powerful groups of specialists with different departmental affiliations with the aim to promote solving the problems of cutting-edge science and major national economic needs. It was the Soviet geological sector, with its scientific support and practical applications, to which the government assigned first priority, along with the military, nuclear and space programs, as well as oil and gas sector. The achievements of that period showed that ambitious goals coupled with the government’s support of science and centralized efforts within large collaborative teams of researchers have produced outstanding leaders that are able to generalize knowledge, draw upon pooled experiences, generate innovative ideas and inspire their followers.

Sokolov’s versatile talent flourished in the golden years of Soviet geology. Throughout his professional life he continued to broaden his intellectual horizon to cover many areas of the earth sciences including regional and petroleum geology,

paleogeography, tectonics, biospherology, and the history of geology. But the focus of his professional interests continued to be in paleontology and stratigraphy. Sokolov became a nationally recognized leader in paleontology and stratigraphy and remained known for over fifty years, until his death, as the Chief Theorist and, to a great degree, one of those scientists who contributed at their maximum capacity to most of the great achievements in these areas. In the last years of his life, when, he said “people close the circle of their life”, Sokolov wrote a series of very interesting works on the importance of historical, cultural, and spiritual values for the development of the individual and the state as a whole. The topic of personality in the history of science pervades all the scientific papers of B.S. Sokolov. He wrote many brilliant essays on famous and ordinary people of science, with whom he worked closely. The problems of science, scientific ideas, and developments are considered in retrospect in any of his writings and are always personified. This was one of the main facets of his writing style, which helped render his writings and public speeches of much scientific and educational value. The solicitous and respectful attitude toward scientific traditions and works of his predecessors, a remarkable continuity in the development of ideas were seen by him as the essential elements of scientific culture.

In his almost century-long life, B.S. Sokolov witnessed the most striking and equally tragic and heroic period in our history. All the pivotal events of the last century were reflected in his life. His biography is, of course, of great interest, as it highlights the story of a remarkable individual set within the wider historical context of the 20th century. Shortly before his death, Boris Sergeevich wrote: “I thank my lucky stars to have been privileged enough to witness and in a way participate in the struggles that Russia faced in the 20th century.” And he noted with satisfaction: “I lived a happy life and tried to make the most of it.”

B.S. Sokolov was born on April 9, 1914, in a little old town called Vyshniy Volochek. His father, Sergey Borisovich, was the well-respected village physician, his mother, Darya

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Andreevna, was raising six children. Boris Sergeevich spent childhood years in the village of Berezka where he finished his elementary school studies before entering a non-classical secondary school at Vyshniy Volochek. He received a good education from qualified and experienced teachers.

He began his work life in 1931 as an electrician in Lenenergo. In 1932, he was enrolled as a part-time student at the Department of Geology, Geography and Soil Sciences of the Leningrad State University and was soon transferred to a full-time department. His relentless dedication, indefatigable energy and wide interests encouraged him to attend courses in major subjects of allied disciplines, such as geography and biology, in addition to the full spectrum of geological sciences. At the university, his talents and motivation were recognized by professors. After graduating from the university with honors in 1937 he was hired as a graduate research assistant at the Faculty of Paleontology.

In the late 1930s, his research interests lie in the study of Paleozoic corals of the Russian Platform and other regions of the USSR. However, these studies were interrupted before the World War II, during which he was sent to the Northwestern China to head a group of Soviet specialists where he was engaged in regional geological studies of the Chinese Tien Shan and adjacent Tarim, Turpan, and Junggar basins, which were conducted in 1941–1943 in extreme, dangerous conditions. In 1943, B.S. Sokolov was appointed to lead the geological field party of the Middle Asian expedition at the All-Union Petroleum Research Institute (VNIGRI) of the People's Commissariat of Oil of the USSR, which performed geological mapping and oil exploration within geological basins of Tien Shan. Two monographic reviews of that period, "A comparative analysis of the Tien Shan basins and problems of their petroleum potential" (1947) and "Geology and mineral resources of newly explored areas of eastern (Chinese) Tien Shan" (1950), remained unpublished, although they became widely known both in the USSR and China.

