

© 1980

by Encyclopædia Britannica, Inc.  
Copyright under International Copyright Union  
All rights reserved under Pan American and  
Universal Copyright Conventions  
by Encyclopædia Britannica, Inc.

Printed in U.S.A.

Library of Congress Catalog Card Number: 78-75143  
International Standard Book Number: 0-85229-360-7

---

No part of this work may be reproduced or utilized  
in any form or by any means, electronic or mechanical,  
including photocopying, recording,  
or by any information storage and retrieval system,  
without permission in writing from the publisher.

ENCYCLOPÆDIA  
BRITANNICA



PROPÆDIA



The New  
Encyclopædia  
Britannica

PROPÆDIA

---

Outline of Knowledge  
and  
Guide to the Britannica



# The circle of learning

"The alphabetical system of arrangement," observed the Editors of the Eleventh Edition of the *Encyclopædia Britannica* (1910–11), "with its obvious advantages, necessarily results in the separation from one another of articles dealing with any particular subject." The addition of an alphabetical index can do no more than give the reader "assistance in obtaining information under headings which are not themselves the titles of articles in the Encyclopædia." Consequently, "the student who desires to make a complete study of a given topic must exercise his imagination if he seeks to exhaust the articles in which that topic is treated." This result is certainly a serious defect in the system for anyone who feels—as did the Editors of the Eleventh Edition—that an encyclopædia should not be merely a "storehouse of facts," but should also be "a systematic survey of all departments of knowledge." To remedy this defect, the Editors constructed a "Classified Table of Contents," which they believed to be "the first attempt in any general work of reference at a systematic subject catalogue or analysis of the material contained in it."

Remarkable as it was at the time, this Table of Contents did not fully succeed in achieving its objective of overcoming the defects of an alphabetical organization of encyclopædic articles by means of a topical presentation of their content. A quick glance at the twenty-four major categories into which the Table of Contents was divided will reveal that the alphabet was still the thread on which the parts were strung: I. Anthropology and Ethnology; II. Archaeology and Antiquities; III. Art; IV. Astronomy; V. Biology; VI. Chemistry; VII. Economics and Social Science; VIII. Education; IX. Engineering; X. Geography; XI. Geology; XII. History; XIII. Industries, Manufactures and Occupations; XIV. Language and Writing; XV. Law and Political Science; XVI. Literature; XVII. Mathematics; XVIII. Medical Science; XIX. Military and Naval; XX. Philosophy and Psychology; XXI. Physics; XXII. Religion and Theology; XXIII. Sports and Pastimes; XXIV. Miscellaneous. In each of these categories, the only further subdivisions involved the distinction of general from particular subjects, and the distinction of both of these from biographical entries. Under each of these headings, titles of the encyclopædia's articles were listed in strictly alphabetical order.

In planning this Fifteenth Edition of *Encyclopædia Britannica*, the present Editors, while deciding to retain the alphabetical ordering of the articles themselves, as printed in the set, sought to improve upon the effort their predecessors had made to overcome the defects of an alphabetical organization by giving the reader a truly topical, and totally nonalphabetical, Table of Contents. It would serve

the purpose that the Editors of the Eleventh Edition had in mind, which was to enable the reader to "make a complete study of a given topic"—that is, a department of knowledge or field of learning.

It may be asked why it was not thought better to abandon the alphabetical principle entirely and construct a purely topical encyclopædia, in which all the articles would be assembled, volume after volume, according to some general schema for the organization of human knowledge. The answer is two-fold. First, a purely topical organization of the articles themselves cannot avoid the appearance of a certain tendentiousness or arbitrariness in the editorial commitment to one rather than another organizing schema or set of principles. The reader is, therefore, provoked to ask: Does this order, volume by volume, and article by article, reflect the only right or proper exposition of the whole of human knowledge?

Second, a purely topical encyclopædia provides its readers with only one mode of access to its contents. This may be alleviated somewhat, perhaps, by the addition of an alphabetical index; but an index, by its very nature, serves the purpose of enabling the reader to look up *particular* items of information; it does not provide a general and systematic mode of access to the contents of the encyclopædia.

The basic plan of the new *Britannica*, therefore, aims to give its readers access to its contents by both the topical and the alphabetical mode. General and systematic topical access is provided by the Outline of Knowledge contained in this volume, called the "Propædia" because it is a kind of preamble or antechamber to the world of learning that the rest of the encyclopædia aims to encompass. Alphabetical access is provided not only by the alphabetical ordering of the long articles in the *Macropædia*, but also by the shorter entries in the *Micropædia*, which are likewise arranged alphabetically.

