

the range. The 4,200-foot contour, the level of the lowest portion of the lake bottom, occurs along Rogue River at a distance of less than 12 miles from the rim of the lake. The correlative lavas might perhaps be expected to be dacites closely related to the final flow of Mt. Mazama, but on Rogue River no such lavas were seen,—they are generally basalt; nor is there any suggestion of the escape of such an enormous mass of lava as recently as the time of the great collapse. Whether or not we are able to discover the corresponding effusion, there seems no reasonable doubt that Mt. Mazama was once a reality and that it was wrecked by engulfment.

J. S. DILLER.

U. S. GEOLOGICAL SURVEY.

*THE TEACHING OF ANTHROPOLOGY IN THE UNITED STATES.**

THERE is a feeling among students of anthropology that official instruction in that field has not kept pace with the growth of societies and museums of anthropology, as well as with the ever-increasing volume of literature pertaining to the subject. A science which is rapidly filling our museums and now occupies so much space in current publications should have an exponent at every important seat of learning.

The past decade has, however, witnessed such rapid strides in the progress of anthropological teaching that fears for the future of this particular field of activity may, after all, prove groundless.

Nearly three years ago I began to collect information on the extent of instruction in anthropology in Europe and the United States. The results were embodied in a paper† that was read before Section H at

* Read at Denver before Section H of the American Association for the Advancement of Science, August 29, 1901.

† SCIENCE, December 22, 1899, pp. 910-917.

the Columbus meeting, August, 1899, and which led to the appointing of a committee to consider ways and means of furthering instruction in anthropology in our own institutions of learning. The members of the original committee appointed by Vice-President Wilson were W J McGee, of Washington, chairman; Frank Russell, of Cambridge; and George Grant MacCurdy, of New Haven. Two additional members, Franz Boas, of New York, and W. H. Holmes, of Washington, were appointed later and, at the New York meeting in 1900, the committee of five was made a special committee of the Association, 'Committee on the teaching of anthropology in America.'

This committee is at present preparing a circular, the object of which is to set forth the aims, scope and importance of anthropology, as well as its place in higher education. At a recent committee meeting held in Washington it was decided that such a circular note, to be of the highest value, should be based on the latest and fullest information relative to the extent and trend of instruction in anthropology. Having already published one paper on the subject, I was appointed to bring that paper up to date so far as it related to the United States.

A circular note of inquiry was addressed to one hundred and twenty-one of our most important universities, colleges and medical schools. The number and character of the responses have been very gratifying. Of the one hundred and twenty-one institutions 31* offer instruction in anthropology; 36 do not, and 54 have not yet been heard from.

This is a vast improvement over the conditions which prevailed in 1899, so far as we had knowledge of them, as may be seen by comparison with the following table prepared two years ago:

* Including Phillips Academy, Andover, Mass.

Countries.	Institutions.	Professors.	Assistant Professors.	Instructors, etc.	Total Teaching Force.	Faculties.
British Isles.....	4	1	0	8	9	Natural Science.
Germany.....	14	1	2	15	18	Philosophical.
France.....	4	11	0	1	12	Philosophical or Faculté des Lettres.
Italy.....	6	3	0	5	8	Philosophical; Nat. Sci.; Med.
Spain.....	1	1	0	0	1	Science.
Portugal.....	1	1	0	0	1	Philosophical.
Switzerland.....	2	0	1	1	1	Natural Science.
Austria-Hungary.....	3	2	1	1	4	Philosophical.
Russia.....	3	1	0	3	3	Natural Science.
Holland.....	3	0	0	3	3	Various.
Belgium.....	2	1	0	1	2	Medical.
Scandinavia.....	1	0	0	2	2	Philosophical.
United States.....	11	1	1	15	17	Various.
	55	23	5	55	81	

The details furnished by officers of their respective institutions are as follows:

BELOIT COLLEGE, BELOIT, WISCONSIN.

"A slight reference is made to anthropology in a one-hour course in American archæology throughout the sophomore year." This is elective and is offered by Dr. G. L. Collie, Professor of Biology and Curator of the Rust Museum.

BELLEVUE COLLEGE, BELLEVUE, NEBRASKA.

Anthropology is grouped with the history of civilization and sociology. Professor C. A. Mitchell gives a general sketch of anthropology in a three-hour course for one semester.

BOSTON UNIVERSITY, BOSTON, MASSACHUSETTS.

According to President Warren, while anthropology, in its newest developments and literature, receives incidental attention in a number of courses, no distinct course or courses are devoted to the subject exclusively.

BROWN UNIVERSITY, PROVIDENCE, RHODE ISLAND.

Anthropology is classed with zoology and geology and is taken as a senior elective. Professor A. S. Packard's general

course includes the principles of ethnology, ethnography and prehistoric archæology.

The Museum of Anthropology in Rhode Island Hall contains a collection of 'articles of dress and rare implements from foreign countries, and valuable stone implements of the aboriginal races of America.'

CLARK UNIVERSITY, WORCESTER, MASSACHUSETTS.

Anthropology is grouped with psychology and may be taken as major or minor for the Ph.D. degree.

Alexander F. Chamberlain, Ph.D., Acting Assistant Professor of Anthropology, offers two courses, twice a week throughout the year, besides theses, conferences and laboratory work. The general course embraces history, scope and relations of the science of anthropology, physical anthropology, ethnography, linguistics, criminal and pathological anthropology, historical and archæological. The special course is upon anthropological topics most akin to psychology and pedagogy.

