

chemical institutes of the country: in the S. Ordzhonikidze All-Union Chemical and Pharmaceutical Research Institute, in the Moscow Higher Chemical and Technological College, in the All-Union Cinematographic and Photographic Scientific-Research Institute, in the K. E. Voroshilov Military Academy of Chemical Defence, and in the Institute of Organic Chemistry of the Academy of Sciences of the USSR, where he directed the alkaloids laboratory. In 1938, Nikolai Alekseevich was elected director of a department of the M. V. Lomonosov Moscow Institute of Fine Chemical Technology.

N. A. Preobrazhenskii devoted more than 45 years to scientific and teaching activity. Among his pupils there are hundreds of chemical engineers working successfully in scientific research institutes and national undertakings, 71 candidates of chemical sciences, and 16 doctors of science. In his 535 scientific papers are to be found more than 200 families of his students.

The classical syntheses of extremely important natural substances carried out by N. A. Preobrazhenskii and his students have entered the capital reserves of the chemistry of natural compounds. The problems on which he worked cover questions connected with the structure and synthesis of a number of alkaloids of practical importance (pilocarpine, emetine, tubocurarine, tropine, arecoline, and others), vitamins and cofactors (A, B, B₂, B₆, E, PP, B₁₅, adenosine monophosphate, and the coenzyme of acylation), lipids (glycerophosphatides, inositolphosphatides, plasmalogens, sphingolipids, fats and oils, and higher fatty acids), porphyrins and chromoproteins (hemin, cytochrome C), and terpene compounds (exaltone, isophytol, etc.).

Nikolai Alekseevich was one of the organizers of the All-Union Vitamin Scientific-Research Institute. He created the scientific basis for the large-scale production of vitamins A, B₁, B₂, E, C, and others.

The scientific textbook "Khimiya organicheskikh lekarstvennykh veshchestv" ["The Chemistry of Organic Medicinal Substances"] written by N. A. Preobrazhenskii together with E. I. Genkin is widely known. At the present time, a second volume of this textbook and a multivolume work on bioorganic chemistry are being prepared.

In recent years, Prof. N. A. Preobrazhenskii was a scientific and technical member of the Council of Ministers of the Medicinal Industry, a member of the Scientific Council on the Problems of Bioorganic Chemistry, and a member of the Scientific Councils of MITKhT [M. V. Lomonosov Moscow Institute of Fine Chemical Technology], VNIVI [All-Union Vitamin Scientific-Research Institute], VNIKhFI [Sergo Ordzhonikidze All-Union Chemical and Pharmaceutical Scientific-Research Institute], and others.

In 1952 he was awarded a class I state prize for his work in the field of alkaloids. In 1965 he was granted the honorary degree of Doctor of the Budapest Technical University. N. A. Preobrazhenskii was an honorary citizen of the town of Kostroma.

The Soviet government valued the merits of Professor N. A. Preobrazhenskii highly, awarding him the title of a Hero of Socialist Labor together with the Order of Lenin and the "Hammer and Sickle" gold medal, also marking his work by the Orders of Lenin, of the Red Banner of Labor, of the "Badge of Honor," and by medals.

A man of great spirit, and open nature, outstanding characteristics and inexhaustible optimism, Nikolai Alekseevich Preobrazhenskii was a talented tutor of youth, and was lecturing students and directing numerous postgraduate students and colleagues up to the very last days. He was a tireless propagandist and popularizer of the science of the chemistry of life and an indefatigable innovator and searcher after the new who selflessly loved his work. Sincerely loving his fellow men, he dreamed of his science bringing him knowledge of the secrets of living nature and of putting this knowledge at the service of the health and prosperity of mankind.