Unlike the Classified Table of Contents in the Eleventh Edition, which was alphabetically organized by categories and subjects, the Outline of Knowledge in this Fifteenth Edition is a purely topical presentation of the contents of the articles in the *Macropædia*. It is, therefore, reasonable to ask how such a purely topical outline of encyclopædic content avoids the tendentiousness or arbitrariness that is attributable to an encyclopædia in which the articles themselves are topically rather than alphabetically arranged. Does not the Outline of Knowledge here presented reflect, perhaps even conceal, a commitment to one set of organizing principles *rather than another*? Does it not embody biases or preconceptions that are not universally acceptable?

It is hardly possible to say "No, not at all" to these

questions. Two points, however, can be made affirmatively that tend to reduce or alleviate whatever degree of arbitrariness remains unavoidable in a topical outline of the whole of human knowledge. One is that the Outline of Knowledge, while conceived by the Editors, was constructed and corrected in the light of detailed recommendations, directions, and analytical contributions from scholars and experts in all the fields of knowledge represented. A list that includes the advisers who worked with the Editors in the construction of the Outline of Knowledge follows Part Ten of the *Propædia*.

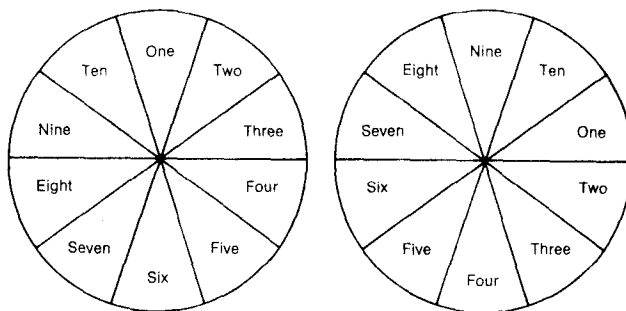
The second point is that the Outline of Knowledge is conceived as a circle of learning. To say that the contents of an *en-cyclo-pædia* form a circle of learning is more than a literal transliteration from Greek to English. In Greek or English, reference to the circle introduces a powerful metaphor, the understanding of which should help the reader to overcome whatever arbitrariness still resides in the Outline of Knowledge in spite of determined efforts on the part of all concerned to minimize this defect. A circle is a figure in which no point on the circumference is a beginning, none is a middle, none is an end. It is also a figure in which one can go from any point, in either direction, around the circumference; in addition, one can go across the circle from any point to any other; or, by any number of transecting lines, starting from a given point, one can go to any number of other points on the circumference, near or far.

The ten parts into which the Outline of Knowledge is divided are disposed not along a finite straight line beginning at this point and ending at that; they are disposed rather as segments of the circle. While it is true that, in this arrangement, one part may lie next to another and at some distance from still another, it is also true that, since the circle can rotate around its axis, any one of the ten parts may be regarded as standing at the top of the circle, or at the left or right side of it, or at the bottom. In other words, with the circular arrangement of the parts, and with the rotation of the circle, the reader can begin anywhere in the circle of learning and go from thence to adjacent parts around the circle; or, moving along interior transecting lines, he can go from any part across the circle to parts that are not adjacent on the circumference.

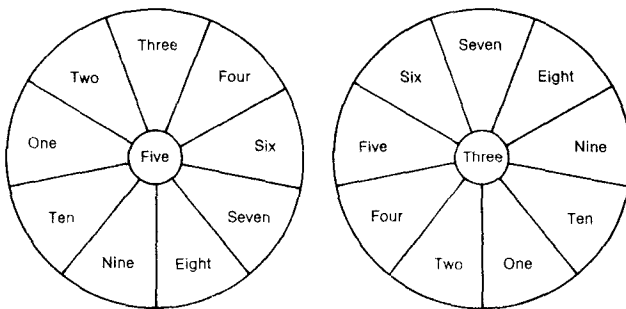
This view of the Outline of Knowledge can be represented in a number of diagrams. The first pair of diagrams shows the ten parts of the outline as segments of the circle. (For a synopsis of the subject matter covered in each part, and its various divisions and sections, the reader is referred to the Table of Contents set forth on pages 10–16 of this volume. The titles of the ten parts are given in the box below.)

