

A University for Research-Record and Instruction.

NATURE-HISTORY MUSEUM

AND

Descriptive Defining Nature-History Tables
Illustrated ;

OR

NATURE-HISTORY RESEARCH THINKING TABLES

AND

Investigating or Sorting Tables for Separating Different Subjects.

EVENTS: Subjects—

Nebulæ, Meteors, Comets, Stars, Planets, Rings, and Satellites,
and Celestial Gravity, Heat, Light, Electricity, and Magnetic
Events, etc., etc.

Earth in its seven Spheres—

1. Centrosphere.
2. Tektosphere.
3. Lithosphere.
4. Hydrosphere.
5. Atmosphere.
6. Biosphere.
 1. Bacteria.
 2. Plants.—Anatomy, Physiology, Pathology, Economy.
 3. Animals.—Including hominidæ (that is mankind) anatomy ; physiology includes mental physiology, pathology, social and other actions, and what artificial things they produce and use.
7. Artiosphere.—All artificial things which are also entirely natural things. Therefore the 7th sphere, namely Artiosphere, is separated and comes after the 6th Biosphere.

BY

NASARVANJI JIVANJI READYMONEY,

AUTHOR OF

*Scheme of Educational Reform and how to Found an Investigating,
Teaching and Examining University, or Institutions of
Science, Aesthetics and Games." "Descriptive
Biography Columns."*

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ERRATA.

Page 17. Read "Litholiquid sphere" for "Litho-Hydrosphere."

Page 31. Omit "Class" occurring after "Male or female sex" and so on in the following pages.

Page 48. To read page 48 after page 57. Instead of tabulating "Classes" to tabulate "Function," "5, Mental", "6, Actions", "4, Special Actions." Classes are not treated, because, Classes of men exist as Function—5, Mental, 6, Actions, 4, Special Actions. Therefore in the successive tables remove "Classes" of men.

There are several other mistakes and misprints in this book.

PREFACE.

In the following pages I have tried to draw the outline of a scheme which I put before the public. I leave to abler and more competent hands than mine to work it out for Nature-History Research Record, with a view to help students in their study of all the departments of human knowledge.

From pages 7 to 10, I explain about Descriptive Defining Nature-History Tables, Illustrated, and from page 11, I give tables to show how to arrange them.

My scheme may not be carried out in full. Nevertheless, the following guide tables will be of use to my readers as Science of Nature-History (which includes Nature-History of Human Beings and Human Affairs) to assign places to all Events in nature or creation, in a manner to help to describe and define them from a Nature-History point of view.

A project for separating each class of subjects is also suggested on page 69, which I have named Investigating or Sorting Tables for Natural History of each subject.

NASARVANJI JIVANJI READYMONEY.

BOMBAY, 1905.

FOREWORD.

THE Age, which gives historical place to religions of the past and has dethroned God of anthropomorphic attributes and has enthroned Unknown Cause of Events into unknown Palace and crowned Him with philosophic thinking, has created a religion of earthly use, or a blessing has been perfected to human life of Nature-History for the peace of mind and happy unanimity of living. Its Temple is called Nature-History Museum, containing or forming a work of genesis called Descriptive Defining Nature-History Tables Illustrated.

Like all intellectual reform, simplifying our intellectual institutions and suggesting a scheme, which, showing a practical and highest degree of intelligence, separates fancy-poetry from natural sciences, and Nature-History is formed on nature logic or on physical basis with power of nature-poetry.

The methods of Bacon and Comte, and Spencer's artificial classes of evolution into inorganic, organic, super-organic, are all intellectually transferred or consolidated into this useful (devise of thinking of events in order of Nature-History) invention of Descriptive Defining Nature-History Tables Illustrated.

The best and most effective means of raising the mass of the population to a good level of intelligence and morality, so that they may think for themselves, and that can be achieved by removing primitive ideas, and the easy manner to remove primitive ideas is to make the order of their ideas correspond with the order of events in time. That is Nature-History which makes man wise and contented.

When this scheme is undertaken, it will be of very practical value. Each event (artificial things included) will be treated in order of Nature-History and its own natural history, its science, philosophy, its utility, economy, and practice, all brought together in a manner, simple, ever devised in the intellectual and industrial history of mankind.

• It is the official manner of tabulating, and the best technical business-like manner of arranging events for study, and for all practical purposes in the simplest Nature-History method possible yet suggested. When a person tabulates an event according to this scheme, he describes, defines and gets correct knowledge, and teaches himself.

A UNIVERSITY FOR RESEARCH-RECORD AND
INSTRUCTION.
NATURE-HISTORY MUSEUM
AND
DESCRIPTIVE DEFINING NATURE-HISTORY TABLES,
ILLUSTRATED;
OR
NATURE-HISTORY RESEARCH THINKING TABLES.

An endeavour is made to gather events together in such an orderly arrangement and within such practicable limits of space, that the individual student may turn to any part of the project and secure the information which he is seeking, with as much certainty as when he takes down an encyclopædia from his library shelves and still more accurately and more elaborately, in the smallest amount of time and by the least labour, ever devised before this project was organised.

This will contain not only condensed facts but minutely elaborate systematized scientific knowledge in concrete facts of the accumulated knowledge and practical achievements of the intellectual world.

The long-felt want to arrange a central place for study is thus provided, and waste of energy by students may thus be obviated. Harmony and co-operation in research work thus result, and International Universities for Research-Record and Instruction are formed.

All Governments should form Nature-History Museums in their chief cities, as for instance, in India, such museums should be established at Calcutta, Bombay, Madras, Lahore and other cities.

On a smaller scale, these museums should also be established in district towns by the side of Government offices, for instance, in India, they should be kept by the side of the Collectors' offices.

All collections, antiquarian specimens, specimens of industry and trade articles to afford facilities to the commercial and industrial community of a country with a view to the promotion of the trade and industry and of the art industries of a country should be arranged in nature-history order, therefore no separate museum about industry is necessary.

All antiquarian collections and books must decay in course of time, but Descriptive Defining Nature-History Tables, Illustrated (see page 9), will be renewed as perpetual nature-history for reference, research, instruction as long as human beings exist. All will respect these International Temples of Nature-History Records for the love of the past and as being instruction from the past, and will not destroy them, but will improve upon them and go on adding to them.

Archæologists, curators and savants should be paid by the respective governments and associations, without any prejudice for their nationality or creed.

All Governments should frame an International Law, providing that no objects of antiquity should be removed away from their countries or original homes.

To make the museums international, models, photographs, tables and colour illustrations should be allowed to be taken of the originals for other museums, and all persons may also be allowed to take the same on the payment of fees, and thus to spread nature-history knowledge.

Students to be allowed into the museums for the study of nature-history tables, and not to take away them for study out of the museums, therefore museums should be well ventilated, lighted, where people or students may go and study and amuse themselves.

The Descriptive Defining Nature-History Museum should be divided into the following sections :—

Nebulae Meteors, Comets, Stars, Planets, Rings, Satellites; and Celestial Gravity,

<p>Heat, Light, Electricity, and Mag- netic Events, &c.</p>	<p>Curators of Astronomy and Astro- physics have to arrange in nature-history order and to compile the Descriptive Defining Nature-History Tables, Illus- trated, about celestial events (see from page 11).</p>
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Earth in its seven spheres as below (Nos. 1 to 7)—(see from page 15).

<ol style="list-style-type: none"> 1. Centrosphere. 2. Tektosphere 3. Lithosphere. 4. Hydrosphere. 5. Atmosphere. 	<p>Curators of Geology and Meteorology have to arrange in nature-history order stones, minerals, oils, mineral waters and models, maps and geography of mountains, rivers, lakes, seas, oceans, and to compile the Descriptive Defining Nature-History Tables, Illustrated, about these five spheres and terrestrial gravity, heat, light, electricity and magnetic events also (see from page 15).</p>
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6. Biosphere is divided into Microbes, Plants and Animals.