Pupils and Colleagues

LIST OF N. A. PREOBRAZHENSKII'S SCIENTIFIC PAPERS

Alkaloids:

Pilocarpine: DAN SSSR, **25**, 1930; ZhRFKhO, ch. kh., **1**, 1803, 1930; Ber., **63**, 1930; **66**, 1187, 1636, 1541, 1933; DAN SSSR, **2**, 562, 1934; Izv. AN SSSR, **1**, 179, 1934; Ber., **67**, 710, 1934; DAN SSSR, **3**, 213, 267, 1935; Tr. Voennoi akademii khim. zashchity RKA im. K. E. Voroshilova, 1935; Ber., **68**, 844, 847, 850, 1991, 1935; USSR patent no. 40354, 1935; Izv. AN SSSR, 983, 1936; Ber., **69**, 1314, 1895, 1936; USSR patents nos. 47298, 47692, 47693, 1936; ZhOKh, **9**, 1402, 1939; **12**, 266, 1942; **15**, 237, 672, 1945; **17**, 1718, 1947; **18**, 1733, 1948; USSR patents nos. 72534, 1948; 77553, 1949; DAN SSSR, **81**, 613, 1951; ZhOKh, **30**, 2250, 2256, 1960; Authors' certificate no. 171000, 1965; DAN SSSR, **178**, 132, 1968; ZhOrKh, **5**, 588, 1969.

Cocaine: Izv. AN SSSR, 997, 1936; Ber., **69**, 1615, 1618, 1936; Izv. MVO SSSR, Khimiya i khim. tekhnologiya, **75**, 1958; ZhOKh, **30**, 1458, 2088, 3258, 1960; DAN SSSR, **157**, 599, 1964.

Tropine: USSR patent no. 48314, 1936; ZhOKh, **28**, 1097, 1958; **30**, 1120, 1960.

Scopolamine: ZhOKh, **10**, 803, 1363, 1940; **15**, 952, 1945.

Colchicine: ZhOKh, **18**, 1724, 1948; **21**, 787, 1951.

Alkaloids of ipecacuanha: ZhOKh, **15**, 836, 1945; **17**, 1672, 1947; **18**, 1550, 1948; DAN SSSR, **75**, 539, 1950; **81**, 421, 1951; ZhOKh, **21**, 1354, 1360, 1951; **22**, 1467, 1890, 1952; USSR patent no. 93352, 1952; ZhOKh, **23**, 149, 153, 518, 522, 525, 1953; DAN SSSR, **117**, 227, 1953; Tetrah., **4**, 223, 1958; ZhOKh, **28**, 1184, 1190, 2463, 1958; **30**, 476, 1454, 1960.

Yohimbine: DAN SSSR, **101**, 1061, 1955; **117**, 81, 1957.

Cinchonamine, etc.: ZhOKh, **15**, 324, 1945; DAN SSSR, **123**, 707, 1958; Izv. MVO SSSR, Khimiya i khim. tekhnologiya, **46**, 1958; ZhOKh, **28**, 3085, 1958; **30**, 213, 473, 2085, 1960; Izv. AN ArmSSR, **14**, 511, 1961; ZhOKh, **31**, 140, 2187, 1962; **33**, 1123, 1963.

Eserine: ZhOKh, **23**, 1563, 1779, 1922, 2027, 1953.

Curare alkaloids: DAN SSSR, **102**, 521, 1955; ZhOKh, **25**, 1423, 2290, 1955; **27**, 2297, 3353, 3367, 3370, 1957; DAN SSSR, **121**, 455; **122**, 77, 1958; ZhOKh, **28**, 167, 3320, 1958; **29**, 1192, 1627, 1631, 1959; **30**, 479, 1960; **31**, 1540, 2987, 1961; Izv. VUZ, **5**, 447, 449, 1962; ZhOKh, **32**, 132, 1418, 3290, 1962; **34**, 545, 548, 1964; **36**, 1764, 1767, 1966; KhGS [Chemistry of Heterocyclic Compounds], **3**, 310, 313, 522, 1967.

Dyes and sensitizers of the cyanine group: Materialy I VSNKhP, **23**, 1932; Tr. nauchno-issledovat. Kinofotoinstituta. Raboty fiziko-khimicheskogo sektora, no. 2, 166-193. The Chemistry and Technology of Light-Sensitive Materials [in Russian], p. 12, 1934.

