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Mendeleev at Home¹

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Abstract. Dmitri Mendeleev was “at home” at the St. Petersburg State University for forty years. The museum set up in his former place of work/living quarters is well worth a visit.

Keywords. Mendeleev Museum, Mendeleev Archives, personal effects, memorabilia, laboratory equipment.

INTRODUCTION

Situated along the banks of the Neva River is St. Petersburg State University, just a short walk over the Dvortsovyy Bridge from the Hermitage Museum. Founded in 1724 by decree of Czar Peter the Great, the university still occupies the massive building designated by Peter as the “Twelve Colleges.” And it is here, on the street now called Mendeleevskaya liniya, that the Mendeleev Museum and Archives (Figure 1) is located.

This remarkable museum was originally the apartment designated for the university’s professor of chemistry and laboratory curator. In that capacity, Dmitri Mendeleev (1834–1907) lived here with his wife, Anna Popova-Mendeleeva, during his professorial tenure from 1866 to 1890. It was here that he wrote many of his scientific papers.² After his death in 1907 the university and the Russian Chemical Society purchased his personal library, archives, and some furniture from his widow. These effects formed the basis of the museum that was established there only four years later in 1911.

¹ This essay is reprinted (with added photographs and references) with the kind permission of the Science History Institute, Philadelphia, PA, USA. <https://www.sciencehistory.org/distillations/magazine/mendeleev-at-home>, last accessed 12 March 2019.

² Mendeleev was never elected to the Russian Academy of Sciences, which would have supplied the living quarters, research facilities, etc. for life. Although he was, admittedly, the most famous Russian scientist both at home and abroad, his nomination was turned down by the so-called “German Party,” which, in 1881, elected Friedrich Konrad Beilstein (1838-1906) instead. In response, the Russian Chemical Society, of which Mendeleev was one of the founders, drew up a statement that said, in part: “The indisputable value of the services of this candidate, whose equal cannot be found in Russian science, and his reputation abroad, make his rejection entirely incomprehensible.” H. M. Leicester, *J. Chem. Educ.* **1948**, *25*, 439.



Figure 1. Plaque at the Entrance of the Mendeleev Museum and Archives. Courtesy of Jan and Mary Kochansky. It reads: “Here the great Russian chemist Dmitrii Ivanovich Mendeleev taught, worked and lived from 1850-1890.”³

CENTRAL ATTRACTIONS

The central attractions of the museum are the three rooms that were originally Mendeleev’s living room, dining room, and study. The first room contains memorabilia associated with his childhood and youth, as well as photographs of family members, artists, scientists, architects, and close colleagues who gathered for socializing and conversation each Wednesday evening. (As a chemist, Mendeleev acted as an adviser to artists and



Figure 2. Mendeleev photographs and memorabilia. Photograph courtesy of Roger Rea.

architects on the composition of pigments and of building materials.)

The second room, which in Mendeleev’s lifetime served as a dining room, is devoted to recording Mendeleev’s life before he came to St. Petersburg University, including his study at the Main Pedagogical Institute in St. Petersburg from 1850 to 1855 and his work trip to Heidelberg from 1859 to 1861. Also recorded in the second room is his discovery of the periodic law in 1869. Here the visitor can view his stand-up desk (he was a very tall man for the times) and some of his monographs on a variety of subjects, such as mineralogy, isomorphism, and specific volume. These monographs reflect Mendeleev’s early interest in connecting internal properties to external form. There are also some examples from his mineral collection and the wooden models of crystalline forms that he constructed himself.

The third, and most evocative room, is Mendeleev’s reconstructed study, where everything remains as it was during the last years of his life. Here one can see, among other items, a group of photographs of Mendeleev with the discoverers of some of his “eka-elements” (elements whose future discovery Mendeleev predicted in 1869): Lars Fredrik Nilson (1840-1899), who discovered scandium in 1879;⁴ Paul-Émile Lecoq de Boisbaudran (1838-1912), who discovered gallium in 1875;⁵ and Clemens Winkler (1838-1904), who discovered germanium in 1886.⁶

MENDELEEV’S MAJOR CONTRIBUTIONS TO CHEMISTRY

The museum also conserves Mendeleev’s personal archives. This famous collection has as its base a cataloging system developed by Mendeleev himself and consists of over 35,000 titles, encompassing manuscripts, draft

³ Translation courtesy of David Lewis, University of Wisconsin, Eau Claire, WI, USA

⁴ Nilson, L. C. *R. Chim.* **1879**, 88, 642.