After returning to Leningrad in 1945, B.S. Sokolov continued his research in the Paleozoic corals at VNIGRI, the leading petroleum institute of the USSR, and teaching the students at the Leningrad University. Sokolov's 5-volume monographic work "Tabulates from the Paleozoic of the European part of the USSR" published in 1951–1955, together with his "Carboniferous chaetetes" published in 1950, became a monumental series of six monographs, which provided the first summary on the systematics, evolution, phylogeny, stratigraphic and paleobiogeographic significance of Paleozoic corals based on the voluminous datasets from many regions of the world. A large compilation of data from different regions of the world allowed B.S. Sokolov to propose a scheme of tabulate coral systematics within a rigorous phylogenetic and geohistorical framework. The results of his studies brought drastic changes in knowledge of the evolution of corals and their stratigraphic significance. This series of monographs became a manual for several generations of Soviet coral paleontologists, and was soon recognized as a classic in the world's paleontological literature. In 1955, this work was taken as a basis of his candidate's dissertation,

which was successfully defended in 1955. B.S. Sokolov gave an impetus to the study of fossil corals, which as critical for providing paleontologic and stratigraphic support to geological mapping and exploration activities, because corals were the most common fossil group in the Paleozoic.

The results from coral studies were published as part of the 15-volume handbook *Fundamentals of Paleontology* (1959–1962), for which Sokolov and his co-authors Yu.A. Orlov, B.P. Markovskii, and V.E. Ruzhentsev won the Lenin prize in 1967. The publication of this series of 15 books, which required the combined efforts of almost all leading Soviet paleontologists, provided a compilation of the most recent paleontologic data for nearly all regions of the USSR and other countries. This work used the common methodology to analyze systematically at the genus or (at least in part) species level the results from paleontologic, stratigraphic, and paleogeographic studies of all faunal groups ranging from Cambrian to recent in age. This book that appeared before the *Treatise*, its well-known western counterpart, became and was for a long time a handbook for all Soviet paleontologists and stratigraphers and still remains relevant today.

His other scientific discoveries made in Leningrad were also considered to be of international significance. The analysis of the data from deep drilling of the East European (Russian) Platform have led Sokolov to the conclusion on the apparent existence of a completely unique and new geological system immediately beneath the classical Cambrian. This was the beginning of making Vendian, which subsequently led to rethinking of the Precambrian history of the biosphere and the advent of Precambrian paleontology. The "Atlas of lithofacies maps of the Russian Platform" was published in 1952 under the editorship of Academician A.P. Vinogradov and included 11 maps for the Precambrian and Paleozoic, which were compiled by B.S. Sokolov and E.P. Aleksandrova and formed the basis for substantiation of the Vendian from a wider geohistorical perspective. The concept and term "Vendian" was coined by Sokolov even earlier, in 1950.

His efforts toward the development of the basic principles of stratigraphy in the context of the ongoing revision of the global stratigraphic scale and problems related to a standardization of stage boundaries also pertain to this period of his research career in Leningrad.

A new, Siberian period of Sokolov's career (1958–1975) gave a big impetus to his research. Sokolov was invited by Academician A.A. Trofimuk to lead the department of paleontology and stratigraphy at the nascent Institute of Geology and Geophysics of the Siberian Branch, the USSR Academy of Sciences, which was focused on the large-scale objectives of studying the geology of Siberia. Sokolov worked on the establishment of the department together with his closest co-worker, Corresponding Member V.N. Saks who was well-known at the time for his studies on Mesozoic and Cenozoic geology and stratigraphy of the Arctic regions of the USSR. Boris Sergeevich envisioned that the investigations to be undertaken by this newly established department should have a monographic focus and combine in-depth knowledge from biology to study paleontological objects and regional stratigra-

phy. Within a relatively short period of time, he managed to integrate over 100 qualified biostratigraphers, including 20 doctors and dozens of candidates of sciences. Studies were conducted in all regions of Siberia, the Russian Far East, northeastern part and other regions of the USSR. The results of these studies were published in a series of more than 150 monographs on different major groups of fossils and key sections, in dozens of special journal issues and hundreds of papers in national and international publications. Large-scale investigations on the stratigraphy and paleontology of platform and folded areas of Siberia were undertaken simultaneously by several major research institutions of the Ministry of Geology of the USSR (VSEGEI, SNIIGGiMS, VNIGRI, Sevmorgeo, ZapSibNIGNI, VostSibSNIIGGiMS, etc.) and educational institutions, e.g., at Tomsk State University. B.S. Sokolov and V.N. Saks were regarded as informal leaders of the studies, which have added significantly to existing paleontological and stratigraphic knowledge of Siberia. By the early 1970s, Siberia became a reference region that provided an opportunity to further develop and refine methodologies and principles of the detailed stratigraphic studies, identification of stratigraphic units of different scales on the basis of an integrated analysis of sedimentary basins. In this area of research, the scientific schools of B.S. Sokolov and V.N. Saks became widely recognized and contributions from paleontologists from the Department of Paleontology and Stratigraphy (currently part of the Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch, Russian Academy of Sciences) founded by these two scientists continue to receive increased attention in our country and abroad.