Rubber vulcanization accelerators: ZhOKh, **15**, 925, 1945; **17**, 1706, 1947; **21**, 1303, 1951.

Odorous substances: DAN SSSR, **84**, 729, 1179, 1952; USSR patents nos. 95177, 95178, 95726, 1953; ZhOKh, **25**, 545, 1775, 2001, 1955; **26**, 54, 3105, 1956; **27**, 2653, 2262, 2994, 1957; **28**, 647, 1958; **29**, 1189, 2314, 2575, 1959; USSR patent no. 118496, 1959.

Medicinal substances: Works of Scientific Chemical and Pharmaceutical Institute [in Russian], Izdatel'stvo nauchno-tekhnicheskogo otdela VSNKh, no. 16, 65, 1926; USSR patent no. 85560, 1949; ZhOKh, **21**, 570, 1951.

Flavonoids: DAN SSSR, **123**, 305, 1958; ZhOKh, **31**, 1147, 1961; **32**, 390, 2832, 1962; **34**, 3300, 1964; collection: Synthesis of Natural Compounds [in Russian], p. 146, 1965; collection: Biologically Active Compounds [in Russian], pp. 210, 213, 216, 1965.

Macrocyclic compounds: ZhOKh, **33**, 2133, 1963; USSR patents nos. 165430, 169509, 1964; ZhOrKh, **1**, 1583, 1587, 1591, 1965; USSR patents nos. 172763, 172765, 176879, 1965; ZhOrKh, **2**, 2021, 2026, 2178, 1966; USSR patent no. 187003, 1966; ZhOrKh, **3**, 1418, 1967.

Vitamins and Coenzymes

Polyene compounds (Vitamin A, carotenoids): ZhOKh, **11**, 425, 1941; **15**, 65, 1945; **18**, 1719, 1948; USSR patents nos. 91075, 1950; 93422, 93902, 1952; ZhOKh, **23**, 710, 1953; Tr. VNIVI, **4**, 5, 10, 1953; DAN SSSR, **99**, 273, 1954; Izv. AN SSSR, ser. fizicheskaya, 692, 1954; Tr. VNIVI, **5**, 5, 1954; **6**, 1, 1955; DAN SSSR, **107**, 101, 1956; USSR patent no. 103776, 1956; ZhOKh, **26**, 3105, 1965; **27**, 2501, 1957; USSR patent no. 104236, 1957; ZhOKh, **30**, 1823, 1960.

Nicotinic acid and nicotinamide: ZhOKh, **13**, 206, 1943; **15**, 667, 858, 1945; Fourth All-Union Conference on Vitamins, Abstracts of Lectures and Communications [in Russian], p. 240, 1957; ZhPKh, **32**, 2821, 1959; ZhOKh, **31**, 3272, 1961; Tr. VNIVI, **7**, 36, 1961; **8**, 11, 22, 1961; ZhOKh, **32**, 2828, 1962; USSR patents nos. 148411, 1962; 164601, 1964; ZhOrKh, **1**, 253, 1965; ZhPKh, **38**, 220, 1965; Med. prom. SSSR, **19**, 11, 1965; USSR patents nos. 170509, 1965; 178879, 1965; ZhPKh, **39**, 916, 1966; ZhPKh, **22**, 1545, 1967; Khim. farm. zhurnal., **1**, 26, 1967; **2**, 31, 1968.

Vitamin C: ZhPKh, 1946; Tr. VNIVI, **5**, 1721, 1954; collection: The Vitamin Industry, 1 [in Russian], MPPT SSSR, p. 23, 1955.

Vitamin B₁: USSR patent no. 93885, 1952; Tr. VNIVI, **4**, 20, 23, 1953; **5**, 10, 1954; USSR patent no. 99479, 1954.