<ol style="list-style-type: none"> 1. Bacteria or Microbes. 	<p>Curators of Bacteriology have to arrange in nature-history order specimens microscopic of bacteria, and to compile the Descriptive Defining Nature-History Tables, Illustrated, about Bacteria, Economical included (see from page 23).</p>
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<ol style="list-style-type: none"> 2. Plants. 	<p>Curators of Botany have to arrange specimens in nature-history order and to compile the Descriptive Defining Nature-History Tables, Illustrated, about Plants. These include anatomy, physiology, pathology of plants, agriculture, economy (see from page 26).</p>
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8. Animals.

Curators of Zoology have to arrange zoological specimens in nature-history order and to compile the Descriptive Defining Nature-History Tables, Illustrated, about Animals (see from page 30). These include anatomy, physiology, pathology, and about mind, that is feelings, ideas and actions, and what artificial things they make and use, such as mounds, nests, dams, webs, etc., etc. In the animal world in the order primates there are sub-orders:—1 Lemuroidea, 2 Anthropeidea.

Anthropeidea contains five families—1 Hepalidæ, 2 Cabidæ, 3 Corcopithecidæ, 4 Semiidæ, 5 Hominidæ. Hominidæ is the zoological expression for animal man of all ages, that is periods, races and classes. Thus Hominidæ may be divided into ages, ages into races, races into classes.

Curators of Hominidæ have to arrange fossil finds (archæological), that is articles produced or specimens or models of all Ages, Races, or Nations and Classes forming them, extinct or past, and present, and up-to-date in order of nature-history and to compile the Descriptive Defining Nature-History Tables, Illustrated, about Hominidæ. These include anatomy, physiology, pathology and about mind, that is, feelings, ideas, primitive and up-to-date, actions, of all sorts, languages, and what they made and make (artificial things) and what they used and use such as, habitations, monuments, clothing, implements, machines, etc., etc. (see from pages 38—61).

Ages, see page 38.

Races, see page 39.

Classes, see page 48.

7. Artiosphere.—All artificial things, which are also entirely natural things, therefore I suggest the 7th sphere, and I name it Artiosphere which comes after 6, Biosphere. I name the science for it Artiospherology.

Curators of Artiosphere have to arrange in order of nature-history all artificial things, made and used by all animals, and compile the Descriptive Defining Nature-History Tables, Illustrated, about Artiosphere (see from page 62).

N.B.—Also to arrange artificial things with their respective Tables about animals, as I said in 6, Biosphere. Here I suggest to separate a separate 7th sphere, therefore to tabulate and illustrate separately showing their genesis, growth, utility, that is their Descriptive Definition in Nature-History separately.

God has framed the Mind like a glass capable of the image of the universe and desirous to receive it as the eye to receive the light.

BACON.

AN OUTLINE OF
Descriptive, Defining Nature-History Tables,
Illustrated ;

OR

NATURE-HISTORY RESEARCH THINKING TABLES ;

OR

WORK OF GENESIS
MINUTELY TABULATED,

BY

NASARVANJI JIVANJI READYMONEY.

There is a scheme of cards in the Smithsonian Institution at Washington, U.S.A., preserved in a fire-proof vault in alphabetical order, but the work here suggested is to record everything in Describing, Defining Nature-History order.

EVENTS CLASSIFIED AND ARRANGED IN ORDER OF
SUCCESSION IN TIME TO
DESCRIBE AND DEFINE THE WHOLE CREATION.

All events or say phenomena classified, and arranged in succession or in order of time, that is, to connect them by the natural relations of succession and resemblance, show genesis and genetic relationship, and tend to show the genetic relationship of degraded or reduced phenomena also, and the Descriptive Defining Nature-History results, and these result in giving evolution of all events.

It is an abstract generalization of creation, resulting in concrete facts historically arranged for a practical definition of all phenomena: matter, motion, life, mind, logic, mathematics, languages, literature, industrial and other products, etc., etc.

“All knowledge finally culminates in some kind of classification.” “A definition is a description separating the thing defined from all other things.” By describing historically we define, and to classify in succession of time is also to define.

Tables.—When events (or say phenomena) are thus analysed and tabulated analytically in order of time, and illustrated, or colour pictures of them are given, the tables or illustrated sheets represent or trace out the genesis. Classification Tables and the genesis tables coincide, and the Descriptive Defining Nature-History of Creation in a tabular form results. The Evolution Tables, the Synthesis and Research Thinking Tables are created at the same time. The scheme thus makes researches and at the same time records logically and scientifically for the purpose of investigation and then becomes investigation itself. To tabulate an event according to this scheme is to fix its place in nature, that is to give description, definition, and nature-history of it, as a coin has value fixed so on, a subject tabulated has value or quality assigned in creation according to its place in it.

Each stage is stated on a succeeding table or sheet, which makes a minute analysis and definition; again all preceding stages are stated in numbers and names in order of class and time or history of events. Otherwise, it will not be a part of the whole, and will not be a descriptive defining scheme and a nature-history of the whole creation, but becomes simply names and illustrations without definitions. Thus every event is tabulated and illustrated, and is put with the special

differentiation, which distinguishes it from the preceding species, hence its place in evolution is shown at a glance.

These tables are condensed definitions without any superfluous words, as the words are arranged in their proper place in tabular form, according to the order of the phenomena they represent or for what they stand, as symbols without their meaning or definition being given in explanatory words.

Opinions of authors should be quoted, and students' own observations should be written or printed on the reverse side of the tables, or may be separately written and printed on separate tables, but they should have the table arrangement of numbers and names by the side, and should follow the original tables and illustrations. Therefore turn each table sheet, to see the authority, or see the separate corresponding table of authority. Nothing should be tabulated without authority. See pages 35-36.

I suggest size of the sheets of these tables to be 12 × 10 inches, and colour illustrations, to be reduced to such a size or enlarged so many times to the natural size, and this should be stated with each illustration.

Sheets of these tables should not be thin.

To give an idea how to arrange the Descriptive Defining Nature-History Tables, Illustrated, and that is how and where to tabulate events so as to describe and define them and give their nature-history, I give these following arrangement of tables. It is for students of different subjects to tabulate and illustrate the events about their subjects correctly, minutely, and elaborately in their order of nature-history. Tables about Structure, Function, Environment, of each subject are given to show that all these subjects are concerned in their arrangement of their nature-history.

There is nothing that cannot be tabulated in nature-history order in this project, and there is nothing of which descriptive definition will not be given in the manner of arrangement of tabulation here suggested—Biographies, Religions, Philosophies, Weapons, Monuments, Literature—all these for technical purposes should be minutely tabulated, and for laymen it should be arranged so that they may see it in general outline.

DESCRIPTIVE DEFINING NATURE-HISTORY TABLES, ILLUSTRATED.

HOW AND WHERE TO TABULATE ASTRONOMICAL EVENTS.

“Photographs of Stars, Star Clusters, and Nebulæ,” by Dr. Isaac Roberts, D.Sc., are of permanent importance. To have photographs of northern and southern celestial hemispheres and bodies and their spectra, etc., and in successive tables go on enlarging both hemispheres so as to illustrate minutely the portions very largely and to make permanent colour pictures, and to do so for each celestial body and for its physics, and to arrange them in order of nature-history in a manner of record-keeping. I suggest all classes to be arranged in order of nature-history as on page 12, 1 Nebulæ, 2 Meteors, 3 Comets, 4 Stars; Stars into 1 Invisible, 2 Visible, 3 Sun, as it is our own star I separate as 3 Sun. Planets into 1 Large Planets, and 2 Small Planets. In large Planets, Earth is placed by me as the 6th planet. It is for astronomers to decide before or after which planets the Earth was hurled out from the Sun, and so to tabulate according to its nature-history and genesis. If there is a reduced phenomena, that is, degraded, in that case that will be tabulated.

After tabulating a celestial body in order of nature-history, tabulate the environment of that body. A celestial body is known to us in its position in relation to other bodies, therefore these environment tables should precede other tables, and these include what we see daily stated in astronomical calendars, for instance, elongation, transit, conjunction, etc., and after that to tabulate the travel of that body, which is analogous to the preceding and also about time, and thereafter, have tables of structure, that is, size, weight, chemical constitution, etc., or a body as is formed into spheres central, middle, and outer, and solid, liquid, and gaseous. Our Earth is divided into 7 spheres. In the following pages in order of nature-history outline of tables about Earth is given.