⁵ P.-É. Lecoq de Boisbaudran, *C. R. Chim.* **1875**, 81, 493.

⁶ Winkler, C., *J. prakt. Chem.* **1887**, 36, 177.

PERIODICHESKAYA SISTEMA ELEMENTOV D.I. MENDELEEVA										VII (H)		VIII		Атомная масса **													
														Атомный номер													
1	1,00794									2	4,002602			Атомная масса **													
1	H ВОДОРОД									(H)	He ГЕЛИЙ			Атомный номер													
2	6,941	3	9,012182	4	5	10,811	6	12,011	7	14,00674	8	15,9994	9	18,9984032	10	20,1797	Атомная масса **										
2	Li ЛИТИЙ	Be БЕРИЛЛИЙ	B БОР	C УГЛЕРОД	N АЗОТ	O КИСЛОРОД	F ФТОР	Ne НЕОН					Атомный номер														
3	22,989768	11	24,3050	12	26,981539	13	27,981539	14	28,0855	15	30,973762	16	32,066	17	35,4527	18	39,948	Атомная масса **									
3	Na НАТРИЙ	Mg МАГНИЙ	Al АЛЮМИНИЙ	Si КРЕМНИЙ	P ФОСФОР	S СЕРА	Cl ХЛОР	Ar АРГОН					Атомный номер														
4	39,0983	19	40,078	20	44,955910	21	47,88	22	50,9415	23	51,9961	24	54,93805	25	55,847	26	58,93320	Атомная масса **									
4	K КАЛИЙ	Ca КАЛЬЦИЙ	Sc СКАНДИЙ	Ti ТИТАН	V ВАНАДИЙ	Cr ХРОМ	Mn МАРГАНЕЦ	Fe ЖЕЛЕЗО	Co КОБАЛЬТ	Ni НИКЕЛЬ			Атомный номер														
5	85,4678	37	87,62	38	88,90585	39	91,224	40	92,90638	41	95,94	42	97,9072	43	101,07	44	102,90550	Атомная масса **									
5	Rb РУБИДИЙ	Sr СТРОНЦИЙ	Y ИТРИЙ	Zr ЦИРКОНИЙ	Nb НИОБИЙ	Mo МОЛИБДЕН	Tc ТЕХНЕЦИЙ	Ru РУТЕНИЙ	Rh РОДИЙ	Pd ПАЛЛАДИЙ			Атомный номер														
6	132,90543	55	137,327	56	138,9055	57	178,49	58	180,9479	59	183,85	60	186,207	61	190,2	62	192,22	Атомная масса **									
6	Cs ЦЕЗИЙ	Ba БАРИЙ	La ЛАНТАН	Ce ЦЕЗИЙ	Hf ГАФНИЙ	Ta ТАНТАЛ	W ВОЛЬФРАМ	Re РЕНИЙ	Os ОСМИЙ	Ir ИРИДИЙ	Pt ПЛАТИНА			Атомный номер													
7	223,0197	87	226,0254	88	227,0278	89	261,11	90	262,114	91	263,118	92	262,12	93	262,12	94	262,12	Атомная масса **									
7	Fr ФРАНЦИЙ	Ra РАДИЙ	Ac АКТИНИЙ	(Ku) (КУРЧАТОВИЙ)	(Ns) (НИЛЬСБОРИЙ)							Атомный номер															
* * * * *																											
Ж А К Т И Н О И Д Ы																											
140,115	140,90765	59	144,24	60	144,9127	61	150,36	62	151,965	63	157,25	64	158,92534	65	162,50	66	164,93032	67	167,26	68	168,93421	69	173,04	70	174,967	71	175,077
Ce ЦЕРИЙ	Pr ПРАЗЕОДИЙ	Nd НЕОДИМ	Pm ПРОМЕТИЙ	Sm САМАРИЙ	Eu ЕВРОПИЙ	Gd ГАДОЛИНИЙ	Tb ТЕРБИЙ	Dy ДИСПРОЗИЙ	Ho ГОЛЬМИЙ	Er ЭРБИЙ	Tm ТУЛИЙ	Yb ИТТЕРБИЙ	Lu ЛЮТЕЦИЙ														
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Ж А К Т И Н О И Д Ы																											
232,0381	231,0359	91	238,0289	92	237,0482	93	244,0642	94	243,0614	95	247,0703	96	247,0703	97	251,0796	98	252,083	99	257,0951	100	258,10	101	259,1009	102	260,105	103	260,105
Th ТОРИЙ	Pa ПРОТАКТИНИЙ	U УРАН	Np НЕПУТНИЙ	Pu ПУЛТОВИЙ	Am АМЕРИЦИЙ	Cm КУРИЙ	Bk БЕРКЛИЙ	Cf КАЛИФОРНИЙ	Es ЭЙНШТЕЙНИЙ	Fm ФЕРМИЙ	Md МЕНДЕЛЕВИЙ	(No) (НОБЕЛИЙ)	(Lr) (ЛОУРЕНСИЙ)														

Figure 3. A Russian Periodic Table showing elements 104 and 105 as kurchatovium and nielsbohrium respectively. Courtesy of Mary and Jan Kochansky.