Vitamin B₂: ZhPKh, **22**, 527, 533, 1949; USSR patent no. 81929, 1950; ZhOKh, **21**, 1163, 1951; USSR patent no. 130901, 1961; ZhOKh, **32**, 2829, 1962; **33**, 2888, 1963.

Vitamin B₆: Vitamins, Vol. 3, [in Russian], Izd. AN USSR, p. 17, 1957; Tr. VNIVI, Izd. AN USSR, 17, 1958; USSR patent no. 133885, 1960; ZhOKh, 31, 542, 2983, 1961; Tr. VNIVI, 7, 5-8, 1961; 8, 12, 1961; ZhOKh, 32, 1172, 1962.

Vitamin B₁₂: ZhOKh, 35, 88, 1965; KhPS [Chemistry of Natural Compounds], 3, 48, 1967.

Vitamin B₁₅: ZhOKh, collection: Synthesis of Natural Compounds [in Russian], p. 146, 1965; ZhOKh, 36, 1746, 1966; USSR patent no. 187000 (1966); ZhOKh, 37, 1267, 1458, 2181, 1967; Khim.-farm. zhurnal, 1, 26, 1967; USSR patent no. 198318, 1967.

Vitamin B: Khim.-farm. zhurnal, 2, 29, 1968.

Nucleotide coenzymes: DAN SSR, 164, 828, 1965; ZhOKh, 36, 442, 1966; 37, collection: Chemistry of Organic Phosphorus Compounds [in Russian], 215, 1967; 37, 1996, 2002, 2176, 1967.

Pantothenic acid and coenzyme A: Novoe v nauke i tekhnike vitaminov, 1, 43, 1947; Tr. VNIVI, 5, 30, 1954; ZhOKh, 31, 446, 1961; Tr. VNIVI, 7, 16, 18, 1961; USSR patents nos. 147182, 150525, 1962; ZhOKh, 37, 361, 1967; ZhOrKh, 3, 826, 1581, 1967; Khim.-farm. zhurnal, 1, 26, 1967; USSR patent no. 201426, 1967; ZhOKh, 38, 1700, 1968; ZhOrKh, 4, 1359, 1361, 1968.

Lipoic acid: ZhOKh, 34, 3662, 3665, 1964; collection: Biologically Active Compounds [in Russian] p. 221, 1965.

Vitamin E: DAN SSSR, 140, 1330, 1961; ZhOKh, 31, 2190, 1961; 32, 2483, 1962.

Vitamin K₁: ZhOKh, 29, 1123, 1959.

Lipids

Higher fatty acids: ZhOKh, 29, 2318, 1959; 30, 2539, 2542, 2983, 1960; 31, 1545, 1961; DAN SSSR, 146, 1349, 1962; ZhOKh, 32, 138, 142, 742, 3541, 1962; USSR patent no. 144170, 1962; ZhOKh, 33, 1120, 1831, 1835, 2552, 1963; USSR patents nos. 159516, 159823, 1963; ZhOKh, 34, 552, 1180, 3317, 1964; Fourth Yaroslav Scientific and Technical Conference on Questions of the Replacement of Edible Vegetable Oils by Synthetic Products in the Production of Paint and Varnish Materials. Abstracts of Lectures, Vol. 8 [in Russian], p. 9, 1964; USSR patents nos. 162527, 164272, 1964; ZhOKh, 35, 618, 1965; ZhOrKh, 1, 44, 981, 1965; ZhPKh, 38, 1838, 1965; USSR patents nos. 170949, 177879, 179761, 1965; ZhOrKh, 2, 627, 1578, 1997, 1998, 1966; USSR patents nos. 179760, 182143, 187780, 1966; ZhOrKh, 3, 441, 653, 1415, 2097, 1967; USSR patents nos. 193494, 1967, 213803, 1168824, 1968.