During his career at the Siberian Branch of the Academy of Sciences of the USSR, Sokolov played an active part in the work of the Interdepartmental Stratigraphic Committee and International Committee on the Silurian-Devonian Boundary and his contribution to solving the problems of local and regional stratigraphy, e.g., the substantiation of a zonal (biological) approach to definition and recognition of a stratigraphic boundary, cannot be understated. At the same time, with the enormous amount of data available on Siberia, B.S. Sokolov worked successfully to solve many important problems of the stratigraphy and chronostratigraphic boundaries of the Late Precambrian, Ordovician, Silurian, Devonian, etc. His contributions to theoretical and applied aspects of regional stratigraphy and paleogeography were of key importance for the study of the two major petroleum provinces of Russia (Volga–Ural and Lena–Tunguska).

In the 1960s–1970s, his professional interests broadened to include the most relevant and urgent problems of paleontology, stratigraphy and related disciplines. His attention began to focus on the Vendian period of geological history, which proved to be a key to understanding the past history of the Earth back to the global divergence of organic forms in the Cambrian.

In 1975, B.S. Sokolov was elected a member of the Presidium of the Academy of Sciences and was concurrently appointed Academician Secretary to lead the Division of Geology, Geochemistry, Geophysics and Mining Sciences.

While in this position, he contributed most decisively to furthering the development of the geosciences and the establishment of strong relationships between academic science, sectoral research and practical geology, promoting recent advances in geology in the context of the development of energy and mining sectors, promoting the importance of the geosciences, especially biosphere and ecological research, to the community.

The problems related to the early geological history of the biosphere became the major focus of Sokolov's attention in his Moscow period. As a chairman of the Commission on studying scientific heritage of V.I. Vernadsky, he made a significant contribution to the revival and promotion of Vernadsky's theory of the biosphere. Sokolov's works on the origin and evolution of the biosphere can be regarded as the greatest achievements of natural sciences in the late 20th century. At the same time, as a result of his studies on Late Precambrian paleontology and stratigraphy substantiated from a geohistorical and paleobiological viewpoints, the name Vendian became widely recognized in the world as one of the most important geological discoveries of recent years.

B.S. Sokolov was a tolerant, respectful, cultured and non-confrontational person, whereas ambitiousness and bureaucratic administration were alien to his nature. Nevertheless, his scientific career was marked by leadership in the various organizational forms of scientific research. Of particular interest in this respect is his work as a leader of the All-Union (All-Russia) Paleontological Society (AUPS). In 1962 he was elected vice-president and in 1974 became president of the society where served until his death.

This period in the activity of the Paleontological Society deserves to be called “Sokolovian”, because a half century of service as a president and vice-president (making up about a half of the history of the Society established in 1916) is a long time to devote to any cause or position, and in this respect he surpassed all his outstanding predecessors. This period saw dramatic changes in the style of the Society's activity and influence on the development of paleontological and stratigraphic research in our country. The Society became a headquarters for the organization of scientific research in this discipline that brought together specialists from different academic, sectoral, educational, and industrial institutions. An important side of the Society's activity was the interaction and integration of paleontological and geological disciplines, especially in the field of theoretical research.

Two factors were critical to the success. First, a large mass of diverse geological and paleontological data that was collected during unprecedented in their large scale regional surveys during the postwar period forced researchers to revise many of their classic views, which were formed and remained applicable to small areas, as is the case with Western Europe. Second, a close interaction between the Paleontological Society, the Ministry of Geology established in 1955, the Academy of Sciences, and the Interdepartmental Stratigraphic Committee (ISC) provide an important organizational mechanism for enabling the integration of paleontological and geological studies, especially in the fields of stratigraphy, regional

mapping and paleogeographic reconstructions. Academician D.V. Nalivkin was the first chairman of ISC.