Part One. Matter and energy	Part Seven. Technology
Part Two. The Earth	Part Eight. Religion
Part Three. Life on Earth	Part Nine. The history of mankind
Part Four. Human life	Part Ten. The branches of knowledge
Part Five. Human society	
Part Six. Art	

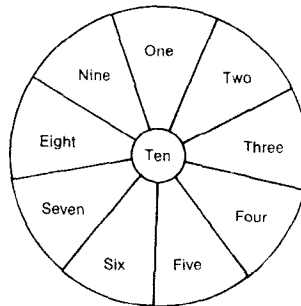
In the first pair of diagrams, below, Part One is placed at the top of the diagram to the left, and Part Nine is at the top of the diagram to the right, to illustrate the effect achieved by rotating the circle.



The second pair of diagrams, following, places one of the ten parts at the centre of the circle with the remaining nine parts as segments of the circle formed by lines radiating from the centre. The point being made here is that any part can occupy the central position—the place in the circle of learning at which one begins, going thence in all directions to the remaining nine parts. To illustrate this, Part Five occupies the centre in the diagram to the left; Part Three, the centre in the diagram to the right.



Finally, the diagram below offers still another approach to the circle of learning. In this diagram, Part Ten occupies the central position; and here there is only one diagram rather than a pair of diagrams because the reason for placing Part Ten in the central position applies to it alone and to none of the other nine parts.



The reason for this special placement of Part Ten stems from the one organizing principle to which the Editors were explicitly committed in planning and producing this new *Britannica*. Briefly stated, that principle involves a distinction between (a) what we know about the world of nature, of man and society, and of human institutions by means of the various branches of learning or depart-

ments of scholarship; and (b) what we know about the branches of learning or departments of scholarship—the various academic disciplines themselves. For the most part—there are a few exceptions—Parts One through Nine represent man's knowledge of nature, of man and society, of human institutions, and their history. In clear contradistinction, Part Ten mainly covers the disciplines themselves—the branches of knowledge or fields of scholarship—by which man inquires into, thinks about, or comes to have knowledge of the world in which he lives. Part Ten examines the nature, methods, problems, and history of the various branches of knowledge or scholarly disciplines, the actual content of which is set forth in Parts One through Nine.

Thus, for example, Section 10/34 in Division III of Part Ten examines the nature, methods, problems, and history of the biological sciences; but the knowledge of life that the biological sciences afford is outlined in Part Three. Or, to take another example, Section 10/41 in Division IV of Part Ten examines historiography and the study of history; but the actual history of mankind, achieved by the methods of historical inquiry, is outlined in Part Nine.

There are, however, three departments of learning that are exclusively treated in Part Ten—both with regard to the nature and history of the disciplines themselves and also with regard to the knowledge or understanding afforded by these disciplines. They are logic (in Division I of Part Ten), mathematics (in Division II), and philosophy (in Division V). The reason for this exceptional treatment of these three disciplines is given in the Introductory Essay to Part Ten.

The special character of Part Ten thus explains the diagram in which it occupies the centre of the circle of learning, but that must not be interpreted as attributing prime importance to it. This diagram simply indicates the special function Part Ten performs in relation to the other parts. It alone stands in close relation to all the rest; there are varying degrees of relatedness among the other parts. For example, Parts Three and Four, dealing with Life on Earth and with Human Life, are closely related; Parts Four and Five, dealing with Human Life and with Human Society, are also closely related; but Part Four has a different relatedness to Part Three, on the one hand, and to Part Five, on the other. In the presentation of the Outline of Knowledge, the headnotes and the cross-references give the reader an indication of these interrelationships.

Anyone who is in a position to compare the classified list of articles in the Eleventh or even the Fourteenth Edition with the Outline of Knowledge will be persuaded, the Editors think, that whereas the immediately preceding editions of *Britannica* represented a 19th- and early 20th-century view of the state of human knowledge, the new *Britannica*, in its Fifteenth Edition, is an encyclopaedia that reflects the many changes and innovations in man's knowledge and understanding that are emerging at the end of this century and will continue into the next.

The reader's attention should be called to two further

points about the Outline of Knowledge. The first is that it serves as a table of contents only for the 4,207 longer articles in the 19 volumes of the *Macropædia*. It does not cover or refer to the shorter entries in the 10 volumes of the *Micropædia*, or *Ready Reference and Index*. Those ten volumes should always be consulted first if the reader wishes to look up any *specific* point of information by alphabetical means. As indicated in the explanation of how to use the *Propædia*, which follows, the Outline of Knowledge in this volume should be consulted for a different purpose—not to look up a specific point of information which can be found by alphabetical means, but to study a whole segment of human knowledge, or to examine a field of learning, which is here topically outlined so that the reader can discover what he can learn from *Britannica* about that area of knowledge.