Triglycerides: ZhOKh, 29, 3583, 3909, 3911, 1959; DAN SSSR, 135, 617, 1960; ZhOKh, 30, 1048, 1117, 1960; DAN SSSR, 140, 1083, 1961; ZhOKh, 31, 1537, 2178, 2184, 2984, 1961; 32, 1764, 2208, 2474, 2479, 3898, 3901, 3906, 1962; 33, 60, 437, 1843, 1848, 2883, 3585, 1963; Fourth Yaroslav Scientific and Technical Conference on Questions of the Replacement of Edible Vegetable Oils by Synthetic Products in the Production of Paint and Varnish Materials. Abstracts of Lectures [in Russian], p. 10, 1964; USSR patent no. 166014, 1964; DAN SSSR 160, 133, 1965; ZhOKh, collection: Synthetic Natural Compounds [in Russian], pp. 8, 16, 1965; ZhOrKh, 1, 253, 433, 439, 680, 1965; 2, 789, 1187, 1778, 1782, 1966; ZhOKh, 36, 1380, 1966; USSR patents nos. 185882, 187755, 187763, 188489, 1966; ZhOrKh, 3, 1184, 1571, 1967; USSR patent no. 202121, 1967; DAN SSSR, 178, 1087, 1968; ZhOrKh, 4, 597, 1968; USSR patent no. 1181964, 1968.

Neutral plasmalogens: DAN SSSR, 159, 1079, 1964; ZhOKh, 34, 543, 3659, 1964; USSR patent no. 165710, 1964; ZhOKh, collection: Synthesis of Natural Compounds [in Russian], pp. 5, 12, 1965; ZhOrKh, 2, 629, 633, 792, 1193, 1580, 1774, 2004, 2181, 1966; KhPS [Chemistry of Natural Compounds], 2, 306, 307, 1966; USSR patent no. 192778, 1966; ZhOrKh, 3, 1566, 1766, 1947, 1951, 1955, 1958, 2099, 1966; Izv. OKh AN SSSR, Izd. Ilim, 1967; USSR patent no. 193478, 1967; ZhOrKh, 4, 603, 765, 2241, 1968.

Glycerol phosphatides: DAN SSSR, 140, 851, 1961; ZhOKh, 31, 1143, 2184, 1961; 32, 135, 396, 2210, 1962; 33, 2873, 2876, 2880, 1963; 34, 1908, 2935, 3303, 3983, 1964; Fourth Yaroslav Scientific and Technical Conference on Questions of the Replacement of Edible Vegetable Oils by Synthetic Products in the Production of Paint and Varnish Materials. Abstracts of Lectures [in Russian] p. 11, 1964; DAN SSSR 165, 121, 1965; ZhOKh 35, 84, 550, 554, 1965; collection: Synthesis of Natural Compounds [in Russian], pp. 21, 23, 27, 1965; ZhOrKh, 1, 1720, 1965; USSR patent no. 172776, 1965; ZhOKh, 36, 49, 1029, 1031, 1966; KhPS [Chemistry of Natural Compounds], 2, 80, 225, 230, 1966; USSR patent no. 188506, 1966; ZhOKh, 37, 1454, 2363, 1967; ZhOrKh, 3, 650, 1179, 1412, 1967; First All-Union Symposium on the Chemistry of Peptides. Abstracts of Lectures [in Russian], p. 67, 1967; ZhOKh, 38, 2249, 1968; ZhOrKh, 4, 967, 971, 1157, 1968; Zhurnal VKhO im. D. I. Mendeleeva [Mendeleev Chemistry Journal], 13, 112, 1968; ZhOrKh, 4, 2226, 2246, 1968.

Sphingolipids: ZhOrKh, 2, 2184, 1966; 3, 1340, 1967; 4, 207, 210, 532, 1968.