A.I. Zhamoida, the closest co-worker of B.S. Sokolov at AUPS and ISC, cited in one of his publications Sokolov's opinion about the paramount importance of collaboration between the Paleontological Society and ISC "under the same roof of a leading national research institution with first-class specialists." This institute (VSEGEI), led for many years by A.I. Zhamoida, who also served as the vice-president of the Paleontological Society and deputy chairman of AUPS, and chairman from 1989, provided an environment for collaborative efforts of these organizations. The preparation of technical sessions of AUPS and meetings of ISC, publication of proceedings, development of standards and guidelines for the national stratigraphic service, including several editions of the Stratigraphic code were conducted by specialists from this institute. Importantly, the same lead paleontologists and stratigraphers had a major role in defining the strategic directions of these institutions. B.S. Sokolov was elected for the bureau of ISC since its establishment (1955). In 1971, he became the deputy chairman of AUPS, in 1975 chairman and in 1989 its honorary chairman. This was a key factor in ensuring the success of all the activities of these organizations, which were based on the complementary principle and intimate interaction between paleontological studies and practical geology.

He spent 40 years as the president of the Paleontological Society of the USSR (and later Russia). Annual thematic meetings were conducted on specific problems of geology, natural sciences, as well as paleontology and stratigraphy. The meetings were attended by young and established researchers, specialists in stratigraphy and paleontology from the entire country. In fact, they provided a sort of professional training. Anchoring these meetings were keynote addresses from the society's president, in which he presented a general overview of the current state of the problem, summary of new results, and perspectives on research directions. Sokolov's keynote addresses were brilliant and inspiring, filled with totally new or long-forgotten facts, aphoristic observations, and excellent metaphors embedded in the context of scientific knowledge, and they were always perceived by the audience as a key event of the meeting and a guide for further investigations.

These features were keys to the encouragement and facilitation of theoretical and applied research in the USSR and its integration into the global science.

In the last years of his life, Boris Sergeevich was not able to personally participate in meeting due to a health condition, but the keynote speeches that were given on his behalf continued to attract the interest of nearly a full audience at meetings' opening sessions.

Looking back at this part of Sokolov's scientific legacy his activities, *it should be noted with admiration that his speeches at meetings of the Paleontological Society were unique and until today no one in the world can emulate this brilliant, 40-year long masterclass.* At our final meeting in his Moscow apartments, one of the authors of this paper told Boris Sergeevich about this. "I know", Master said, not

without irony, in a kind manner. We felt he wanted his endeavor to get recognition in his lifetime...

Taking into account the size of the paper, we cannot describe in detail the outstanding scientific contributions of B.S. Sokolov. Therefore, we will limit ourselves to listing all his speeches and lectures. The collection of B.S. Sokolov's lectures and speeches would compose a single monograph entitled "Some major problems of geology in the 20th century".

The table of contents of this monograph could look like this:

1. The place of science in the modern world.
2. The fundamental problems of the origin and evolution of life on the Earth.
 - 2.1. The origin of life on the Earth.
 - 2.2. The role of outer space in the origin and evolution of the biosphere.
3. The theory of the biosphere.
 - 3.1. The theory of the biosphere. The unity of the biosphere in the Earth's history.
 - 3.2. The biosphere as a biogeomere and its biotope.
 - 3.3. Events in the biosphere.
 - 3.4. Ecosystems of the geological past in light of paleontology.
 - 3.5. Organic life in pelagic zones of ancient seas and oceans.
 - 3.6. Life on ancient continents. Its formation and development.
 - 3.7. Micropaleontology in practice and theory of Earth sciences.
 - 3.8. Paleontological approaches to the geologic history of ancient basins.
 - 3.9. Geologic or paleobiospheric time and stratigraphy.
 - 3.10. Staged organic evolution and biostratigraphic boundaries.
 - 3.11. The chronostratigraphic space of the lithosphere and the Vendian as a geohistorical subdivision of the Neoproterozoic.
 - 3.12. Paleobiogeography.
 - 3.13. Paleontology, paleobiogeography and mobilism.
4. Paleontology as a science.
 - 4.1. History of paleontology.
 - 4.1.1. History of paleontology. From the inception of the Mining Service of Russia to modern paleontology.
 - 4.1.2. Paleontological Society of Russia, its history.
 - 4.2. Instrumental techniques in paleontology.
 - 4.3. The place of paleontology among the natural sciences. The relationship between stratigraphy and paleontology. Stratigraphic paleontology and a geological map.
 - 4.4. Paleontology and detailed stratigraphic correlation.
 - 4.5. Outlooks in paleontology. The problems and some future trends in paleontology. Horizons of paleontology.
 - 4.6. Topical problems of paleontology.
5. Paleontology, development of national geology and mineral resources.
6. Does paleontology in Russia has a future?

This is a kind of the finishing touch added to portray B.S. Sokolov, the venerable patriarch of the Russian science and Russian geology.