The second point to be mentioned is, in the view of the Editors, of singular importance, for it distinguishes the Fifteenth Edition of *Britannica* from all preceding editions. The Outline of Knowledge presented in this *Propædia* volume, which serves as a topical survey of the contents of the articles in the *Macropædia*, was constructed *before* those articles themselves were named, outlined, commissioned, written, and edited. The outline served as the basis for determining what articles should be written, what their scope should be, how they should be related to other articles, and so on. It was, therefore, in origin a table of *intents* rather than a table of *contents*. It represented the intentions of the Editors in laying down a comprehensive plan for producing a new encyclopaedia, appropriate to the state of human knowledge and learning at the end of the 20th century and looking forward to emergent developments in the century to follow. What was originally, or in the planning stage of the work, a Table of Intents, then subsequently became, after the writing and editing of the articles was completed, a Table of Contents that tries to reflect accurately and faithfully the actual content of the articles. In many cases, the articles departed from the original outline and the outline was therefore revised to accord with the improvements of it by the contributors of those articles.

All preceding editions of *Britannica*, as most other encyclopaedias, have been constructed from classified lists of articles. Such classified lists may vary from one edition to another, as they have from the First Edition of *Britannica* through the Fourteenth, but the variations are relatively minor as compared with the fact that they are all the same in form—nothing but classified lists of articles, as exemplified by the one presented in the Eleventh Edition, already referred to. In sharp contrast to such editorial procedures, the Fifteenth Edition has the distinction of being planned not in accordance with a classified list of articles, but rather in the light of an orderly topical outline of the whole of human knowledge, in the form of the circle of learning that is an *en-cyclo-paedia*.

MORTIMER J. ADLER  
Director of Planning



## How to use the Propædia

### The purpose of the Propædia

As its title indicates, the Outline of Knowledge is intended to serve as a topical guide to the contents of the *Macropædia*, enabling the reader to carry out an orderly plan of reading in any field of knowledge or learning that he may wish to study in some depth. The *Propædia*'s Table of Contents gives the reader an overview of the Outline of Knowledge as a whole; the Introductory Essays for each of the ten parts illuminate the major concerns of that part of human knowledge; the headnotes that are affixed to parts, divisions, and sections prepare the reader for his examination of the subjects being covered there; and the outlined presentations of these subjects, accompanied by volume and page references to the places in the *Macropædia* where the subjects are treated, enable the reader to carry on for himself a course of study that may be more or less extensive and detailed in accordance with his own interests and desires.

The *Propædia*, or Outline of Knowledge, helps the reader to answer for himself the question that, in its most general form, is as follows: *What can I learn from the Britannica concerning one or another area of human knowledge?* More specifically, the question, for example, might be: *What can I learn about the Earth?* or *What can I learn about art?* The reader's interest may be even more specific, as the following questions indicate. In the field of the Earth sciences, his question might be: *What can I learn about the Earth's constituent minerals and rocks?* or *What can I learn about weather and climate?* In the field of art, his question might be: *What can I learn about the theory and classification of the arts?* or *What can I learn about music?*

If the reader will now glance at the *Propædia*'s Table of Contents on page 10, he will see that the questions just used as examples have been drawn from the 241 headings in the Table of Contents. The first pair of questions about the Earth and art are taken from the headings of Part Two and Part Six, respectively. The more detailed questions about the Earth are taken from the headings of Sections 214 and 224; and the more detailed questions about art are taken from the headings of Sections 611 and 624. Thus, each of the 241 headings in the Table of Contents can be used to complete a question of the form, *What can I learn from Britannica about . . . . .?* On the other hand, if the reader is interested in a particular subject, he should consult the *Micropædia*. The subject will be treated briefly there. In addition, directions are given for finding places in the *Macropædia* where that subject is treated at greater length or in broader contexts.

The difference between the *topics*, which are the basic elements in the *Propædia*, or Outline of Knowledge, and the *subjects*, which are the component entries in the *Micropædia*, will become clear at once to anyone who examines a page of the *Propædia*'s outline and a page of the *Micropædia*.