Porphyrins: DAN SSSR, **134**, 1100, 1960; ZhOKh, **30**, 1828, 2259, 2261, 2533, 2536, 3253, 1960; **31**, 441, 443, 2968, 2972, 2975, 1961; **32**, 2823, 3544, 3549, 3909, 1962; **33**, 1839, 2130, 2285, 1963; DAN SSSR, **157**, 367, 1964; ZhOKh, **34**, 893, 898, 1488, 1906, 3308, 3312, 3315, 1964; Laborat. delo, 643, 1964; Tetrah. let., 183, 1965; ZhOKh, **35**, 324, 1945, 1965; collection: Synthesis of Natural Compounds [in Russian], pp. 216, 220, 223, 227, 1965; ZhOrKh, **1**, 167, 1555, 1560, 1965; KhGS [Chemistry of Heterocyclic Compounds], **1**, 74, 728, 734, 1965; ZhOKh, **36**, 806, 808, 1383, 1966; KhGS [Chemistry of Heterocyclic Compounds], **2**, 216, 628, 1966; Abstracts of Papers at a Conference on the Chemistry of Dicarboxyl Compounds [in Russian], Riga, 1966; Abstracts of Lectures at the Second All-Union Conference on the Chemistry of Five-Membered Nitrogen Heterocycles [in Russian], Rostov-na-Donu, 1966; ZhOrKh, **3**, 1573, 1583, 1763, 1770, 1967; Connection Between Structure and Properties in a Number of Nitrogenous Heterocyclic Compounds. Subjects of a Conference [in Russian], Sverdlovsk, p. 76, 1967; ZhOKh, **38**, 1372, 2245, 1968; KhGS [Chemistry of Heterocyclic Compounds], **4**, 481, 631, 1968.

On the training of highly qualified engineers in the Soviet High School: Eight Mendeleev Conference on General and Applied Chemistry. Symposium on Higher Chemical and Technological Education [in Russian], no. 18, p. 66, 1959; Ninth Mendeleev Conference. Symposium on Higher Chemical, Chemical Engineering, and Agricultural Chemical Education [in Russian], p. 32, 1965.

Review Papers, Lectures, Books: Great Soviet Encyclopedia, [in Russian], p. 273, 1938; Usp. khim., **15**, 1946; Khimicheskaya nauka i promyshlennost, 362, 1956; Proceedings of the First All-Union Coordination Conference on the Chemistry of Natural Compounds [in Russian], 1956; Fourth All-Union Conference on Vitamins [in Russian], Izd. MGU, 1957; Eighth Mendeleev Conference on General and Applied Chemistry. Section of the Chemistry of Natural Compounds and Biochemistry [in Russian], no. 7, p. 59, 1958; Jubilee Conference of the Society of Hungarian Chemists [in Russian], Budapest, p. 205, 1958; Abstracts of lectures at the Second All-Union Inter-University Report and Coordination Conference on the Chemistry of Natural Compounds [in Russian], Tashkent, p. 64, 1964; Abstracts of an International Symposium on the Chemistry of Natural Compounds, Kyoto, Japan [Russian version], p. 163, 1964; Ninth Mendeleev Conference. Section of the Chemistry and Technology of Natural Compounds [in Russian], p. 219, 1965; The Chemistry of Organic Medicinal Substances (Scientific Textbook) [in Russian], Goskhimizdat, Moscow, 1953.

Other publications: Ukr. khim. zh., **1**, 1718, 1925; Ber., **59**, 2533, 1926; Works of Scientific Chemical and Pharmaceutical Institute [in Russian], Izd-vo nauchno-tekhnikeskogo otdeleniya VSNKh, no. 16, 65, 1926; 528, 1927; Proceedings of the Vth Mendeleev Conference [in Russian], 1927; ZhOKh, **15**, 60, 189, 674, 1945; **28**, 968, 1958; USSR patent no. 111484, 1958; ZhOKh, **30**, 2433, 1960; **31**, 1534, 1961; ZhPKh, **36**, 1628, 1963; Med. prom., **40**, 1964; Vestnik tekhnicheskoi i ekonomicheskoi informatsii NIITEKHIM, no. 10, 26, 1964; Vopr. med. khimii, **11**, 47, 1965.