N.B.—In tables about Bacteria, Plants, Animals, first Structure, second Function and third Environment tables should be arranged, which will give history descriptive and defining of all these events.

1. Nebulæ
 1. Irregular nebulæ.
 2. Ring nebulæ and elliptical nebulæ.
 3. Spiral or whirlpool nebulæ.
 4. Planetary nebulæ.
 5. Nebulæ surrounding stars.
2. Meteors
 1. Aërolites, or meteoric stones.
 2. Aërosiderolites ; which include the intervening varieties.
 3. Aërosiderites ; or meteoric iron.
3. Comets
 1. Long periods.
 2. Short periods.
4. Stars
 1. Invisible=Telescopic stars
 1. Magellonic clouds.
 2. Milkyway stars.
 3. Clusters of stars.
 4. Variable stars.
 5. Double and multiple stars.
 6. Ordinary stars 27 to 7 magnitude invisible stars.
 2. Visible stars=untelescopic=without telescope, 6,000 than our star 7 to 1, magnitude to name here in order from oldest to youngest.
 3. Sun
 1. Planets = satellites of the sun
 1. Large Planets, Major
 1. Neptune.
 2. Uranns.
 3. Saturn.

Ring satellite.
 4. Jupiter.
 5. Mars.
 6. Earth.

Moon.
 7. Venus.
 8. Mercury.
 9. Vulcan.
 2. Small planets = Minor. Asteroids.
 - 1.
 - 2.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large Planet.
- 6, The Earth

environment.

nebulae's

positions,

figures, or numbers.

distances, in

different times of

the earth from nebulae,

their effect on earth.

In other sets of tables so of

Meteors.

on earth so of

Comets,

so of

Stars.

1, Telescopic

so of

2, untelescopic

so of

3, Sun, by showing

place of the Earth

in solar system

time and

distances, from the sun,

so of

all other planets.

Illustrations.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large Planet.
- 6, The Earth.

Travel of the Earth

- 1, Rotation, having a period of 24 hours.
- 2, Revolution, having a period of $365\frac{1}{4}$ days.
- 3, Procession having a period of 25,765 years.
- 4, Luni-solar gravitation, having a period of 28 days.
- 5, Nutation, having a period of $18\frac{1}{2}$ years.
- 6, Variation of obliquity of ecliptic, about 47 are in 100 years.
- 7, Variation of eccentricity of orbit.
- 8, Change of line of opsides, period about 21,000 years.
- 9, Planetary perturbations.
- 10, Change of centre of gravity of whole solar system.
- 11, General translation of solar system in space.
- 12, Latitude variation with several degrees of periodicity.

For "The Twelve Movements of the Earth," see "Our Astronomical Column," *Nature*, of July 25, 1901.

4, Stars.

3, Sun.

1, Planet.

1, Large Planet.

6, The Earth in its spheres,
structure, size, weight.

1, Centrosphere.

2, Tektosphere.

3, Lithosphere.

4, Hydrosphere.

5, Atmosphere.

Terrestrial gravity, heat, light, electricity, and magnetic events also.

6, Biosphere.

1, Bacteria.

2, Plants.

3, Animals including hominidæ that is human being.

7, Artiosphere—all artificial things which are also entirely natural things.

1, Implements.

2, Coverings.

3, Habitations.

4, Structures over corpses.

5, Articles to rest, for instance stand, chairs, etc.

6, Articles to hold, for instance, box, cupboard, etc.

7, Fire.

8, Cut food and cooked food.

9, Medicines.

10, Stationery.

11, Land works.

12, Vessels, for instance, baskets, pottery, glasses, dishes, etc.

13, Floats.

14, Currency.

For 6, Spheres, see *Nature* of September 13, 1900. To which I added 7th, Artiosphere.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, The Earth planet.
- 3, Lithosphere.
 - 1, Lower primary.
 - 2, Archæan.
 - 3, Combrion.
 - 4, Ordovician.
 - 5, Silurian.
 - 6, Upper primary
 - 7, Devonian.
 - 8, Carboniferous.
 - 9, Permian.
 - 10, Secondary.
 - 11, Trias.
 - 12, Lias.
 - 13, Polite.
 - 14, Neocomian.
 - 15, Cretaceous.
 - 16, Tertiary.
 - 17, Eocene.
 - 18, Oligocene.
 - 19, Miocene.
 - 20, Pliocene.
 - 21, Post-tertiary or quaternary periods Pleistocene or post pliocenæ recent.
 - 22, Post Glacial.
 - 23, Glacial.

Maps, and
illustrate each
strata and its part in
all these tables.

For these Geological Stratas, see "The Story of the Earth in Past Ages," by H. G. Seeley. I have numbered them, geologists have to do correctly and make tables for each strata.

- 4, Stars.
 - 3, Sun.
 - 1, Planet.
 - 1, Large planet.
 - 6, Earth.
 - 3, Lithosphere.
 - 25, Litho-Hydrosphere=Stratas bearing mineral springs, oils, geologists have to number it and name and arrange, I simply put the number 25 to separate it, I mean to separate fluids.
- 1, Mineral waters.
 - places of mineral waters.
 - their qualities.
 - chemical constitutions.
- Maps,**
 geological stratas
 showing localities.
- 2, Oil springs,
 - varieties of oil,
 - their qualities.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, Earth.
- 3, Lithosphere.
- 27, External surfaces.
- Emergence and Submergence of lands.
- Continents, M.
- in successive tables give
- division of continents, and
- up to a mile in on inch scale,
- and maps minutely for small
- places in order of nature-history.
- So of all mountains, etc.
- Submergence of continents.

Maps.
Illustrations.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, Earth.
- 4, Hydrosphere.

- 1, Oceans.
- Figures.
- Length.
- Breadth.
- About
- tide.
- Ebb.

Maps, atlases, about hydrosphere and its divisions of oceans, etc., in nature-history order and about tide, ebb, etc., currents of rivers, etc.

- 2, Seas.

- 3, Lakes.

- 4, Rivers.

- 5, Streams.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, Earth.
- 5, Atmosphere. Students of meteorology to improve and arrange.

- 1, Weight-pressure.
 - 1, in mines.
 - 2, over oceans.
 - 3, „ plains.
 - 4, „ hills.
 - 5, „ mountains.
 - 6, „ balloons height.
 - 7,

- 2, Qualities of atmosphere at different height,
what gases.

Maps.
Charts.
Illustrations.

- 3, Humidity.

- 4, Clouds, lowest to heighest of different qualities,
surface clouds under 2,000 feet.
lower medium clouds 2,000 feet to about 10,000.

- 5, Hail.

- 6, Frost.

- 7, Movements—wind
Indifferent stratas.
different velocities
normal and cyclones.
different directions.

4, Stars.

3, Sun.

1, Planet.

1, Large planet.

6, Earth.

Ultragaseous.

Gravity observations tables terrestrial.

so of

Heat terrestrial, for celestial in former tables about their celestial
bodies.

so of

Light.

so of

Electricity.

so of

Magnetic events.

and so of

Other rays. -

Maps, Charts,
Illustrations.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, The Earth.
- 6, Biosphere.
- 1, Microbes. To name Bacteria or Microbes, Bacteriologists have to decide.
- 1, Coccaceæ. Family I.
 - 1, Streptococcus=division in one plane. Species 1.
 - 2, Micrococcus=division in two planes. Species 2.
 - 3, Sarcina=division in three planes. Species 4.
 - 4, Planococcus=division in two planes ; flagella.
 - 5, Planesarcina=division in three planes ; flagella.
- 2, Bacteriaceæ. Family II.
 - 1, Bacterium=no flagella.
 - 2, Bacillus=completely surrounded by flagella.
 - 3, Pseudomonas=polar flagella.
- 3, Spirillaceæ. Family III.
 - 1, Spirosoma=no flagella ; rigid.
 - 2, Microspira=1, or 2-3 polar flagella ; rigid.
 - 3, Spirillum=5-20 polar flagella ; rigid.
 - 4, Spirochæte=no flagella ; flexible.
- 4, Chlamydothrixaceæ. Family IV.
 - 1, Streptothrix.
 - 2, Cladothrix.
 - 3, Crenothrix.
 - 4, Phragmidiothrix.
 - 5, Thiothrix.
- 5, Beggiatoaceæ. Family V.
 - Beggiatoa. Species.