### The structure of the Propædia

Each of the 10 parts, 42 divisions, and 189 sections that make up the *Propædia*, or Outline of Knowledge, is marked in the Table of Contents by a heading or title, which is followed by the number of the page on which that unit of the *Propædia* begins. This structure affords the reader three

main options: (1) he can turn to one of the parts as a whole and examine the contents of that part; (2) he can select a particular division of one of the parts and examine the contents of that division; or (3) he can focus on a single section or several sections of such a division, and examine the contents of that section or those sections.

If the reader exercises the first option and considers one of the ten parts as a whole, he will first encounter an Introductory Essay that acquaints him with the major concerns and character of that part of human knowledge. That essay is followed by a headnote that summarizes the content of the part, calls attention, where needed, to the relation of that part to other parts, briefly indicates the content and titles of the several divisions of the part, and gives the page on which each division begins. A thorough examination of the part as a whole will involve him in examining its subordinate divisions and sections.

If the reader exercises the second option and wishes to examine one division of a part, he will be aided by a headnote that summarizes the content of the division he has selected for examination, briefly indicates the content of the sections in that division, and gives the page on which each section begins. A thorough examination of the division as a whole will involve him in examining its subordinate sections.

If the reader exercises the third option and wants to consider one or more sections within a division, he will be aided by a headnote that summarizes the content of the section or sections that he has selected for examination. The section headnote is followed by an outline of the subjects covered in that section. A thorough examination of the section will involve the reader in examining the subjects it comprises, as set forth in the outline.

### The sectional outlines

The sectional outlines present, in an orderly arrangement of topics, subjects that are treated in articles in the *Macropædia*. The major subjects in each sectional outline are indicated by capital letters ("A," "B," etc.). There are always at least two major subjects, but there may be many more in a given section. When it is necessary to subdivide a major subject, up to three additional levels may appear in the outline; the first is indicated by Arabic numerals; the second by lower-case letters; and the third by Roman numerals, as shown below:

- A. The action of the hydrosphere and atmosphere on the Earth's surface features
  - 1. Weathering: the disintegration and alteration of rocks at or near the Earth's surface
    - a. Processes involved in weathering
      - i. Physical processes; e.g., freeze-thaw cycles, crystal-growth pressures

Attached to each topical statement of a particular subject in the sectional outline are listed, in the three columns to the right of the statement, the pages on which the reader will find a treatment or treatments of that subject in the *Macropædia*. The significance of these three kinds of references is explained below.

Although the principal purpose of the sectional outlines is to provide references to articles in the *Macropædia* wherein

this or that subject is treated, the structure of the outlines sometimes requires the topical statement of subjects that do not call for such references. These topics often serve as cross-references to subjects to which references are attached, in other parts of the given sectional outline or in other sectional outlines. Still other topics that are not accompanied by references serve as headings for a set of related subjects grouped in subordination under them. Such topics indicate what is common to the subordinate topics. These, as well as other topics, are often followed by the phrase *with special attention to*, which informs the reader that the topics following do not necessarily exhaust the subject under consideration.

### The references

The three columns aligned to the right of each topic in the sectional outlines contain the volume and page numbers of the *Macropædia* articles that, in whole or part, treat the subjects stated in the topic, as illustrated at the bottom of this page. Each of the three columns has a special reference function.

The first column usually contains references to whole articles, the titles of which are given, as well as volume and page references. In the case of articles whose scope covers outline topics in two or more sections, divisions, or even parts, the reference will be to the pages in the article relevant to the topic at which the title is aligned.

The second column contains references to important article sections, the references being given by the page location at which the section cited begins and the page location at which it ends.

The third column contains references to passages that are smaller than article sections, the references being given in the same way as in the case of column two. All references to biographical and to geographical articles are listed in the third column.

In the second and third columns, when two or more article sections or two or more smaller passages are cited, the

references are usually arranged in volume and page order; and the distinct references are separated by a slash. However, when the title of an article has been listed in the first column at a particular topic, references to portions of this article at lower-level topics are listed before any other references in the second column.

In the second and third columns, the page references indicate the segment of the page at which the passage cited begins and the segment of the page at which it ends. The segments that are signified by the letters a, b, c, and d, refer to the top, upper-middle, lower-middle, and bottom portions, respectively, of the left column of text on a page. The letters e, f, g, and h, refer to the corresponding portions of the right column of text.

a	e
b	f
c	g
d	h

The word *passim* following a reference in the third column indicates that the material in an article that is relevant to a topic is diffused throughout the treatment of a broader subject rather than being a concentrated treatment of the topic.