Sokolov's lectures and speeches presented at meetings of the Paleontological Society are now prepared for publication by the Institute of Petroleum Geology and Geophysics, Siberian Branch, Russian Academy of Sciences. It was the final request of Academician B.S. Sokolov to us when we met him last time.

Another aspect of activities of the Paleontological Society over the last half century is worth noting here. It became one of the largest national organizations affiliated to the International Paleontological Union (IPU). First of all, this was the result of outstanding achievements of Russian paleontology and its contribution to the study of vast areas of our country within the former USSR boundaries, without which our understanding of the Earth's history would be incomplete. Given this, it is important to mention the enormous personal role played by national leading scientists in the international integration of research activities in the fields of paleontology and stratigraphy. B.S. Sokolov was the first representative of our country in the executive body of the International Paleontological Union. In 1964–1968, he served as the vice-president of the IPU Asian regional section, in 1971–1983 vice-president of the International Association for the Study of Fossil Corals, and in 1983 its honorary organization president, in 1972–1984 vice-president of the International Paleontological Association and president of its Soviet division, in 1981–1986 president of the paleontological section of the International Union of the Biological Sciences. As a leader of the ISC and International Committee on Stratigraphy he participate in organization of many scientific programs, conferences, symposia, working groups on specific problems. For example, B.S. Sokolov was one of the initiators and leaders of the international integration program on ecostratigraphy, which aimed at the synthesis of paleontologic and geologic data toward a refinement of the international stratigraphic chart.

At least three scientific schools may trace their roots back to the scientific works of B.S. Sokolov: a school of Soviet coral paleontologists, a Siberian school of paleontologists and stratigraphers, and a school of Precambrian paleontology and stratigraphy. The secret of his enormous influence on the development of Soviet geology, paleontology and stratigraphy in particular, can be explained not only by his scientific achievements and his ability to foresee new directions in the development of science, but also by his unique capability of sharing his ideas as a gift to the community, inspire further research, energize enthusiastically both his supporters and his opponents.

B.S. Sokolov had hundreds of followers in almost all republics of the former USSR. Renowned paleontologists from China, Bulgaria, and Vietnam, including members of national academies of sciences, they all cherished him as a teacher. Boris Sergeevich spent many years as a professor at Leningrad and Novosibirsk universities, where his memory is still very highly esteemed. Dozens of candidates and doctors of sci-

ences, many of the members of the Russian Academy of Sciences are also regard B.S. Sokolov as a teacher.

B.S. Sokolov believed that scientific dissent, if not based on dogmatism, is a necessary prerequisite for scientific progress. In this connection, he said: "If we all think alike, then science will never get done". At the same time, he was the irreconcilable defender of his own position on the issues of principle, as was the case with the debate over the status of the Vendian in the international stratigraphic chart and its interpretation as one of the most important stages in the evolution of the Earth's biosphere.

He strongly opposed to bureaucratic methods of governance of scientific research. Many academic researchers and community members remember his brilliant speech at the general meeting of the Siberian Branch of the USSR Academy of Sciences in 1973, in which he criticized the stagnant performance of the leadership of the Siberian Branch and the entire Academy structure.

His activities in the Division of Geology, Geochemistry, Geophysics and Mining Sciences of the USSR Academy of Sciences focused on moving Division's performance toward a more democratic state, cultivating a more constructive climate and equitable support of all up-to-date directions of geoscience. In this position, Boris Sergeevich was active in promoting the revival of engineering geology, hydrogeology, and mining science in the Academy, as he was aware of their important value for national economy.

Another example of social activism, the opposition to any sort of injustice, and protest energy of B.S. Sokolov, can be represented by his action against an over-bureaucratized system of scientific staff certification adopted by the Supreme Attestation Commission (VAK). The occasion was a rejection of VAK to approve the doctoral degree for S.V. Meyen, the outstanding Soviet paleobotanist and theorist, who was blackballed with one opposite vote after the brilliant defense of his doctoral dissertation. Boris Sergeevich wrote an angry letter to the government, conclusively demonstrating that such attestation system is completely absurd, where a single anonymous opponent that might have a personal interest in rejecting a research work that appears to contradict his own results and such a vote can outweigh the preference of the majority of scientific community. The government paid a close attention to scientist's opinion. In response to this letter, there was a revision in the rules for conducting expert evaluation of dissertations and a replacement of VAK's leadership. S.V. Meyen was awarded the degree of doctor of sciences.

