

**A STRATIGRAPHICAL LIST OF BRITISH  
FOSSILS; ARRANGED UNDER THE  
PRINCIPAL DIVISIONS OF  
THE BRITISH STRATA, WITH A FEW  
ELEMENTARY REMARKS ON THEIR  
CHARACTER AND LOCALITIES**

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A Stratigraphical List of British Fossils; Arranged Under the Principal Divisions of the British Strata, with a Few Elementary Remarks on Their Character and Localities by James Tennant

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BY  
**JAMES TENNANT, F.G.S.**

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Geol. Soc. of France, etc.*

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"Geology tells us of the successive revolutions and changes in the crust of the earth. Organic changes are our surest guides in making out this history, but they form only a part of our evidence, and the great physical groups of deposits, however rude and mechanical, are historical monuments of perhaps equal importance in obtaining any true and intelligible history of the past ages of the earth; and after we have descended through a certain number of stages, they become, indeed, our only monuments and indexes of past events."—*Sedgwick*.

## P R E F A C E.

THIS little work is merely intended to assist the Geological Student, by affording him a general view of the Fauna and Flora of some of the principal formations as they are developed in the British Isles, so as to enable him more readily to comprehend the numerical proportion of these fossil organisms, as well as the objects to which his attention should be directed in his various examinations of the different strata. Appended to each division adopted in this volume, is a very slight sketch of the subordinate beds belonging to them, as compiled from the principal authors who have written on the subject. A few of the chief localities are given where the deposits may be best examined, and lists are also inserted of the more important works, memoirs, or papers which have especial reference to each of the formations, so that the Student may be directed to those sources where more detailed information is to be obtained of any particular deposits, which may, at any time, engage his attention.

By these aids, as well as by the careful study of a well selected series of minerals and fossils, illustrative of the different periods, it is hoped that the beginner may become somewhat acquainted with this interesting branch of Natural Science.

The List of Minerals, given at page vi., is chiefly taken from the work of the late William Phillips, and may appear too extensive; it only includes those minerals which are either the components of Rocks, or frequently found imbedded in them, as well as a few others not hitherto discovered in Great Britain.

I have to acknowledge my obligation to Mr. Morris, F.G.S. for assistance and suggestions in preparing this work, and beg to announce that an elementary work on MINERALOGY is in preparation as an accompaniment to it.

149, Strand, August, 1847.



## INTRODUCTION.

THE superficial crust of the Globe, as far as it has hitherto been exposed to observation, in the various sections afforded by deep mines, sea cliffs, or by valleys and mountainous regions, is found to consist of certain layers or strata, differently composed, and arranged in a certain order as regards each other. The composition of these mineral masses, the position which they occupy, the changes they have undergone, and the organic remains contained in them, form the chief objects of Geological inquiry.

An acquaintance with the collateral branches of Science, Chemistry, Mineralogy, and Palæontology, will materially facilitate any researches connected with the early history of our globe, as by the two former we acquire a knowledge of the composition, form, structure, &c., of the various simple or compound mineral bodies, which are either found, combined with or constituting the chief portion of different rocks or strata; and Palæontology teaches us the character and relations, to existing beings, of the numerous genera of Plants, Shells, and Animals, which are more or less abundantly entombed in all the stratified rocks.

The Rocks or Strata have been generally divided by Geologists into two great groups; viz., STRATIFIED, and UNSTRATIFIED, and these are again subdivided as follows:—

|                    |   |                   |   |                    |
|--------------------|---|-------------------|---|--------------------|
| Stratified Rocks   | { | resulting from    | { | Fossiliferous.     |
|                    |   | Aqueous agencies. |   | Non-fossiliferous. |
| Unstratified Rocks | { | resulting from    | { | Volcanic.          |
|                    |   | Igneous agencies. |   | Plutonic.          |

The composition of the Stratified fossiliferous rocks may be stated generally, as consisting of Argillaceous, Calcareous, or Siliceous masses, as Clay, Lime or Silex, form their chief proportions. The Unstratified rocks are far more variable in their composition, as numerous other mineral bodies constitute their component parts, or frequently occur in them, of which the minerals in the subjoined list are among the principal, and as some vary in their external characters, the Student should be provided with several varieties, to illustrate the crystalline form, fracture, and colour, or other physical characters.