Since the content of the biographical and geographical articles that are included in the *Macropædia* does not influence the structure or content of the sectional outlines, the titles of such articles are not listed in the first column. The titles of all other articles appear at least once and sometimes more than once in the first column of references attached to the sectional outlines; however, the titles of biographical and geographical articles are listed alphabetically at the end of parts, divisions, or sections, when their content is relevant to the subject matter covered in the part, division, or section to which they are appended.

### 3. Kinship systems: their functions and types

articles	article sections	other references
KINSHIP 10:477-485	7:155b-156h/ 7:168g-172d	5:31f-h/6:1127e-g/ 14:839d-f

# Table of contents

<b>Part One.</b>	<b>Matter and energy</b>	
	Introduction. <i>The universe of the physicist, the chemist, and the astronomer</i> by Nigel Calder	page 17
Division I.	Atoms: atomic nuclei and elementary particles	20
	111. The atomic nucleus; elementary particles	21
	112. The structure and properties of atoms	27
Division II.	Energy, radiation, and the states and transformation of matter	29
	121. Chemical elements: periodic variation in their properties	30
	122. Chemical compounds: molecular structure and chemical bonding	36
	123. Chemical reactions	41
	124. Heat, thermodynamics, and the nonsolid states of matter	45
	125. The solid state of matter	49
	126. Mechanics of particles, rigid bodies, and deformable bodies: elasticity, vibrations, and flow	52
	127. Electricity and magnetism	55
	128. Waves and wave motion	59
Division III.	The universe: galaxies, stars, the solar system	63
	131. The cosmos	64
	132. Galaxies and stars	66
	133. The solar system	70
<b>Part Two.</b>	<b>The Earth</b>	
	Introduction. <i>The great globe itself</i> by Peter J. Wyllie	76
Division I.	The Earth's properties, structure, and composition	79
	211. The planet Earth	79
	212. The Earth's physical properties	80
	213. The structure and composition of the Earth's interior	84
	214. The Earth's constituent minerals and rocks	85
Division II.	The Earth's envelope: its atmosphere and hydrosphere	92
	221. The atmosphere	92
	222. The hydrosphere: the oceans, freshwater bodies, and ice masses	94
	223. The motions of the sea and the forces that cause them	97
	224. Weather and climate	99
Division III.	The Earth's surface features	104
	231. Physical features of the Earth's surface	104
	232. Features produced by geomorphic processes acting on the Earth's surface	108
Division IV.	The Earth's history	115
	241. Origin and development of the Earth and its envelopes	115
	242. The interpretation of the geological record	119
	243. The eras and periods of geological time	123
<b>Part Three.</b>	<b>Life on Earth</b>	
	Introduction. <i>The mysteries of life</i> by René Dubos	127

Division I. The nature and diversity of living things	page 130
311. Characteristics of living things	131
312. The origin of life and the evolution of living things	132
313. The classification of living things	135
Division II. The molecular basis of vital processes	144
321. Chemicals and the vital processes	145
322. Metabolism: bioenergetics and biosynthesis	150
323. Vital processes at the molecular level	152
Division III. The structures and functions of organisms	154
331. The cellular basis of form and function	155
332. The relation of form and function in organisms	157
333. Coordination of vital processes: regulation and integration	161
334. Covering and support	164
335. Nutrition: the procurement and processing of nutrients	167
336. Gas exchange, internal transport, and elimination	168
337. Reproduction and sex	172
338. Development: growth, differentiation, and morphogenesis	175
339. Heredity: the transmission of traits	179
Division IV. Behavioral responses of organisms	182
341. Nature and patterns of behavioral responses	182
342. Development and range of behavioral capacities: individual and group behaviour	184
343. Evolution of behaviour	189
Division V. The biosphere: the world of living things	189
351. Basic features of the biosphere	190
352. The community: a collection of interacting populations	192
353. Hazards of life in the biosphere: disruptions and death	195
354. Patterns of life in the biosphere	196
355. Man's place in the biosphere	200
<b>Part Four. Human life</b>	
Introduction. <i>The cosmic orphan</i> by Loren Eiseley	206
Division I. Stages in the development of human life on Earth	209
411. The order of primates and the emergence of Hominidae	210
412. Quaternary Hominidae	211
413. The evolution of man	213
414. Human heredity: the races of man	215
Division II. Human health and diseases	217
421. Human health	217
422. The structures and functions of the human body	220
423. Human disease: its manifestations, recognition, and treatment	227
424. Diseases and disorders of the human body	230
425. The practice of medicine and the care of health	238
Division III. Human behaviour and experience	241
431. General theories of human nature and behaviour	242
432. Antecedent conditions and developmental processes affecting a person's behaviour and conscious experience	243