4,

3,

1,

i,

6,

6, Biosphere.

1, Bacteria, Kingdom.
Family.**Structure****Forms.****morphology.****size, length, breadth, depth
weight.****colour.****Chemistry.****State what****parts, quality****differ from****the previous thus****to show how it****differentiates from****the previous.****Illustrations of****Bacteria.****State magnified so many
times.**

4,

3,

1,

1,

6,

6, Biosphere.

1, Bacteria.

Family.

Functions.

Illustrate.

State magnified so many times.

In different environment,
functions differ.

Absorbtion.

Manner of multiplication.

- 4,
- 3,
- 1,
- 1,
- 6,
- 6, Biosphere
- 1, Bacteria.

Family.

Environment

Astronomical, Lat., Lon., Time.

- 3, In lithosphere.
 - below surface,
 - on the surface,
 - wet soil,
 - floating dust,
 - decaying vegetables, carcasses (these not in biosphere).
- 4, - In hydrosphere.
 - water, . Illustrate all these.
 - rivers, running.
 - oceans, stationary.
- 5, In Atmosphere.
 - near surface,
 - distances from surface.
- 6, In Biosphere.
 - 1, In other bacteria.
 - 2, In plants.
 - 3, In animals, for instance phagocytosis where bacteria eat up cells of water flea or its cells eat up the bacteria. So including hominidæ of different ages, races, classes.
- 7, Artiosphere.
 - In nests of birds,
 - In houses, monuments,
 - For definite purposes by hominidæ to manufacture for instance,
 - Linen, jute, hemp, cocconut fibre.
 - Leather preparation.
 - Acids.
 - Yeast, beer.
 - Milk preparations.
 - Agricultural purposes.
 - Antiseptics.
 - Antitoxine.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, The Earth.
- 6, Biosphere.
- 2, Plants. Kingdom:
 - 1, Cellular Plants. Division.
 - wholly composed of cells.
 - 1, One-celled types, float freely in water. Sub kingdom
 - 1, Single mass of protoplasm. Algæ.
 - 2, hair-like water-weeds, Fungi,
Sea-weeds.
- 2, Vascular plants. Division.
 - Stemforming. Vessels and woody tissue.
 - 1, Flowerless. Sub-kingdom.
 - 2, Flowering. Sub-kingdom.
 - 1, Naked seeded.
 - Pines, firs, cypresses, yews.
 - 2, Fruit bearing,
 - herbs, shrub.
 - 1, Dicotyledons. Class.
 - 2, Monacotyledons. Class.
 - Orchides, ledges.
 - Lilies, grasses.
 - 3, Acotyledons. Class
 - propagation by spores.

- 4,
 3,
 1,
 1,
 6,
 6, Biosphere.
 2, Plants. Kingdom.
 Division.
 Sub-kingdom.
 Class.
 Order.
 Genus.
 Species.

Structure

- Forms
 Morphology.
 Size, length, breadth, depth.
 Weight.
 Colour.
 Anatomy.
 Histology.
 Tabulate what
 parts differ from the
 previous species,
 thus to show how
 it differentiates
 from the previous.

Illustrations.

- 4,
- 3,
- 1,
- 1,
- 6,
- 6, Biosphere.
- 2, Plants. Kingdom.
 - Division.
 - Sub-kingdom.
 - Class.
 - Order.
 - Genus.
 - Species.
 - Male or female.

Functions.

Physiology includes pathology also.

- 1, Digestion.
- 2, Aeration. These include
- 3, Circulation. diseases also.
- 4, Multiplication.

Illustrations.

4,
3,
1,
1,
6,

6, Biosphere.

2, Plants. Kingdom.
Division.
Sub-kingdom.
Class.
Order.
Genus.
Species.

Environment.

Illustrations.

Astronomical.

In what lat., long., time.

Solar and lunar effect on plants.

3, Lithosphere.

Geological strata,

Soil, altitude,

names of places on which the plant grows or was found.

4, Hydrosphere,

5, Atmosphere, } about water, air, and weather, climate.

6, Biosphere.

1, Bacteria, what grow in the plant for benefit and unfavourable which produces pathological state.

2, Plants, what plants grow by its side or on it and for benefit and economical purposes, and pathological.

3, Animals, what animals become of use and what parasites, insects, destroy it, or live on it, and what races or classes of hominidæ culture it produced by hybridisation and by what primitive and present manner.

7, Artiosphere. By what inventions, implements, machines, hot-houses and ferneries.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, The earth.
- 6, Biosphere.
- 3, Animals. Kingdom.
- 1, Protozoa. Sub-kingdom.

2, Cæloenterata.

3, Annuloida.

4, Annulosa.

5, Mollusca.

6, Vertebrata.

- 1, Pisces.
- 2, Amphibia.
- 3, Reptilia.
- 4, Aves.
- 5, Mammalia.

4,

3,

1,

1,

6,

3,

3, Animals, Kingdom.

Sub-kingdom

Class.

Order.

Sub-order.

Genus.

Species.

Male or female sex.

Class. In other animals than hominidæ division of labour exists. In different animals differently to tabulate classes, for instance in spider, ant, tiger, etc.

Structure.

Morphology.

Forms.

Size.

Weight.

Colour.

Anatomy.

Histology,

or in form of
tissues—

Hypoblast, inner layer of cells.

Mesoblast, the middle layer of cells.

Epiblast, the outer layer of cells.

Changes by different environment.

Tabulate what parts etc.

differ from the previous
species, and thus show how it
differentiates from the previous
species,

From Protozoa to Vertebrata,
up to hominidæ go on tabulating.

Illustrations.

4.
3.
1.
1.
6.
6.

3, Animals. Kingdom.
Sub-kingdom.
Class.
Order.
Sub-order.
Genus.
Species.
Male or Female.
Class.

Functions.

- 1, Digestion.
- 2, Aeration.
- 3, Circulation. Diseases included.
- 4, Multiplication.
- 5, Mental.

1, Feelings.

- 1, of harmony.
 - 1, Pleasure positive, Too much excitation.
 - 2, Pleasure negative, diminution of expenditure.
- 2, of discord.
 - 1, Pain negative, insufficient accumulation.
 - 2, Pain positive, too much expenditure.

2, Emotions.

- 1, Hope.
 - 1, Amity—social—love, affection.
- 2, Fear.
 - 2, Enmity—anti-social despondency, anger, hatred.

3, Sentiments.

- 1, Aesthetic.

4, Perception.

- 1, 1 Touch, 2 taste, 3 smell, 4 hearing, 5 sight.
- 2, 1 position, 2 magnitude, 3 direction, 4 distance.
- 3, 1 of solids, 2 of liquids, 3 intuition of things.

5, Ideas.

6, Actions.

- 1, Varieties of actions.
 - 1, Eating.
 - 2, Sexes—firting, etc.
 - 3, Creeping, trunk-moving, swimming.
 - 4, Limbs, legs, hands, walk, run.
 - 5, Flying.
- 2, Kinds of actions.
 - 1, Random.
 - 2, Sensory motor.
 - 3, Aesthetic-motor in feelings, pleasure or pain.
 - 4, Impulsive and instinctive.
 - 5, Ideo-motor.
 - 6, Inimitative.
 - 7, Voluntary.
- 3, Particular actions.
 - 1, Fighting.
 - 2, Subjugating.
 - 3, Mimicrying.
- 4, Special actions, differentiating into division of labour

4,

3,

1,

1,

6.

6,

3, Animals, Kingdom.

Sub-kingdom.

Class.

Order.

Sub-order.

Genus.

Species.

Male or female.

Environment.

Astronomical.

Lat., long., time.

Sun, lunar, etc., influences.

3, Lithosphere.

geological strata, soil,

Altitude.

names of the places on which
the animal is found.

Illustrations.

4, Hydrosphere, about water, air and weather, climate,
of where animal lives.

5, Atmosphere.