## SILICEOUS MINERALS.

Rock Crystal, hexagonal prism.  
 Rock Crystal, with conchoidal fracture.  
 Quartz crystallized.  
 Violet Quartz, or Amethyst.  
 Yellow Quartz Cairngorum.  
 Brown Quartz.  
 Rose Quartz.  
 Ferruginous Quartz.  
 Arenaceous Quartz, Sand.  
 Arenaceous Quartz, coloured by oxides of Iron.  
 Opal.  
 Semi-Opal.  
 Wood Opal.  
 Calcedony.  
 Agate, from Amygdaloid rocks.  
 Agate, enclosing fossil sponge, &c.  
 Flint.  
 Hornstone.  
 Jasper.  
 Porcelain Jasper.

## ZEOLITIC MINERALS,

*Chiefly found in Amygdaloid Rocks in the western parts of Scotland, Giant's Causeway &c.*

Apophyllite.  
 Analcime.  
 Brewsterite.  
 Chabasie.  
 Gmelinite.  
 Harmotome.  
 Heulandite.  
 Laumonite.  
 Mesole.  
 Mesotype.  
 Natrolite.  
 Phillipsite.  
 Prehnite.  
 Stilbite.  
 Thomsonite.

CLAYS.

Slate Clay, Shale.  
 Bituminous Shale.  
 Rotten-stone.  
 Adhesive slate.  
 Fuller's Earth.

The following consist of SILICA, ALUMINA, LIME, &c.

|                                   |                                                  |
|-----------------------------------|--------------------------------------------------|
| Garnet, in rhombic dodecahedrons. | Andalusite.                                      |
| Garnet, in trapezoidal crystals.  | Chiasolite.                                      |
| Precious Garnet.                  | Pinite.                                          |
| Pyrope Garnet.                    | Chlorite.                                        |
| Cinnamon stone.                   | Steatite.                                        |
| Idocrase.                         | Soapstone.                                       |
| Axinite.                          | Felspar, crystallized.                           |
| Epidote.                          | Felspar, with lamellar fracture.                 |
| Augite.                           | Glassy Felspar.                                  |
| Diopside.                         | Decomposed Felspar.                              |
| Sahlite.                          | Compact Felspar.                                 |
| Hornblende, massive.              | Labradorite.                                     |
| Hornblende, crystallized.         | Albite.                                          |
| Tremolite.                        | Boracic Acid.                                    |
| Actynolite.                       | Subsulphate of Alumina.                          |
| Asbestos.                         | Subphosphate of Alumina.                         |
| Fibrous Asbestos. Amianthus.      | Calcareous Spar, rhomb, obtained<br>by cleavage. |
| Hypersthene.                      | Calcareous Spar, crystallized.                   |
| Bronzite.                         | Stalactitic Carbonate of Lime.                   |
| Schiller Spar.                    | Calcareous Tufa.                                 |
| Corundum.                         | Arragonite.                                      |
| Emery.                            | Pearl Spar.                                      |
| Kyanite.                          | Apatite.                                         |
| Topaz.                            | Phosphorite.                                     |
| Spinel.                           | Fluor Spar, in cubes.                            |
| Chrysolite.                       | Fluor Spar, nodular.                             |
| Olivine.                          | Anhydrite.                                       |
| Zircon.                           | Selenite.                                        |
| Hyacinth.                         | Fibrous Gypsum.                                  |
| Beryl.                            | Granular Gypsum.                                 |
| Tourmaline.                       | Carbonate of Barytes.                            |
| Schorl.                           | Sulphate of Barytes.                             |
| Talc, foliated.                   | Carbonate of Strontian.                          |
| Talc, compact.                    | Sulphate of Strontian.                           |
| Mica.                             | Chloride of Sodium, Rock Salt.                   |
| Leucite.                          |                                                  |