433.	Influence of the current environment on a person's behaviour and conscious experience: attention, sensation, and perception	page 246
434.	Current internal states affecting a person's behaviour and conscious experience	251
435.	Persisting capacities that integrate human behaviour and conscious experience	254
436.	Development of a person's potentials: learning and thinking	256
437.	Persisting inclinations that guide and organize human behaviour and conscious experience	259
438.	Personality and the self: integration and disintegration of the person as a whole	261
Division IV. Communication and language		263
441.	Methods and forms of communication	264
442.	Language	265
Division V. Aspects of man's daily life		273
451.	The means of subsistence	273
452.	Leisure and play	275
<b>Part Five. Human society</b>		
Introduction. <i>Man the social animal</i> by Harold D. Lasswell		280
Division I. Culture		283
511.	The development of human culture	283
512.	The variety of sociocultural forms	286
Division II. Social organization and social change		294
521.	Social structure and change	294
522.	The group structure of society	297
523.	Social status	303
524.	Collective behaviour and mass society	305
525.	Human populations: urban and rural communities	307
Division III. The production, distribution, and utilization of wealth		311
531.	Economic concepts, issues, and systems	311
532.	Human wants and their economic expression	314
533.	Markets, pricing, and the mechanisms for distributing goods	315
534.	The organization of production and distribution	316
535.	The distribution of income and wealth	325
536.	Macroeconomics	328
537.	Economic growth and planning	330
Division IV. Politics and government		332
541.	Political theory	333
542.	Political institutions: the structure, branches, and offices of government	340
543.	The functioning of government: the dynamics of the political process	342
544.	International relations: peace and war	346
Division V. Law		352
551.	Philosophies and systems of law	353
552.	Branches of public law, substantive and procedural	357
553.	Branches of private law, substantive and procedural	363
554.	The profession and practice of law	369

Division VI. Education	page 371
561. The aims and methods of education	371
562. Education around the world	372
563. The organization of education	377
<b>Part Six. Art</b>	
Introduction. <i>The world of art</i> by Mark Van Doren	381
Division I. Art in general	383
611. Theory and classification of the arts	383
612. Experience and criticism of works of art	386
613. Nonaesthetic contexts of art	389
Division II. Particular arts	393
621. Literature	393
622. Theatre	400
623. Motion pictures	404
624. Music	407
625. Dance	414
626. Architecture, garden and landscape design, and urban design	417
627. Sculpture	421
628. Drawing, painting, printmaking, and photography	423
629. Arts of decoration and functional design	428
<b>Part Seven. Technology</b>	
Introduction. <i>Knowing how and knowing why</i> by Lord Ritchie-Calder	434
Division I. The nature and development of technology	437
711. Technology: its scope and history	438
712. The organization of human work	441
Division II. Elements of technology	444
721. Technology of energy conversion and utilization	444
722. Technology of tools and machines	448
723. Technology of measurement, observation, and control	449
724. Extraction and conversion of industrial raw materials	454
725. Technology of industrial production processes	458
Division III. Major fields of technology	462
731. Agriculture and food production	463
732. Technology of the major industries	469
733. Construction technology	474
734. Transportation technology	477
735. Technology of information processing and of communication systems	482
736. Military technology	489
737. Technology of the urban community	492
738. Technology of Earth and space exploration	495
<b>Part Eight. Religion</b>	
Introduction. <i>Religion as symbolism</i> by Wilfred Cantwell Smith	498
Division I. Religion in general	501
811. Diverse views about religion	501
812. Religion as an object of study; religious experience and phenomenology	511

