

**SMITHSONIAN MISCELLANEOUS  
COLLECTIONS;  
CATALOGUE OF MINERALS:  
WITH THEIR FORMULAS, ETC.**

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**T. EGLESTON**

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SMITHSONIAN MISCELLANEOUS COLLECTIONS.

156

CATALOGUE

OF

MINERALS,

WITH THEIR FORMULAS, ETC.

PREPARED FOR THE SMITHSONIAN INSTITUTION.

BY

T. EGGLESTON.



WASHINGTON:  
SMITHSONIAN INSTITUTION:

JUNE, 1883.

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## ADVERTISEMENT.

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THE following Catalogue of Mineral Species has been prepared by Mr. Eggleston, at the request of the Institution, for the purpose of facilitating the arranging and labelling of collections, and the conducting of exchanges, as well as of presenting in a compact form an outline of the science of mineralogy as it exists at the present day.

In labelling collections it is considered important to give the chemical composition as well as the names, and hence the formulæ have been added.

Some doubt was at first entertained as to the system of classification which ought to be adopted; but after due consideration it was concluded to make use of that followed by Professor Dana, in the last edition of his *Manual of Mineralogy*. Whatever difference of opinion may exist as to the best classification, the one here employed is that which will be most generally adopted in this country, on account of the almost exclusive use of Professor Dana's excellent *Manual*.

The Institution is under obligations to Prof. Dana, Prof. Brush, Dr. Genth, and other gentlemen, for their assistance in perfecting the work, and carrying it through the press.

Copies of the Catalogue, printed on one side only, to be cut apart for labels, can be furnished on application.

JOSEPH HENRY,  
*Secretary S. I.*

SMITHSONIAN INSTITUTION,  
June, 1863.





## INTRODUCTION.

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To render the present Catalogue of Minerals more than a mere enumeration of names, the formulae expressing the chemical composition of the mineral and the system in which it crystallizes, as far as at present understood, have been given. The classification adopted is Dana's, as published in the fourth edition of his *Mineralogy*. Some species that have proved not to be well founded have been omitted, and many since published have been added. Of these latter species, some must be considered as having only a provisional place in the series, and it is probable that others will ultimately be dropped altogether. In making the additions and corrections, the Supplements to Dana's *Mineralogy*, which have appeared from time to time in *Silliman's Journal*, have always been consulted, and the most probable formulae, as deduced by recent investigations, have been selected. In a few instances a change has been made in the place of a species where a more thorough examination has thrown light upon the true nature of the mineral or where it has been found that the system of crystallization had previously been incorrectly given. *Faujasite*, p. 19, was formerly considered as *dianetric*, it has lately been proved to be *monometric*, and it has therefore been placed among the monometric zeolites. The formula for *Euclase* is the one given by Rose; Damour's analysis gave water, and the formula  $2\text{H}_2\text{O} \cdot \text{Si}_2 + 3\text{Al} \cdot \text{Si}_2 + \text{H}$ . Rammelsberg has recently discovered the existence of protoxides in *Staurotide*, and proposes as a general formula  $(\text{R}, \text{R}^2) + \text{Si}^2$ . In the formula for *Opal*, water has not been written,

as it is found in very variable quantities, and is not considered as essential. For what is known of the species added to the list of organic compounds, see the 2d, 5th, 6th, and 7th Supplements to Dana's Mineralogy. For changes in the systems of crystallization, Des-Cloizeaux has generally been the authority.

A table of the symbols used, with illustrations of the meaning of the formulæ, are given on p. vii., and on p. ix. will be found a table relating to the systems of crystallization. In the first column are the simple forms from which all the others, of the same system, are derived; in the second the description of the axes of these simple forms, and in the others the nomenclature that has been adopted by the authors whose names stand at the head of the column. The axes of a crystal are imaginary lines drawn through its centre and about which it is symmetrical. It has been found most convenient to refer to the systems of crystallization by the numbers which have been placed on the left hand of the table.

An asterisk following the name of a mineral, as *Gold*,\* p. 1, denotes that it has been found in the United States. A dagger, as *Danburite*, † p. 14, denotes that it has been found in the United States only. The other minerals have not, so far as is known, been found in this country.

T. EGLESTON.

New York, May, 1863.

## CHEMICAL SYMBOLS.

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Ag. (Argentum)	Silver.	Mg.	Magnesium.
Al.	Aluminium.	Mn.	Manganese.
Aq.	Water.	Mo.	Molybdenum.
As.	Arsenic.	N.	Nitrogen.
Au. (Aurum)	Gold.	Na. (Natrium)	Sodium.
B.	Boron.	Ni.	Nickel.
Ba.	Barium.	O.	Oxygen.
Be. (Beryllium)	Berzelium.	Os.	Osmium.
Bi.	Bismuth.	P.	Phosphorus.
Br.	Bromine.	Pb. (Plumbum)	Lead.
C.	Carbon.	Pd.	Palladium.
Ca.	Calcium.	Pt.	Platinum.
Cb.	Columbium.	Rd.	Rhodium.
Cd.	Cadmium.	Rn.	Ruthenium.
Ce.	Cerium.	S.	Sulphur.
Cl.	Chlorine.	Sb. (Stibium)	Antimony.
Co.	Cobalt.	Sa.	Selenium.
Cr.	Chromium.	Si.	Silicium.
Cu. (Cuprum)	Copper.	Sn. (Stannum)	Tin.
D.	Didymium.	Sr.	Strontium.
F.	Fluorine.	Ta.	Tantalum.
Fe. (Ferrum)	Iron.	Tb.	Terbium.
H.	Hydrogen.	Te.	Tellurium.
Hg. (Hydrargyrum)	Mercury.	Th.	Thorium.
I.	Iodine.	U.	Uranium.
Ir.	Iridium.	V.	Vanadium.
K. (Kalium)	Potassium.	W. (Wolframium)	Tungsten.
La.	Lanthanum.	Y.	Yttrium.
Li.	Lithium.	Zn.	Zinc.
M̄.	Mellio Acid.	Zr.	Zirconium.

NOTE.—R is an indefinite symbol, and may refer to any one or more of the symbols in the table. In the formulæ given in the Catalogue the dots over the symbols indicate atoms of oxygen—thus, Fe indicates one atom