Sokolov's interests were much wider than some narrow scientific problems. He interests were also concerned with the development of Soviet (and later Russian) science policy. In his many speeches and lectures, Sokolov emphasized the problems science development. He certainly was a great citizen of the country.

We cite only one example, which is particularly telling in this respect. His opening speech at the 43d session of the Paleontological Society held on January 27, 1997, began with an apprehensive question: "Does paleontology in Russia has a future?"

He realized that the crisis through which paleontology is passing cannot be considered in isolation from the crisis which is affecting society and Russian science in general. “Certainly”, he said 18 years ago, “paleontology as our science in general is facing hard times now, but we clearly see what role it has played, and what role it still has to play. **Russian science definitely has a future. We need new leaders to come in government who realize that the future of the country depends on its scientific potential, which is I believe to exist. We, the scientists, are saying this by appealing to the entire society.**”

And he cited the words of another great Siberian scientist, Academician V.A. Koptuyug. Sokolov said: “A little less than a year ago, this idea was clearly stated by the lately deceased Academician V.A. Koptuyug: **“Besides the state, there is the society to which one must appeal when government does not attempt to consider the Academy’s or scientists’ opinion. We have to take an independent stand which is based not only on knowledge.”**

Today, when Russia undergoes a new surge of attacks against Russian science, when the government displays an astonishing incomprehension of the fact that destroying the Academy it destroys the future of the country because, we remind the words of Academician Sokolov, **“the future of the country depends on its scientific potential,”** we have to choose to adhere the precepts of two outstanding Russian scientists, two fathers of the Siberian Branch of the Russian Academy of Sciences, Academicians V.A. Koptuyug and B.S. Sokolov.

This year, our country will celebrate the 70th anniversary of the great Victory of the Russian people in the Great Patriotic War. This is the great day. Academician B.S. Sokolov said about this victory thirty years ago on the eve of the 40th anniversary of the Victory at the XXXI meeting of the All-Union Paleontological Society:

“It can be said without any exaggeration that this day of May when we celebrate the 40th anniversary of the triumphal victory of the Soviet people over the destructive physical and ideological power of fascism is the memorial day of that great event, which was the most significant and decisive in the entire history for the destiny of mankind. It would be naive and cruel to think that the price we paid for this victory could be much lower. Beyond the tragedy which was sudden and treacherous, it is easier to speculate about a poor foresight and missed opportunities. Moreover, when grief is still painful for all our losses, it would be unfair in the memory of those who defended our country in the war. Our huge losses were not useless: the monster of antihuman expansion was broken down both physically and morally.

All our experience tells us about the truth and wisdom of Tolstoy’s idea that the forces of evil are always armed better than the forces of good, but the forces of good should resist by all means to evil. During their centuries-long history, Russian people had at various times to adopt a role of organizer of the forces of good and they overpowered the enemy every time. The belief in the might of people’s power was expressed by V.I. Lenin, great scientists and military

leaders, creators of valuable national culture, all defenders of great spiritual and ideological wealth of the Soviet Union and Russia. We excitedly and proudly recall impassionate patriotic speeches and sermons of our outstanding scientists in the first days of the war, their firm conviction in the victory even during many hard months of retreat”.

Recalling the tragedies of Hiroshima and Nagasaki, B.S. Sokolov said that “after this senseless act of nuclear intimidation it took years for people on this lonely planet to understand that they entered the phase, which might reduce the concept Anthropogene to a sinister irony.

There appeared suddenly a fateful line between the past and the future. That is why the present became the battlefield between the forces of reason and optimism, on the one hand, and the forces of madness, savages and fear, on the other hand. The world must face again the greatest trial, a reckless challenge the mind has never seen before. The greatest triumph of creative spirit was opposed to the unprecedented might of the devastating forces of evil. That is why we say again that the fight for peace is the bounden duty of every honest individual on earth. Actually, struggle is not limited to battlefields, it crosses every aspect of human life and extends to the noosphere. This is the struggle for survival of mankind.

Does this struggle have the potential to be won? There is only one answer, yes! However, this potential could not be realized on its own, and the way to it does not lie through a new military showdown. This would be the last act in the unique drama of life in the Universe, life that reached its apogee, i.e., all-pervading intelligence. The civilization of mankind cannot be thrown from the heights of knowledge and development. And only those crazy people affected by Fulton’s syndrome hope to reorganize the world with the destructive forces.