Division II. The particular religions	page 517
821. Prehistoric religion and primitive religion	518
822. Religions of ancient peoples	520
823. Hinduism and other religions of India	525
824. Buddhism	529
825. Indigenous religions of East Asia: religions of China, Korea, and Japan	532
826. Judaism	536
827. Christianity	539
828. Islām	555
829. Other religions and religious movements in the modern world	558
<b>Part Nine. The history of mankind</b>	
Introduction. <i>The point and pleasure of reading history</i> by Jacques Barzun	560
Division I. Peoples and civilizations of ancient Southwest Asia, North Africa, and Europe	563
911. Early peoples and civilizations of Southwest Asia and Egypt, the Aegean, and North Africa	563
912. Peoples of ancient Europe and the Classical civilizations of the ancient Mediterranean world to AD 395	570
Division II. Peoples and civilizations of medieval Europe, North Africa, and Southwest Asia	578
921. Western Europe, the Byzantine (Eastern Roman) Empire, and the states of eastern Europe from AD 395 to c. 1050	578
922. The Empire of the Caliphate and its successor states to c. AD 1055	583
923. Western Christendom in the High and later Middle Ages (c. 1050–c. 1500)	585
924. The crusading movement, the Islāmic states of Southwest Asia, North Africa, and Europe, and the states of Eastern Christendom from c. 1050 to c. 1480	592
Division III. Peoples and traditional civilizations of East, Central, South, and Southeast Asia	595
931. China to the beginning of the late T'ang (AD 755)	596
932. China from the beginning of the late T'ang (AD 755) to the late Ch'ing (c. 1839)	598
933. Inner (Central and Northeast) Asia to c. 1750	600
934. Japan to the Meiji Restoration (1868), and Korea to 1910	602
935. The Indian subcontinent and Ceylon to c. AD 1200	604
936. The Indian subcontinent from c. 1200 to 1761, and Ceylon from c. 1200 to 1505	606
937. The peoples and civilizations of Southeast Asia to c. 1600	608
Division IV. Peoples and civilizations of sub-Saharan Africa to 1885	610
941. West Africa to c. 1885	611
942. The Nilotic Sudan and Ethiopia from c. AD 550 to 1885	612
943. East Africa and Madagascar to c. 1885	612
944. Central Africa to c. 1885	613
945. Southern Africa to c. 1885	614
Division V. Peoples and civilizations of pre-Columbian America	615

951.	Andean civilization to c. AD 1540	page 616
952.	Meso-American civilization to c. AD 1540	617
Division VI.	The modern world to 1920	618
961.	Western Europe from c. 1500 to c. 1789	620
962.	Eastern Europe, Southwest Asia, and North Africa from c. 1480 to c. 1800	628
963.	Europe from 1789 to c. 1920	631
964.	European colonies in the Americas from 1492 to c. 1790	642
965.	Development of the United States and Canada from 1763 to 1920	644
966.	Development of the Latin American and Caribbean nations to c. 1920	649
967.	Australia and Oceania to c. 1920	654
968.	South Asia under the influence of European imperialism from c. 1500 to c. 1920	655
969.	Southeast Asia under the influence of European imperialism to c. 1920	657
96/10.	China from 1839 until the onset of revolution (to c. 1911), and Japan from the Meiji Restoration to c. 1910	659
96/11.	Southwest Asia and North Africa (c. 1800–1920), and sub-Saharan Africa (1885–c. 1920) under the influence of European imperialism: the early colonial period	660
Division VII.	The world since 1920	662
971.	International movements, diplomacy, and war since 1920	663
972.	Europe since c. 1920	666
973.	The United States and Canada since 1920	672
974.	Latin American and Caribbean nations since c. 1920	675
975.	East Asia: China in revolution, the era of Japanese hegemony, and the influence of the United States in the 20th century	680
976.	South and Southeast Asia: the late colonial period and the emergence of new nations since 1920	683
977.	Australia and Oceania since 1920	686
978.	Southwest Asia and Africa: the late colonial period and the emergence of new nations in the 20th century	687
<b>Part Ten.</b>	<b>The branches of knowledge</b>	
	Introduction. <i>Knowledge become self-conscious</i> by Mortimer J. Adler	692
Division I.	Logic	694
10/11.	History and philosophy of logic	695
10/12.	Formal logic, metalogic, and applied logic	697
Division II.	Mathematics	699
10/21.	History and foundations of mathematics	700
10/22.	Branches of mathematics	703
10/23.	Applications of mathematics	719
Division III.	Science	725
10/31.	History and philosophy of science	726
10/32.	The physical sciences	729
10/33.	The Earth sciences	735
10/34.	The biological sciences	738
10/35.	Medicine and affiliated disciplines	741



10/36. The social sciences and psychology	<i>page</i> 746
10/37. The technological sciences	751
Division IV. History and the humanities	753
10/41. Historiography and the study of history	753
10/42. The humanities and humanistic scholarship	756
Division V. Philosophy	760
10/51. The nature and the divisions of philosophy	760
10/52. History of philosophy	767
10/53. Philosophical schools and doctrines	772