Ленинской и трех Государственных премий СССР. И сообщает уникальный по-своему факт: крылатыми ракетами руководимого академиком КБ были оснащены почти 80% надводных отечественных кораблей и 100% (!) подводных лодок. Сейчас его ракетными комплексами вооружены флагманы флотов России «Петр Великий», «Варяг», «Москва» и многие другие боевые единицы воинских соединений. Кроме того, создана первая в мире орбитальная пилотируемая станция, а также разработана тяжелая ракета-носитель «Протон», по сей день участвующая в космических программах.

Что касается президента РАН, то он отдает должное теоретическим исследованиям Владимира Николаевича, в том числе относящимся к решению сложнейшей задачи механики – динамической устойчивости упругих систем, отмечает признание его заслуг научным сообществом, которое в 1954 году присудило Челомею золотую медаль им. Н. Е. Жуковского за вклад в теорию авиации, а в 1977 году – золотую медаль им. А. М. Ляпунова, высшую награду Академии наук СССР за выдающиеся работы в области математики и механики.

Книга о Челомее вышла в молодогвардейской серии «Жизнь замечательных людей» в год 100-летия со дня рождения своего героя. Она полна имен и событий, неизвестных ранее страниц биографии ученого, одного из столпов современной ракетно-космической отрасли страны. И эта насыщенность информацией, коллизиями борьбы (сложной и бескомпромиссной) разных течений, направлений, взглядов (технических и политических) одновременно вправе считаться и достоинством, и недостатком подготовленного автором и редакцией издания. Хотя, конечно, больше всегда лучше, чем меньше. А значит, в такой ситуации все определят, надо полагать, интерес читателя, его выбор и оценка предлагаемого содержания.

Юрий ВЛАДИМИРОВ,
кандидат философских наук,
Москва, Россия ●

MUSIC OF ROCKET LAUNCHES

Vladimirov, Yuri *– Ph.D., Moscow, Russia.*

THE REVIEW OF THE BOOK:

Bodrikhin N. G.; introduction S. K. Shoygu; V. E. Fortov. ***Chelomey****. Moscow, Molodaya gvardiya publ., 2014, 490 [6] p.: ill. – (Life of outstanding people: series of biographies; Iss. 1476).*

ABSTRACT OF THE BOOK. *Vladimir Nikolayevich Chelomey (1914–1984) – one of the founders of Soviet rocketry and cosmonautics, a prominent Soviet scientist in the field of mechanics and control Processes, general designer of complexes with cruise and ballistic missiles, space systems, stations and vehicles, was perhaps the most secret Soviet scientist, this fact imposed a severe taboo on his public life and work. Grandiosity and versatility of objectives, which he solved, as well as his unique giftedness, often introduced complexity and even drama in his bright creative destiny, which, despite all blows and temptations, was crowned with remarkable achievements. The book is written with the use of materials and documents of JSC MIC Mashinostroyenia, Khrunichev State Research and Production Space Center, Russian State Archive of economics, archives of Russian Academy of Science and Bauman MSTU and supplemented by photographs, some of them published for the first time.*

ABSTRACT OF THE REVIEW. *The book is devoted to academician Vladimir Nikolayevich Chelomey – one of the founders of Soviet rocketry and cosmonautics, an outstanding scientist in the field of mechanics and control systems. As a general designer of complexes with cruise and ballistic missiles, space systems, stations and vehicles, he remained among the most secret representatives of science and technology, this fact imposed a severe taboo on his public contacts and professional activities. Published biography, documentary and factual sources used in it, open to a wide readership, many hitherto unknown pages of life and scientific work of this vibrant and unique person.*

ENGLISH SUMMARY OF THE REVIEW. *Words in the headline of the article are those of the hero of the book, and there are many aphoristic phrases in his vocabulary. Each of them is also a characteristic reflection of his personal life, a kind of reflection of individuality remaining in the shadows. After all, «Music of rocket launches» is not a fictional beautiful wording, deliberate imagery showing the proximity to the conquerors of space, the powerful technique of near-Earth orbits. Here there is the most natural, nature bestowed man's love for the spirit uplifting melodies, bright sound paint. A brilliant engineer, designer of missile systems academician Chelomey mastered the piano independently, played music with pleasure, and not surprisingly he had such a special perception of the sounds on the launch site of the cosmodrome. Its music, its polyphonic series, its spatial acoustics!*

We do not want to repeat the alleged truth that a talented person is talented in everything. Alas, no one submitted the undisputed evidence in this matter, and own life experience is rather against such allegations.

But in science, technology, inventions, research environment, to which Chelomey belonged, a talent is measured by a special scale of values. The applied result dominates; any accessory paints are here often associative, not always visible even to colleagues. That is passion for music for such an active person – soul demanded emotional discharge, non-public curiosity, quite another manifestation of talent,

rather than at the level of design ideas. Another thing is inspiration of a creative person – a product of fine properties when in the search area most unexpected ideas and solutions, abstraction and reality are refracted.