We know to our own cost that there are many things that can be erased from the memory of the people. Although we witnessed the denigration of the crucial role of the Soviet Union in the defeat of Hitlerism, once nourished and unleashed, we still remember the true history; our mission is seen as an act of liberation, not aggression, and the price we paid will be an everlasting eternal moral debt owed by the West to our country; we also remember the Elbe link-up and a spirit of trust between those who are persuaded into confrontation”.

“Our armed forces”, Sokolov said, “should be always ready to mount defensive operations almost because of military-industrial adventurism reinvigorated on artificially created sense of fear, which was aptly characterized in the United States as “liberation of the American strategic thinking” from most of “ethical constraints” (Izvestiya, 1985, 19 Jan., p. 4). Peace cannot be kept by presapians who buildup the same old basis of fascism. It would be a serious mistake to underestimate its strength (neglecting several attempts at its resurrection, notwithstanding the lessons of 1945), but it is not to be supposed that mankind would accept it obediently as a modernized philosophy of the violent reorganization of the world. That is the reason why there is a need for joining antifascist propaganda, sustained efforts on explanation of the causes and

aftermaths of the Great Patriotic War of the Soviet Union, and recent peace initiatives launched by our country, since they no longer have any alternative.

This year, we all pay special tribute to those who survived and 20 millions of those who died, who first met the attack of fascist aggression and showed the world the true face of the system pretending to establish “a new world order”, to those who saved the world from the threat of establishment of this “new order”.

The passing of 40 years had not erased from our memories the names of those who fought arms in hand, those who worked in the rear to establish within the shortest time new plants, survey expeditions, scientific and technical centers, inaccessible for enemies, those who ensured mobilization of the scientific potential for the victory and postwar development. Despite the enormous material and human losses, the new industrial and scientific geography and facilities enabling accelerated staff training were established in the rear within a few months period. This process required a wartime organizational strength, often involved incredible difficulties and was very painful; in addition, there remained a need for maintaining continuous logistics communication with parent centers, which may have eventually become front-line areas for a short time. But the enemy’s plans were completely disrupted despite warfare activity on disorganization of the rear services due to the seizure of major industrial, resource and energy centers in the European part of the USSR, which counted on incredible difficulties of relocating and creating new resource bases to ensure the ongoing resistance and demoralization among Soviet people. Moreover, the growth and expansion of Soviets’ industrial and military potential enabled us not only to turn back the enemy forces, and defeat them in their own territory, but also made it possible for the Soviet army to rapidly advance to the west. This would be the right time to remind those who forgot that the Soviet Union had faithfully fulfilled its obligations to the anti-Hitler alliance, those who forgot about a long and decisive single-handed fight of the Soviet people on the eastern front.”

We present here a long quotation from one of the lectures of the Great Scientist and Patriot of our country, because these words are still topical today as they were 30 years ago, when they were first written. Therefore, we repeat again the words of Boris Sergeevich: “There appeared suddenly a fateful line between the past and the future. That is why the present became the battlefield between the forces of reason and optimism, on the one hand, and the forces of madness, savages and fear, on the other hand. The world must face again the greatest trial, a reckless challenge the mind has never seen before.”

The wisdom of Boris Sergeevich has remained with us in these hard days for Russia.

He received many State and Academy awards in recognition of his outstanding contributions to science, science organization and staff development”. Among these are the Lenin Prize, the Hero of the Socialist Labor, the A.P. Karpinsky Orders, the Prize and Gold Medal. In 1992, B.S. Sokolov was awarded the International Karpinskii-Schweitzer Prize and

in 1997 was the first geologist to receive a Superior Award of the Russian Academy of Sciences, the Lomonosov Large Gold Medal. In 2003, he became the Triumph Prize winner for his outstanding achievements in science. In 2006, he was awarded the International Nikolas Roerich Prize for the contributions to the world’s treasury of culture. This prize was awarded for Sokolov’s activity in the Roerich Heritage International Charitable Foundation and a series of newspaper articles in which he considered the origins and conditions of formation of man’s mental and moral world using biographies of many famous scientists and artists as examples. In these articles he promoted respect for national history and culture, love for one’s little motherland and love for the Soviet motherland. The international recognition of Sokolov’s scientific achievements is reflected in his election as honorary member of many foreign academies and scientific societies of England, Bulgaria, Vietnam, Germany, Canada, China, Poland, the United States, France, Sweden, and others.