6, Biosphere—

1, Bacteria—what bacteria are of use and what injure it
(pathology).2, Plants—on what plants it lives, and grows by the side, and
injures it.3, Animals—what animals help, and what are not beneficial
and kills it, what races, classes, used and uses
it as domestic animal or for eating, milking, for
skin, wool, hunting.7, Artiosphere—what and how artificial things they used and use,
nests, mounds, dams, habitations, other articles,
stable, cages, harness.

4,

3,

1,

1,

6,

6,

3, Animal.

A specimen about a fossil.

6, Vertebrata.

5, Mammalia.

5, Cetacea.

Ichthyosaurus. (1)

A dragon of the Prime. (1)

Structure.

20 feet in length, the head

2 feet across, and 3 feet

10 inches long : (1)

The paddles are unusually dis-

tinct, the front pair 2 feet

6 inches, the hind pair 1

foot 8 inches in length (1)

The tail is abruptly curved,

and some of the lumbar

vertebræ are slightly dis-

placed. The pelvic ring is

missing, removed, perhaps,

before the nature of the find

was guessed, and still to be

recovered. (1)

Colour illustrations

of the fossil.

Functions.

guessed to arrange.

- (1) See *Nature* of September 1, 1898. "A Dragon of the Prime." In the report of the Rugby School Natural History Society for 1899, an excellent plate of the skeleton will be found, see "Notes" in *Nature* of April 5, 1900.

4,

3,

1,

1,

6,

6,

3, Animal.

6, Vertebrata.

5, Mammalia.

5, Cetacea.

Ichthyosaurus. (1)

A Dragon of the Prime. (1)

Environment

3, Lithosphere.

The Saurian.

Lower middle lias.

Fossils, 45 feet

below the surface. (1)

Europe, England,

The little Warwick-
shire village of

Stockton. (1)

A specimen.

Colour illustrations
of the place where the
fossil is found.

- 4, Stars.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, Earth.
- 6, Biosphere.
- 3, Animals.
- 6, Vertebrata.
- 5, Mammalia,
- 16, Primates.
- 2, Anthropeidea, Sub-order.
- 5, Hominidæ, Family.

Ages.

- 1, Eolithic: Rudest massive flints from deposits 600 feet up.
- 2, Achuleen: Paleolithic massive flints from gravels 200 feet up and less.
- 3, Mansterien Paleolithic. Cave dwellers: Flints like the preceding and flakes.
- 4, Solutrien Paleolithic. Cave dwellers: Flints well worked and finely shaped.
- 5, Magdalevin Paleolithic. Cave dwellers: Abundant bone working and drawing.
- 6, Neolithic. Polished flint working pastoral and agricultural man. 1,000 years.
- 7, Copper 5,000 B.C.
- 8, Bronze, 3,000 or 2,000 B.C.
- 9, Iron, 1,000 B.C.
- 10, Steam engine.

For six periods *see* "Archæology in the Past Century" by Prof. W. M. Flinders Petrie. "The Scientific American Supplement," January 26, 1901. In writing I have made changes and added four more to explain up-to-date which students of the subject have to improve..

- 4, Star.
- 3, Sun.
- 1, Planet.
- 1, Large planet.
- 6, Earth.
- 6, Biosphere.
- 3, Animals.
- 6, Vertebrata.
- 5, Mammalia.
- 16, Primates.
- 2, Anthropeidea.
- 5, Hominidæ. Family.
- Age.
- 1, Homo Æthiopicus Races
 - 1, Soudanese.
 - 2, Bontus.
 - 3, Neigritaes.
 - 4, Bushmen.
 - 5, Hottentots.
- 2, Homo Mangolicus
 - 1, The Southern Mongols
 - 1, Badpa.
 - 2, Burmese.
 - 3, Tai-Shan.
 - 4, Giac-Shi.
 - 5, Chinese.
 - 2, Oceanic Mongols
 - 1, Malayans.
 - 3, Northern Mongols
 - 1, Mongol proper.
 - 2, Tungus.
 - 3, Korean.
 - 4, Türki.
 - 5, Finno-ugrian.
 - 6, East Siberian.
- 3, Homo Americanus
 - 1, The American Aborigines.
 - 1, North American.
 - 2, Central American.
 - 3, South American.
- 4, Homo Caucasicus
 - 1, Homo Mediterranensis.
 - 2, Homo Alpinus.
 - 3, Homo Europæus.

I have numbered all these races to explain this project, but it is left to students of the subject to improve upon them. For all these races, *see* "Men Past and Present," by A. H. Keane.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ. Family.

Age.

1, *Homo Æthiopicus*, Races most of Africa and Australasia.
1, Sudanese.

- 1, Wolof.
- 2, Mandingan.
- 3, Felup.
- 4, Timni.
- 5, Kru.
- 6, Sierra Leone.
- 7, Liberian.
- 8, Tshi.
- 9, Ewe, and
- 10, Yoruba.
- 11, Ibo.
- 12, Efik.
- 13, Bargu.
- 14, Mossi.
- 15, Sonrhay.
- 16, Hausa.
- 17, Mosgu.
- 18, Kanembu.
- 19, Kanuri.
- 20, Baghirmi.
- 21, Yedina.
- 22, Maba.
- 23, Fûr.
- 24, Nuba.
- 25, Shilluk.
- 26, Dinka.
- 27, Bari.
- 28, Abaka.
- 29, Bongo.
- 30, Janghey.
- 31, Mangbattu.
- 32, Zandeh.
- 33, Momfu.
- 34, Basé.
- 35, Barea.

- 4,
- 3,
- 1,
- 1,
- 6,
- 6,
- 3,
- 6,
- 5,
- 16,
- 2,
- 5, Hominidæ.

Age.

- 1, Homo Æthiopicus; Races most of Africa and Australasia.

2, Bantus.

- 1, Bonjo.
- 2, Baya.
- 3, Waganda.
- 4, Wanyoro.
- 5, Wapokomo.
- 6, Wagiryama.
- 7, Waswahili.
- 8, Zulu-Hosa.
- 9, Moshona.
- 10, Bechuana.
- 11, Ova-Herero.
- 12, Eski-Kongo.
- 13, Boshilange.
- 14, Balolo.
- 15, Manyuema.
- 16, Bakalai.
- 17, Fan.
- 18, Npongwe.
- 19, Dwala.
- 20, Batanga.

3, Negritoes.

- 1, Akka.
- 2, Wochua.
- 3, Dume.
- 4, Wandorobbo.
- 5, Doko.
- 6, Obongo.
- 7, Batwa.

4, Bushmen.

- 1, Family groups.

5, Hottentots.

- 1, Wasandawi.
- 2, Namaqua.
- 3, Griqua.
- 4, Gonagua.
- 5, Koragua.
- 6, Hill Damaras.

4,
3,
1,
1,
6,
6,
3,
16,
5,
6,
2,
5,

Hominidæ, Family.

Age.

2, Homo Mongolicus, Races.

1, The Southern Mongols

1, Bod-pa.

- 1, Tibetan.
- 2, Tangut.
- 3, Horsok.
- 4, Si-fan.
- 5, Balti.
- 6, Ladakhi.
- 7, Gurkha.
- 8, Bhotiya.
- 9, Miri.
- 10, Mishmi.
- 11, Abor.

2, Burmese.

- 1, Naga.
- 2, Kuki-lushai.
- 3, Chin.
- 4, Kakhyen.
- 5, Manipuri.
- 6, Karen.
- 7, Talaing.
- 8, Arakanese.
- 9, Burmese proper.

3, Tai-Shan.

- 1, Ahom.
- 2, Khamti.
- 3, Ngiou.
- 4, Lao.
- 5, Siamese.

4, Giao-Shi.

- 1, Annamese.
- 2, Cochin-Chinese.

5, Chinese.

- 1, Chinese proper.
- 2, Hakka.
- 3, Hoklo.
- 4, Pun-ti.

