

**INDEX TO THE  
LITERATURE OF  
COLUMBIUM: 1801-1887**

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Index to the literature of Columbiun: 1801-1887 by Frank W. Traphagen

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**FRANK W. TRAPHAGEN**

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SMITHSONIAN MISCELLANEOUS COLLECTIONS.

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LITERATURE OF COLUMBIUM:

1801-1887.

BY

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## P R E F A C E .

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The following "Index to the Literature of Columbium" has been published upon the recommendation of the Committee on Indexing Chemical Literature, of the American Association for the Advancement of Science. In its original draft the word "niobium" was used in place of "columbium;" but upon suggestion from members of the Committee the author consented to a change. It is well known that the name columbium, originally given by Hatchett, has clear priority; while "niobium," and its supposed twin "pelopium," grew out of errors made by Rose. Although in European treatises the name "niobium" has generally been adopted, no good reason for the substitution has ever been offered, and all the accepted rules of nomenclature demand the retention of columbium. This note has been written at the request of Professor Trsphen.

F. W. CLARKE.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in the context of public administration and financial management. The text notes that without reliable records, it is difficult to track the flow of funds and ensure that resources are used efficiently and effectively.

2. The second part of the document addresses the challenges associated with data collection and analysis. It highlights that gathering accurate and timely data can be a complex task, often requiring significant resources and expertise. The text suggests that organizations should invest in robust data management systems and training to overcome these challenges. Additionally, it stresses the importance of ensuring the integrity and security of the data collected, as any compromise could lead to incorrect conclusions and poor decision-making.

3. The third part of the document focuses on the role of technology in improving data management and analysis. It discusses how modern tools and software can streamline data collection, storage, and processing, thereby reducing the risk of errors and increasing the efficiency of the process. The text also mentions the importance of staying up-to-date with the latest technological advancements and integrating them into existing workflows to maximize their benefits.

4. The fourth part of the document discusses the importance of collaboration and communication in data management. It notes that data is often shared across different departments and organizations, and effective communication is crucial for ensuring that everyone is working with the most current and accurate information. The text suggests that organizations should establish clear protocols and channels for data sharing and communication to facilitate collaboration and improve the overall quality of the data.

5. The fifth part of the document concludes by summarizing the key points discussed and emphasizing the overall importance of data management and analysis. It reiterates that proper record-keeping, effective data collection, the use of technology, and strong communication are all essential for ensuring the accuracy and reliability of the data used in decision-making. The text encourages organizations to continue to invest in these areas to improve their performance and achieve their goals.



# INDEX TO THE LITERATURE OF COLUMBIUM, 1801-1887.

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DATE.	AUTHOR.	REMARKS.	REFERENCES.
1801..	HATCHETT .....	Discovery of element..	Phil. Trans. Roy. Soc., 1802, XCII, 49. Chem. J., Crell, 1802, I, 197, 257, 852. Ann. der Phys., Gren, x, 500; XI, 120. Nicholson's J., Jan., 1802, 82.
1809..	WOLLASTON .....	Identity of columbium and tantalum.	Phil. Trans. Roy. Soc., 1809, XCIX, 246. J. für Chem., Schweigger, I, 520. Ann. der Phys., Gren, XLII, 60.
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1817..	LEONHARD and VOGEL.	Identity of columbium and tantalum.	
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1840..	H. ROSE .....	Researches .....	J. für Chem., Schweigger, XXI, 60.
1844..	H. ROSE .....	Researches .....	Ber. d. Chem. Ges., 1844. J. prakt. Chem., XXXIV, 86. Ann. der Phys., Pogg., LXIII, 817.
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1846..	HERMANN .....	Oxides .....	J. prakt. Chem., XXXVIII, 91.
1847..	H. ROSE .....	Acids in columbite.....	Ann. der Phys., Pogg., 1847, 4. J. prakt. Chem., XLI, 219.
1848..	H. ROSE .....	Effect of temperature on specific weight.	J. prakt. Chem., XLIII, 254.
1848..	SCHREBER .....	Niobic and pelopie acids in Wöhlerite.	Ann. der Phys., Pogg.; LXXII, 565. Jsb. Chem., 1848, 1203. Mineralog. Forsch., Kenn., 1849, 197.
1848..	HERMANN .....	Ilmenic, niobic, and pelopie acids.	J. prakt. Chem., XXXI, 94; XL, 475. Berzelius' Jsb., XXV, 875. Ann. Chem., Liebig, LXI, 264. Jsb. Chem., 1848, 1205.

DATE.	AUTHOR.	REMARKS.	REFERENCES.
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1848.	H. ROSE	Niobic, ilmenic, and pelopic acids.	
1848.	HERMANN	Ilmenium	J. prakt. Chem., XXXVIII, 91, 119.
1848.	PERETZ	Niobic, ilmenic, and pelopic acids.	Ann. der Phys., Pogg., LXXI, 157. Ber. d. Chem. Ges., 1847, 141. Bammels. Handw., 3d supp., 105, 129. Jsb. Chem., 1848, 1209.
1848.	HERMANN	Ilmenic acid in pyrochlore and columbite.	J. prakt. Chem., XL, 475; XLII, 129; XLIV, 216. Jsb. Chem., 1848, 1210.
1848.	H. ROSE	Identity of ilmenium and niobium.	Ann. der Phys., Pogg., LXXI, 157; LXXIII, 449. Pharm. Centrbl., 1848, 169. Jsb. Chem., 1848, 404.
1848.	H. ROSE	Properties metal and oxides.	Ann. der Phys., Pogg., LXXIII, 818. Ann. Chem., Liebig, LXVIII, 165. Pharm. Centrbl., 1848, 145. Jsb. Chem., 1848, 405.
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1854.	CONNELL	Name	Phil. Mag. [4], VII, 461. Am. J. Sci. [2], XVIII, 892.

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1858..	H. ROSE -----	Niobic and niobous acids, metallic niobium, chloride, etc.	Ber., 1858, 338. J. prakt. Chem., LXXIV, 458, 461. Ann. der Phys., Pogg., CIV, 210. Chem. Centrbl., 1858, 598. Ann. Chem., Liebig, CVIII, 230. Institut., 1858, 354. Ann. chim. phys. [3], LIV, 426. Cimento, VIII, 275.
1858..	H. ROSE -----	Compounds.....	Jeb. Chem., 1858, 151. Ber., 1858, 408. J. prakt. Chem., LXXIV, 461. Chem. Centrbl., 1858, 681. Ann. Chem., Liebig, CVIII, 232. Institut., 1858, 370. Ann. der Phys., Pogg., CIV, 482.
1858..	H. ROSE -----	Niobium sulphide.....	Jeb. Chem., 1858, 158. Ber., 1858, 445. J. prakt. Chem., LXXV, 69. Chem. Centrbl., 1858, 768. Ann. Chem., Liebig, CVIII, 235. Institut., 1859, 6.
1858..	H. ROSE -----	Niobium fluoride.....	Ann. der Phys., Pogg., CV, 424. Ber., 1858, 448. J. prakt. Chem., LXXV, 71. Chem. Centrbl., 1858, 754. Ann. Chem., Liebig, CVIII, 234. Institut., 1859, 6.
1859..	H. ROSE -----	Chlorides and fluorides.	Ann. der Phys., Pogg., CIV, 661. Ber., 1859, 549. J. prakt. Chem., LXXVIII, 188. Chem. Centrbl., 1859, 849; 1860, 181. Ann. chim. phys. [3], LVIII, 104. Ann. der Phys., Pogg., CVIII, 278, 465.
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