Sokolov’s encyclopedic knowledge, exploring mind of a naturalist, the literary quality of his formulations, his eloquence, “panoramic” vision for today’s problems in their retrospect, all these helped him to become the most famous popularizer of paleontologic and stratigraphic developments and their significance for geology. The phenomenon of B.S. Sokolov, as a gifted organizer of science, was built on his authority as a classic figure in science, his leadership in institutions, which historically had influence on research organization (AUPS), ISC, ICS, Division of Earth Sciences of the USSR Academy of Sciences, his membership in executive bodies of international scientific organizations, his publicistic talents, and, of course, his strong personal magnetism.

Spending last years of his life confined to bed, but keeping surprisingly clear mind and acute memory, Sokolov continued to work. He published a series of very interesting articles, full of innovative ideas, and wrote a wonderful book “Lake Imolozh’ye Notebook” (2007), which demonstrated his literary talent, a vast knowledge of history of his native heath and a genealogy of his famous countrymen. *The Vyshnii Volochek County Record* was a local newspaper first published with support of Boris Sergeevich and soon became widely in his native town. This was caused by his activities as a member of the editorial board and author of many interesting articles.

He answered every letter in his voluminous correspondence, and never left a single request to review an article, book, or abstracts of dissertations without notice. Interestingly, he regarded the epistolary as a form of written communication. He wrote in his letter to A.I. Zhamoida, one of his permanent addressees: “It always give me great pleasure to receive your handwritten letters. A handwritten letter signifies intimacy and trust. Certainly, typewritten letters are easier to read and are necessary in most instances, but the line in ink hides the distance, it’s talkative.” He appreciated mailed letters and asked to notice in anticipation of celebration for his 90th anniversary that “a jubilee kindly asks not to send letters of congratulations via electronic mail, but he would be very pleased to hear from his followers, colleagues, and friends in postal cards and letters.”

He himself showed to the end of the life unflagging interest to all events in the scientific and political life of the country. He also had the gift of making humorous and satirical extempore verses in response to some of the hottest topics of the day. His evergreen optimism, zest for life, passion to do the work of thought and a lively sense of humor supported him in his life. He jokingly described his health condition: “Two main parts, my head and my writing hand, work well, although the remaining parts are gradually dying on me.” Being bed-bound, he felt him free from everyday fuss and “a godsend rest” made it possible for him to spend more time enjoying reading, thinking, and writing. This view of life and his lifelong activity, notwithstanding a weakening of organism, were manifestation of his mental power, vitality, and true grit.

He wrote to his colleagues in the editorial board of the *Vyshnii Volochek County Record* newspaper (16.12. 2010): “A strange thing! Although my world for many years was my study-bedroom I do not feel lonely or being isolated from life. Almost every day—mail, journals, books, interesting conversation partners and a fortunate opportunity to think and read deliberately.”

B.S. Sokolov died on September 2, 2013, several months before his 100th birthday. Instead of anniversary celebrations, memorial meetings were held in three places, where B.S. Sokolov took charge, in St. Petersburg (a special session of the Paleontological Society was dedicated to his memory), Novosibirsk (a joint session of the academic boards of the Institute of Petroleum Geology and Geophysics and the Institute of Geology and Mineralogy, Siberian Branch, Russian Academy of Sciences, which were established on the basis of

the former Institute of Geology and Geophysics), and in Moscow (a scientific conference at the Institute of Paleontology, Russian Academy of Sciences).

B.S. Sokolov became a classic during his lifetime. Several years ago, with three volumes published and a fourth volume on the Vendian in progress, the Institute of Petroleum Geology and Geophysics Siberian Branch, Russian Academy of Sciences started publication of the collection of his works.

His room at the Institute of Petroleum Geology and Geophysics, Siberian Branch, Russian Academy of Sciences (former Institute of Geology and Geophysics, where he was a founder of the Department of Paleontology and Stratigraphy) is today a memorial museum, which is furnished, in compliance with his wish, by his library, part of his paleontological collections, his scientific works, and personal belongings. The Boris Sokolov memorial scholarship was established in his name at the Novosibirsk State University to recognize geology students.

The Vyshnii Volochek museum of local history organized, even during his life, a small exhibition dedicated to Boris Sergeevich.

Patricia Vickers-Rich, a Precambrian researcher from Australia, and his devoted admirer, has published a well-illustrated book about B.S. Sokolov, in which she called him a great scientist, humanist, and educator. The book was published by the Paleontological Society of India.

His ashes were buried in Moscow’s Kuntzevo cemetery. However, the epoch of Sokolov does not end at this point, it continues in his works, ideas, learners, followers, and in the memory of his grateful descendants.