- 4,
3,
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1,
6,
6,
3,
6,
5,
16,
2,
5, Hominidæ. Family.
Age.
2, Homo Mongolicus, Races.
2, The Oceanic Mongols.
1, Malayans.
2, Rejangs.
3, Battas.
4, Achinese,
5, And Palembangs in Sumatra.
6, Sundanese.
7, Javanese proper.
8, Madurese in Java.
9, Dyaks in Borneo.
10, Balinese.
11, Sassaks.
12, Bugis.
13, Mangkassaras in Celebes.
14, Tagalas.
15, Bisayans.
16, Bicolis.
17, Ilocavos.
18, Pangasinanes in Philippines.
19, Aborigines of Formosa.
20, Nicobar Islanders.
21, Hovas.
22, Betsimisarakas.
23, Sakalavas in Madagascar.
24, Menangkabau (Sumatra).
25, Malay Peninsula.
26, Pinang.
27, Singapore.
28, Lingga.
29, Bangka.
30, Borneo Coastlands.
31, Tidor.
32, Ternate.
33, Amboina.
34, Parts of the Sullā Archipelago,

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ. Family.
Age.

2, Homo Mongolicus, Races.

3, The Northern Mongols.

1, Mongol proper.

1, Sharral (Eastern).

2, Kalmak (Western).

3, Buryat (Siberian).

2, Tungus.

1, Tungus proper.

2, Manchu.

3, Gold.

4, Oroch.

5, Lamut.

3, Korean Japanese and Liu-kiu.

4, Turki.

2, Yakut.

3, Kirghig.

4, Uzbeg.

5, Taranchi.

6, Karakalpak.

7, Nogai.

8, Turkoman.

9, Anatolian.

10, Osmanli.

4, Finno-Ugrian.

1, Baltic Finn.

2, Lapp.

3, Samoyad.

4, Cheremiss.

5, Votyak.

6, Vogul.

7, Ostyak.

8, Bulgar.

9, Magyar.

5, East Siberian.

1, Yakaghir.

2, Chukchi.

3, Koryak.

4, Kamachadale.

5, Gilyak.

4,
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1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ. Family.

Age.

3, Homo Americanus, Races.

1, The American Aborigines.

1, Northern America.

1, Eskimanan (Innit, Aleut, Karalit).

2, Athapascan (Kuchin, Chippewyan, Apache, Navajo).

3, Kolushan.

4, Algonquian (Delaware, Abenaki, Chippeway, Shawnee, Arapaho).

5, Sacaw Fox, Blackfoot.

6, Iroquoian (Huron, Mohawk, Tuscarora, Seneca, Cayuga, Onondaga).

7, Siouan (Dakota, Omaha, Crow, Iowa, Osage, Assiniboin).

8, Shoshoneos (Comanche, Ute).

9, Salishan.

10, Sahaptian.

11, Caddoan.

12, Muskogean (Creek, Choctaw, Chicasa, Seminole, Pueblo, Zuni, Tegu.)

13, Jemez, Moqui.

2, Central American.

1, Opatan.

2, Nahuatlhan (Aztec Pipil)

3, Huastecan (Maya, Quiché, Pocoman, Miztecan, Zapotecan.)

4, Charotegan.

5, Otomitlan.

6, Talamancan.

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5,
16,
2,

5, Hominidæ. Family.

Age.

3, Homo Americanus, Races.

1. American Aborigines

3, South American

1, Muyscan Chibcha.

2, Guechuan (guitu, Chincha, Inca, Aymara.)

3, Yuncan (Chimu).

4, Antisan.

5, Jivaran.

6, Zaparan.

7, Betoyan.

8, Warrauan.

9, Panoan.

10, Ticunon.

11, Lecan.

12, Barrean.

13, Tacanan.

14, Chiquitan.

15, Mojan.

16, Arawakan.

17, Atorai, Maypure, Wapiana, Vaura, Mabinacua, Layana.

18, Cariban (Bakairi, Nahuqua, Paonella, Galibi, Calina,
Arecuna, Macusi, Ackawoi.)

19, Guaranian (Temba, Tupi, Omagua, Mundrucu.)

20, Gesan (Botocudo, Camacan).

21, Charruan.

22, Mataguyan.

23, Lulean.

24, Toban.

25, Mocabian.

26, Araucan.

27, Puelchean (Pompas).

28, Tehuelchean.

29, Fuegian.

30, Yahgan, Alacaluf.

4,
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6,
3,
6,
5,
16,
2,

5, Hominidæ. Family.

Age.

4, Homo Caucasious, Races.

1, Homo Mediterranensis.

1, Most Iberians.

2, Corsicans.

3, Sards.

4, Sicilian.

5, Italians.

6, Greeks.

7, Berbers and other
Hamites.

8, Arabs and other
Semites.

9, Some Hindus.

10, Dravidas.

11, Todas.

12, Ainus.

2, Homo Alpinus.

1, Most French and
Welsh.

2, South Germans.

3, Swiss and Tyrolese.

4, Russians.

5, Poles.

6, Chekhs.

7, Yago-Slavs

8, Some Albanians and
Rumanians.

9, Armenians.

10, Many Kurds.

11, Tajiks (East
Persian).

12, Galchas.

13, Indonesians.

3, Homo Europæus.

1, Scandinavians.

2, North Germans.

3, Dutch.

4, Flemings.

5, Most English.

1. Anglo-American.

2, Anglo-Australasians.

3, Anglo-Indian.

Eurasians.

4, Anglo-African.

6, Scotch.

7, Irish.

8, Dutch of South Africa.

9, Thrako-Hellenes.

10, Some Kurds.

11, Most West Persians.

2. Parsis of India.

12, Afghans.

13, Dards and Siah-post Kafirs.

14, Many Hindus.

4,
3,
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6,
3,
6,
5,
16,
2,
5,

Further discoveries may fix regulative before
Industrial divisions of labour were formed.
Thus hunters, warriors, or soldiers.

5, Hominidæ. Family.

Age.

Race.

Male, female, or child.

- 1, Industrial Classes. Actions or movements special are considered into classes. In different animals differently to tabulate classes for instance in spider, ant, tiger hominidæ.
 - 1, Producers or Artisans.
 - 2, Rearers that is agriculturists, etc.
 - 3, Distributors, includes fairs, markets, exhibitions, shops, hawkers, merchants, carriers—telegraphing, post, telephone agencies, from pilgrimage travelling resulted therefore, travellers may be arranged after ecclesiastical.
 - 4, Exchangemen. Bankers.
- 2, Regulative.
 - 1, Parents.
 - 2, Patriarch.
 - 3, Communal head.
 - 4, Head of a guild.
 - 5, Hunters' head.
 - 6, Head warrior.
 - 7, Head chief.
 - 8, King.

Heads of departments foreign, revenue, judicial.
 - 9, Compound political heads,
 - 10, Oligarchy.
 - 11, Presidents.
- 3, Consultatives.
- 4, Representatives, have special actions therefore I separate here as classes.
- 5, Ecclesiastical.
- 6, Professional. See Professional Institution by Spencer for genesis, I number them and special students have to improve:

1, Physicians.	11, Men of letters.	
2, Surgeons.	1, Essayists instructive.	
3, Dancers.	2, „ humorous.	15, Lawyers.
4, Musicians.	3, Novelists.	16, Teachers.
5, Orator.	12, Scientists.	17, Painters.
6, Poet.	13, Philosophers.	18, Architects.
7, Actor, Buffoons.	14, Judges.	19, Sculptors.
8, Dramatist.		
9, Biographer.		
10, Historians.		

3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ Family.

Age.

Race.

Male or female.

Class.

Structure.

Morphology,

forms, size,

weight,

colour,

Anatomy,

histology,

Anthropometric observations.

or in forms of tissues.

Hypoblast, inner layer of cells.

Mesoblast, the middle layer of cells.

Epiblast, the outer layer of cells.

tabulate what parts, etc., differ

from the previous one and of

previous age, race, class,

and show how it

differentiates from the

previous one if required.

Illustrations.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,

2,
5, Hominidæ. Family.

Age.

Race.

Male or female.

Class.

Functions.

1, Digestion. Diseases included.

2, Æration.

3, Circulation.

4, Multiplication.

5, Mental.

1, Feelings.

2, Emotions.

3, Sentiments.

4, Perceptions.

5, Ideas.

6, Actions.

1, Varieties of actions.

2, Kinds of actions.

3, Particular actions.

4, Special actions, differentiating into division of labour and differentiating into Classes.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ. Family.

Age.

Race.

Female or male. .