Figure 4. Mendeleev's Study. Photograph courtesy of Margaret Comaskey.



Figure 5. Mendeleev's Apparatus for Measuring Gas Densities. Photograph courtesy Roger Rea.

documents, letters, telegrams, diaries, notebooks, laboratory registers, expenditure accounts, and correspondence with Russian and foreign scientists. In addition, over 200 scientific instruments, many of them built specifically for Mendeleev, are housed here. There is also a world

map that shows all the places Mendeleev visited (including northwestern Pennsylvania) as part of his scientific travels.

Although Mendeleev is best remembered for his discovery of the periodic law, his other major achievements were authorship of a major textbook, *Principles of*

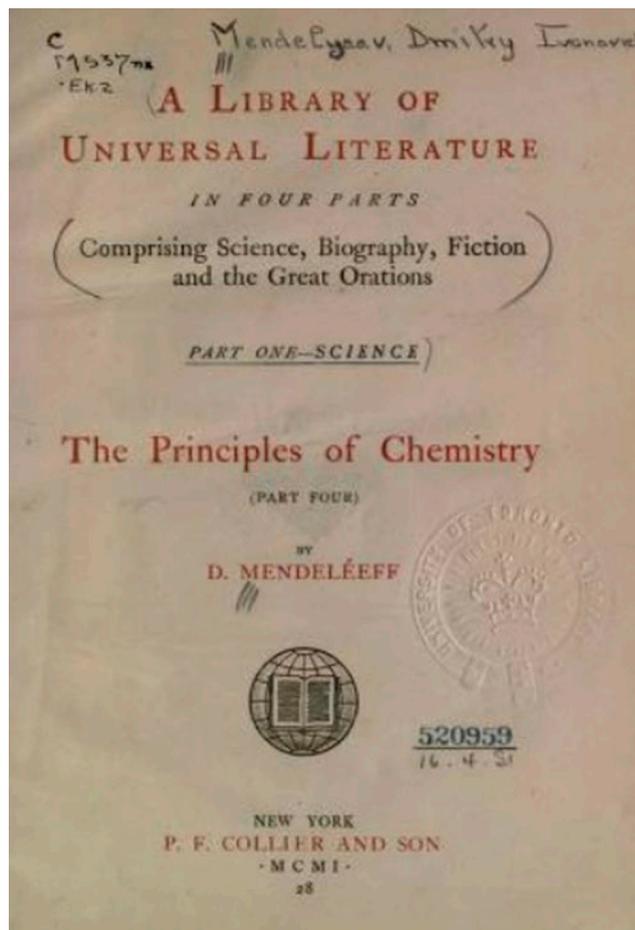


Figure 6. Title Page of a 1901 American reprinting of the the English edition of Mendeleev's "Principles of Chemistry."⁷

Chemistry (which included the periodic law), his studies on the elasticity of gases, and his studies of solutions as associations, to say nothing of his far-ranging eclectic interests in a variety of other fields. A visit to this museum evokes an appreciation for all of his interests in one small space.

If the Mendeleev aficionado's curiosity has not been satisfied with this museum chock-full of memorabilia, a short subway ride to the Technological Institute (via line 1 or line 2) will bring him or her face to face with the famous cigar-smoking Mendeleev statue at the foot of the giant periodic table built into the wall of one of the university buildings. From the viewpoint of this explorer, it is well worth the journey.



Figure 7. Mendeleev Monument (Ilya Ginzburg, 1930). On the wall behind is the famous giant version of the Periodic Table. The building is the former Bureau of Weights and Measures where Mendeleev was Director. It now houses the Mendeleev All-Russian Institute of Meteorological Research. Photograph: Mary Virginia Orna.

⁷ Mendeleev's "Principles of Chemistry," <https://archive.org/details/principlesofchem00menduoft/page/n4>, last accessed 21/03/2019.