People, who worked with Vladimir Nikolayevich almost as a legend portrayed the fact (it appears in the book), associated with the creation of drop-wing of a flying bomb that came with armory of a submarine. Then, in the early 1950s, Chelomey proceeded from the fact that in the foreseeable future, such designs will be placed outside the strong hull of a vessel in special containers designed for external pressure when diving at extreme depths. Weight of a container directly depends on its size, and too spacious option would give to a submarine a deliberately redundant floatability, it would interfere with movement under water. In other words, reduction in the size of a cruise missile in the transport configuration was recognized as a decisive factor for its technical aspect. And although the possibility of sealing of the body (fuselage) was minimal, the task of the leader of a design bureau was formulated uniquely: to ensure that the aerodynamic surface and outer wings occupy the smallest volume, and in fact– could either be undocked or fold up.

According to the memoirs of associates of Chelomey the idea with wings came to him in a hotel room in Leningrad, when, at the same time flinging both sashes he suddenly thought: «In such a way a wing of a missile should be opened up in the air!» The same moment is described more detailed by the son of Nikita Khrushchev Sergei working at that time at the design bureau:"In a hotel he got a room on the top floor, under the roof. By the will of the architect over ordinary window another round viewport as on the ship was placed. Then he suddenly dreamed a rocket like a bird out of the hollow flying through the round hole, and opening wings for flight already being free. This inspiration happened somewhere in 1954».

The principal difference of the soon realized idea (as compared, for example, to options of competitors from Beriev Taganrog or Mikoyan design bureau) were combining the functions of the container and the launcher and automatic disclosure of outer wings of a missile in flight after it left the container, which was raised before the start of an angle of 15 degrees. Particular attention was paid to synchronicity of opening of outer wings – otherwise certain accidents could occur.

Summary about the consequences of design inspiration: the implementation of «window analogy» allowed the Soviet Union for a long time to get ahead of the United States in the production of cruise missiles to the submarine fleet. Incidentally, the term «cruise missile» instead of «flying bomb», as specified in the book, was endenizened by order of the Minister of Defence in 1959.

It should be noted that academician Chelomey is author or coauthor of more than 60 inventions, including spacecraft, guided ballistic missiles, silo launchers, space stations control systems, orbital space complexes and other equally important scientific and technological developments and solutions.

Of course, not every innovation theme was necessarily associated with some bright life collisions and parallels, as research, design and development work is also a long, laborious, systematic search activity. It requires constant updating of knowledge, analysis of scientific and technical information, experimental verification. Vladimir Nickolayevich paid a paramount attention to all of this. And he emphasized often that «science saves thinking». This phrase is aphoristic again, but it has a thin philosophical sense and prosaic caution for those who are inclined to waste time on useless fantasy or repetition of well-forgotten old.

Science as an area of expanding knowledge and base of technological progress creates a kind of thinking that is rational and gives an opportunity to find an optimal solution with minimal loss of resources – own and public. Being in the Bauman College (University), a head of the department of Dynamics of Machines (now – aerospace systems), and then together with academician S. P. Korolev conducted in the Presidium of Academy of Science of the USSR a leadership in the development of new technology, Chelomey sought to adhere to these principles, and it gave a particular result.

Characteristically, the book begins with appeals to readers, written by such iconic figures as Defense Minister S. K. Shoigu and the president of the Russian Academy of Science V. E. Fortov.

The minister reminds about the merits of academician Chelomey for the country and its armed forces, he was twice awarded the title of Hero of Socialist Labor, was the winner of Lenin and three State Prizes of the USSR. And a unique fact is stated: almost 80% of domestic surface ships and 100% (!) submarines were equipped by cruise missiles, created by the design bureau, led by him. Now its missile systems are installed on flagship of Russian fleet «Peter the Great», «Varyag», «Moscow» and many other combat units of military units. In addition, the world's first manned orbital station was created, and also a heavy carrier rocket «Proton» was developed, which is still involved in space programs.

As for President of RAS, he pays tribute to the theoretical studies of Vladimir Nikolayevich, including those related to solving complex problems of mechanics – the dynamic stability of elastic systems, emphasizes recognition of his merits by the scientific community, which in 1954 awarded Chelomey a gold medal n. a. Zhukovsky for his contribution to the theory of aviation, and in 1977 – Gold Medal n. a. Lyapunov, the highest award of the Academy of Sciences of the USSR for outstanding works in the field of mathematics and mechanics.

The book about Chelomey came in series «Life of outstanding people» in the year of the 100th anniversary of his birth. It is full of names and events, previously unknown pages of biography of the scientist, one of the pillars of the space-rocket industry of the country. And the richness of information, collisions of struggle (complicated and uncompromising) of different trends, directions, attitudes (technical and political) at the same time should be considered as both an advantage and a disadvantage of the publication prepared and edited by the author and editorial staff. Although, of course, more is always better than less. So, in this situation, everything is determined, presumably, by the reader's interest, his choice and evaluation of the proposed content.

Keywords: cosmonautics, rocketry, mechanics, academician Chelomey, cruise missiles, carrier rocket, spacecraft, manned orbital station.