Class.

Function

1, Digestion.

For each class of a race of an age, may be stated, if necessary, there is no need for all.

For individual if necessary,
so for

2, Ærations,

so for

3, Circulation,

so for

4, Multiplication.

Different statement for different classes.

so for

5, Mental.

1, Feelings.

2, Emotions.

3, Sentiments.

4, Perceptions.

5, Ideas.

6, Actions.

1, Varieties of actions.

2, Kinds of actions.

3, Particular actions.

4, Special actions.

Illustrations.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ. Family.

Age.

Race.

Male or female.

Class.

Function.

5, Mental. Cerebral physiology or phrenology, psychology.

1, Feelings.

1, of harmony

1, Pleasure positive, too much excitation.

1, Pleasure of sexes.

2, Pleasures of movements in games, running.

2, Pleasure negative, diminution of expenditure,

1, sickness to health, etc.

2, of discord.

1, Pain negative, insufficient accumulation.

1, Thirst, hunger, pain of temperature, fatigue.

2, Pain positive, too much expenditure.

2, Emotions.

1, Hope.

1, Amity—social.

Love, affection, patriotism, admiration.

2, Fear.

1, Enmity—anti-social.

hate, anger, dislike.

3, Sentiments.

Æsthetic, Intellectual.

2,

4. Perceptions. To be arranged
in order of evolution.

1,

1, touch.

2, taste.

3, smell.

4, hearing.

5, sight.

1, position.

2, magnitude.

3, direction.

4, distance.

3,

1, of solids.

2, of liquids.

3, intuition of things.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ. Family.

Age.

Race.

Male or female.

Class.

Function.

5, Mental.

- 5, Ideas, these to arrange and number in order of genesis. When about separating each set of ideas, natural-history of certain set, say legal ideas, and so on will be separated from this nature-history project.
- 1, Inanimate.
 - 2, Animate.
 - 3, Sleep, dreams.
 - 4, Swoon, apoplexy, catalepsy, ecstacy, other forms sensibility,
 - 5, about death, resurrection.
 - 6, Souls, ghosts, spirits, demons, etc.
 - 7, Another life.
 - 8, Another world.
 - 9, Supernatural agents.
 - 10, " " " as causing epilepsy and convulsive actions, delirium and insanity, disease, and death, ideas about.
 - 11, Inspiration, divination, exorcism, and sorcery.
 - 12, Ancestors, ghosts (worship into actions not here.)
 - 13, Ideas about idols (" ")
 - 14, Ideas about fetich, and ideas about,
 - 15, Animal ghost,
 - 16, Plant ghost,
 - 17, Nature as soul or spirits.
 - 18, Ideas of deities, angels.
 - 19, Primitive history or epics, mythology.
 - 1, Folklore.
 - 2, Myths, nature-myths.
 - 3, traditions down by memory for ages, before writing comes or oral legends.
 4. Epical ideas and epic poems.

Genesis of these ideas are given by Herbert Spencer in his "Principles of Sociology," 1 vol. I number these, but it is for special students to do correctly.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,

2,
5, Hominidæ Family.

Age.

Race.

Male or female.

Class.

Function.

5, Mental.

5, Ideas.

21, Histories.

22, Legal ideas.

23, Theology.

24, Metaphysical.

25, Philosophical.

26, Ethical.

27, Grammatical.

28, Logical.

29, Mathematical, these should precede in order of history but simple

30, Ideas scientific.

31, Ideas about producing things, producer's.

32 ,, ,, rearing, rearer's.

33 ,, ,, distributing, merchant's.

34 ,, ,, banking, exchanging, financing.

Ideas about medicines, teaching, all these able students may arrange.

I arrange these simply to state, but it is for special students to arrange correctly.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, **Hominidæ Family.**

Age.

Race.

Female or male.

Class.

Function.

5, Mental.

6, Actions.

1, Varieties of actions.

1, Eating.

2, Sexes movements flirting etc.

3, Creeping.

4, Limb moving.

Leg and hand, walking, running, smartness or slow
coach, etc.,

Swimming.

5, Flying.

7, Voice producing.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,

2,

5, Hominidæ Family.

Age.

Race.

Male or female.

Class.

Function.

5, Mental.

6, Actions.

2, Kinds of actions.

1, Random movements as new born infants make.

2, Sensory-motor, movements, excitement of some form of sensation, as bright light, causes or almost turn-head.

3, Æsthetic-motor in feelings, pleasure or pain.

4, Impulsive and instinctive movements.

5, Idea-motor movements, by ideas.

6, Imitative movements.

7, Voluntary movements.

For "Kinds of Movements," see Ladd.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,
2,

5, Hominidæ, Family.

Age.

Race.

Female or male

Class.

Function.

5, Mental.

6, Actions.

3, Particular actions found in all classes to be numbered in order of history by students correctly.

1, Fighting. } persons of different classes differ in

2, Subjugating. } fighting and subjugating.

3, Domestic relationing.

4, Mimicrying.

1, Clothing—dressing, toileting.

5, Trophy taking.

1, Clothing—covering.

6, Mutilating.

7, Presenting.

8, Visiting.

9, Respecting—Obeisanceing, kissing, embracing.

10, Addressing.

11, Distinguishing by titles.

12, Classes distinguishing.

13, Fashion making.

14, Habit, customs, bathing, club going, evening walk, etc.

15, Playing.

16, Sacrificing.

17, Fasting.

18, Propitiating.

19, Praising.

20, Prayer.

21, Worshipping.

See Classes.

For producing, rearing, distributing, exchanging,

Regulating, and professional actions as these are

all specialized actions are considered as classes, see page 48.

- 1
1,
6
6,
3,
6,
5
16
2,
5, Hominidæ. Family.
Age.
Race.
Male or female
Class.
Environment.
Astronomical.
Lat., Long., Time.
Sun, Lunar, etc., influences.
- 3, Lithosphere.
geological strata, soil.
altitude.
names of the places on which hominidæ is found.
- 4, Hydrosphere about water, air, weather, climate, of where the hominidæ lives.
- 5, Atmosphere.
- 6, Biosphere.
1, Bacteria—what are of use and what injure and produce diseases.
2, Plants—on what plants it lives, and what grows on the soil where he lives.
3, Animals—what animals, eats, kills, for different purposes, and what are injurious, and as domestic animals used for play.
- 7, Artiosphere.
1, Implements.
2, Coverings.
3, Habitations.
4, Structure over corpses.
5, Stool, stand, chairs.
6, Articles to hold.
7, Fire.
8, Cut or cooked food.
9 Medicines.
10, Stationery.
11, Land works. 13, Floats.
12, Vessels. 14, Currency.

4,
3,
1,
1,
6,
6,
3,
6,
5,
16,

How to tabulate and illustrate
hominidæ of Eolithic age.

2,

5, Hominidæ family.

1, Eolithic. Age.

No Race.

Male or female not yet separated from fossil finds.

No classes or division of labour yet known.

Structure

State anything discovered.

About Eolithic age hominidæ

Illustrations.

So for

Functions,

and so for

Environment.

7, Artiosphere about

Implements found, etc.

Illustrations.

So go on doing for all

Ages, races, classes,

Up to date of

Present savages and

Civilized races.

English, Americans, &c.

- 4,
- 3,
- 1,
- 1,
- 6,
- 6,
- 3,
- 6,
- 5,
- 16,

For Englishmen.

- 2,
- 5, Hominidæ, Family.
- 9, Iron Age.
- 4, Homo Caucasicus Races.
- 3, Homo Europæus.
- 5, Most English.
- Male, female or child.
- 1, Industrial Class.
- 1, Producers.

Structure.

From census to give numbers of different classes of producers and so on of all classes, then structure,

Functions and Environment.

4,	
3,	
1,	
1,	
6,	
6,	
3,	First Englishmen came to India as merchants
6,	and the history begins of Englishmen in India.
5,	
16,	
2,	
5,	Hominidæ Family.
9,	Iron Age.
4,	Homo Caucasicus Races.
3,	Homo Europæus.
5,	Most English.
3,	Anglo-Indian.
	Male. Sex.
1,	Industrial Class.
3,	Distributors.
	Merchant. Illustrations.
	Structure.

- 4, Stars. How and where to tabulate artificial things
 3, Sun. was stated in previous pages about animals,
 1, Planet. here I state how and where to tabulate them
 in a separate sphere which they create.
 1, Large planet. I name 7th Artiosphere.
 6, Earth.
- 7, Artiosphere= All artificial things which are also entirely
 natural things, they exist or came to be
 after 6 Biosphere.

1, Implements, Kingdom.

- 1, Weapons, Sub-kingdom.
 2, Tools for Industry.
 3, Machines.
- 2, Coverings.
 3, Habitations.
 4, Structures over corpses.
 5, Articles to rest, for instance, stand, chairs, &c.
 6, Articles to hold, for instance, box, cupboards, &c.
 7, Fire.
 8, Cut food and cooked food.
 9, Medicines.
 10, Stationery.
 11, Land works.
 12, Vessels, for instance, baskets, pottery, glasses, dishes, &c.
 13, Floats.
 14, Currenoy—coins, etc.

4, Stars.

3, Sun.

1, Planet.

1, Large planet.

6, The Earth.

7, Artiosphere = All artificial things which are also entirely natural things, they exist or came to be after 6 Biosphere.

..... Kingdom.

.... Sub-kingdom.

..... Class.

..... Order.

..... Sub-order.

..... Genus.

..... Species.

Structure.

Forms.

Size, Length.

Broad.

Depth.

Weight.

Colours.

.State how a thing .

differs from the previous.

Illustrations.

4,
3,
1,
1,
6,
7, Artiosphere.

..... Kingdom.
 Sub-kingdom.
 Class.
 Order.
 Sub-order.
 Genus.
 Species.

Functions or how and who used.
 (For instance) how clothing worn or used. Painting of body for what purposes—religious, protection, decoration. Painting how enjoyed, that is, their purpose here as function.

As used by and for such a purpose and thus how other new inventions result, that is, new generations of an artificial thing, that is multiplication, heredity and it goes on changing into structure, according to use by different classes, of hominidæ, that is, different environment.

4,
3,
1,
1,
6,
7,

7, Artiosphere.

- Kingdom.
- Sub-kingdom.
- Class.
- Order.
- Sub-order.
- Genus.
- Species.

Environment.

Astronomical.

Lat. Long.

Time.

Sun, Lunar, etc., influences.

3, Lithosphere.

Geological strata, soil.

Altitude.

Names of the places on which things are found.

4, Hydrosphere about water, air, weather.

5, Atmosphere climate, of where the things exist.

6, Biosphere.

- 1, Bacteria—what are of use and what injure the thing.
- 2, Plants—On what plants it depends, and what grows on the soil where it exists.
- 3, Animals—what animals, improves, makes, for different purposes, and what are injurious.

7, Artiosphere.

- 1, Implements.
- 2, Coverings.
- 3, Habitations.
- 4, Structures over corpses.
- 5, Stool, stand, chairs.
- 6, Articles to hold.
- 7, Fire.
- 8, Cut or cooked food.
- 9, Medicines.
- 10, Stationery.
- 11, Land works.
- 12, Vessels.
- 13, Floats.
- 14, Currency.

- 4,
 3,
 1,
 1,
 6,
 7, Artiosphere.
 4, Structures over corpses. Kingdom.
 3, Cromlechs Sub-kingdom.
 1, Class.
 2, Order.
 Museums Sub-order.
 For relics of renown persons.
 Victoria Memorial Hall.
 Function, how and who used.
 How and how many visits
 if to record record here, and
 what it instructs.

4,

3,

1,

1,

6,

7, Artiosphere.

4, Structures over corpses. Kingdom.

3, Cromlechs..... Sub-kingdom.

1, Class.

2, Order.

Museums Sub-order.

For relics of renown persons.

Victoria Memorial Hall.

Environment.

Lat. Long.

1901

3, Lithosphere.

Calcutta, India.

4,

5,

6, Biosphere.

1, Bacteria, what injures the works, and painting.

2, Plants.

3, Animals, what parasites injures, what hominidæ produces,
visits, takes care. Committee^o that looks after,
how Lord Curzon invented it, opens it.

7, Artiosphere.

1, what new implements employed.

2,

3,

4,

7, Fire. How it is lit up.

8, Cooked food. Restaurants.

9,

10,

11, Land works, what alterations in ground, in roads,
around and streets.

12,

13,

14, What entrance fee arranged.

INVESTIGATING
OR
SORTING TABLES
FOR
SEPARATING DIFFERENT SUBJECTS.

It is a pleasant pastime to separate special subjects from all sources or publications. Some gather together stamps of all governments etc., but instead of wasting money and time if they undertake to gather information of one subject from all sources and arrange them in order of time in the form of tables with authorities they will acquire certain useful knowledge or science and entertain themselves, and it will be a pleasant occupation, and will help compiling the Descriptive Defining Nature-History Tables, Illustrated, also. And when done so by specialists for their special subjects, ultimately this Investigating or Sorting Tables will take the place of tax books for all subjects.

To give an idea of Investigating Tables for physics, see page 70. So on for anatomy, physiology, including embryology, pathology go on separating about each tissue say epiblast, nerve-cells, etc., and so of their functions separately—digestion, circulation, ideas-metaphysical, physiological, mechanical, chemical. So on for students of logic, they have to separate from the first, ideas logical of Egyptians, Grecians, Persians, Indians, Germans, of English and American logicians. That is to say all logicians' ideas—logical are collected with their originators' names. For law they have to go on collecting ideas legal of all peoples up to present times of lower and higher races. So of finance, and political economy. Sports—games in-door and out-door to compile separately. So on of teachers, and that is separate actions of teaching, so natural-history of education is made, there are so many animals those who teach and in hominidæ now a class is formed of teachers, and varieties of teachers of so many subjects—law, music, sports. Thus natural-history is separated and tabulated, of each subject from nature-history of them.

- 1, Matter or Motion.
 - 1, Masses (mechanics).
 - 1, In equilibrium relatively to other masses.
 - 1, Solids (Statics.)
 - 2, Fluid (Hydrostatics.)
 - 2, Not in equilibrium relatively to other masses.
 - 1, Solid (Dynamics.)
 - 2, Fluid, (Hydrodynamics.)
 - 2, Molecules (Molecular mechanics)
 - 1, In equilibrium (Molecular Statics.)
 - 1, Statical properties of matter.
 - 1, General, as impenetrability or space-occupancy.
 - 2, Special, as the forms resulting from molecular equilibrium.
 - 2, Statico-dynamical properties of matter (1, Cohesion, 2 Elasticity, etc.)
 - 1, when solid.
 - 2, when liquid.
 - 3, when gaseous.
 - 2, Not in equilibrium (Molecular Dynamics.)
 - 1, Changed distribution of molecules.
 - 1, which alters their relative positions homogeneously.
 - 1, Causing increase of volume.
 - 1, Expansion, 2, liquefaction, 3, evaporation.
 - 2, Causing decrease of volume (1, condensation, 2, solidification, 3, contraction.)
 - 2, which alters their relative positions heterogeneously (Chemistry).
 - 1, Producing new relations of molecule (new compounds).
 - 2, Producing new relations of molecular motions (new affinities).
 - 2, Changed distribution of motions of molecular motions
 - 1, By integration, generates sensible motion.
 - 2, By disintegration generates insensible motion, under the Forms of Heat.
 - Light.
 - Electricity.
 - Magnetism.
 - Rontgen Rays.
 - Herty's.
 - 3, Corpuscle $\frac{1}{1000}$ of an atom.

Different students may arrange these research tables as they like. This Tabulation is to show how to arrange these research tables for physical subjects.

N.B.—This classification coincides with the table for "Abstract-Concrete Science" in the Essay on "the Classification of the Sciences" in the Essays, Vol. III., Herbert Spencer.

- 1, Matter or motions.
- 2, Molecules.
- 2, Not in equilibrium.
- 2, Changed distribution of motions of molecular motion.
- 2, By disintegration generates insensible motion, under the forms
of heat.

Heat rays twice the length of $\frac{1}{63000}$ part of an inch.

Then go on arranging about

Heat that is thermological tables.