During the month of July, Professor Chamberlain gave a course of twelve lectures on 'Education among Primitive Peoples' at the Summer School of Clark University.

COLLEGE OF PHYSICIANS AND SURGEONS, BOSTON, MASS.

Dr. John S. Flagg, Professor of Biology and Embryology and Lecturer on Anthropology, gives a series of 'optionally attended lectures, both general and special, on anthropology.' Besides, 'all matters of biology and embryology are treated from a more or less anthropological standpoint.'

COLUMBIA UNIVERSITY, NEW YORK CITY.

Anthropology is included in the Division of Philosophy and Psychology.

Franz Boas, Ph.D., Professor of Anthropology.

1. Ethnography. Lectures, essays and discussions.
2. Statistical study of variation, introductory course.
3. Physical anthropology. Lectures and laboratory work.
4. American languages.
5. Physical anthropology, ethnology, North American languages. Research work in conjunction with Professor Farrand.

Livingston Farrand, Ph.D., Adjunct Professor of Psychology.

1. Anthropology, general introductory course. Lectures, essays and discussions.
2. Ethnology—primitive culture.

COLUMBIAN UNIVERSITY, WASHINGTON, D. C.

There is a department of anthropology in the Corcoran Scientific School where students may choose the subject either as major or as minor for the degree of Ph.D. Professor Otis T. Mason, LL.D., of the U. S. National Museum, is the Director and offers the following courses:

1. Study of the races of man.
2. History of culture as embodied in the languages, industries, art, social life, philosophy and mythology of the various peoples of the earth.
3. Archæology and folk-lore.

Other professors whose courses bear more or less directly on anthropology are Daniel K. Shute, M.D., Anatomy; William P. Carr, M.D., Physiology; Mitchell Carroll, Ph.D., Classical Archæology; Andrew

F. Craven, Ph.D., Sociology; Theodore N. Gill, LL.D., Zoology; Edward B. Pollard, Ph.D., Semitic studies; J. McBride Sterritt, D.D., Political Economy.

CREIGHTON UNIVERSITY, OMAHA, NEBRASKA.

Anthropology is studied as a division of mental philosophy and 'considered as a branch of primary importance.' Seniors devote one hour a week to the subject, which is in charge of C. Coppens, S. J., Professor of Philosophy.

DARTMOUTH COLLEGE, HANOVER, NEW HAMPSHIRE.

David Collin Wells, Professor of Sociology.

1. Anthropology and ethnology, introductory course, 54 exercises.
2. Anthropological geography. Man in relation to his physical environment, as determining his dispersal over the face of the earth, his mode of life, and the density of population. Fifty-four exercises.
3. Social statistics and applied sociology. The biological side of social life. Fifty-four exercises.

GEORGETOWN UNIVERSITY, WASHINGTON, D. C.

Anthropology is officially classed with psychology and is treated in the senior year and in the Graduate School. The Rev. Edward I. Devitt, S.J., Professor of Psychology, and the Rev. Timothy O'Leary, S.J., Professor of Philosophy, have charge of the work.

HARVARD UNIVERSITY, CAMBRIDGE, MASS.

Division of American Archæology and Ethnology, Courses in Anthropology.

Frederick W. Putnam, A.M., S.D., Professor and Curator of the Peabody Museum of American Archæology and Ethnology.

1. Special course in American archæology and ethnology. Museum, laboratory and field work. Theses.

Frank Russell, Ph.D., Instructor in Anthropology.

1. General anthropology. Lectures and theses.

2. Somatology. Lectures and laboratory work.
3. American archaeology and ethnology.
4. Advanced somatology. Laboratory work and theses.

James H. Woods, Ph.D., Instructor in Anthropology.

1. Primitive religions. Lectures, reading and reports.

NATIONAL UNIVERSITY, WASHINGTON, D. C.

Thomas Wilson, LL.D., of the U. S. National Museum. Professor of Prehistoric Anthropology.

NEW YORK UNIVERSITY, NEW YORK CITY.

J. J. Stevenson, Professor of Geology, offers a course in anthropology, one hour a week throughout the year. The course 'covers the natural history of man, deals very little with ethnology and not at all with sociology.'

NIAGARA UNIVERSITY, NIAGARA COUNTY, N. Y.

Anthropology is treated as a branch of philosophy. The philosophy course extends over two years, of which time anthropology occupies about one sixth, or sixty hours. The Rev. P. J. Conroy is the instructor.

PHILLIPS ACADEMY, ANDOVER, MASS.

A Department of Archaeology was recently established with a fund of \$150,000. A museum is to be erected immediately. Dr. Charles Peabody, of Harvard, is honorary director and Mr. Warren K. Moorehead is curator. There are about 40,000 specimens with which to begin study. Dr. Peabody and Mr. Moorehead will give instruction after September, 1901.

OHIO STATE UNIVERSITY, COLUMBUS.

Mr. W. C. Mills, Curator, Ohio State Archaeological and Historical Society, gives an approved course in anthropology which is open to all members of the University. More than 100 students have taken the course within the past two years.

UNIVERSITY OF CALIFORNIA, BERKELEY.

Professor W. E. Ritter, of the Department of Zoology, is preparing to give instruction in anthropology.

UNIVERSITY OF CHICAGO, CHICAGO, ILL.

Department of Sociology and Anthropology.

Frederick Starr, Ph.D., Associate Professor of Anthropology and Curator of the Anthropological Section of Walker Museum.

(a) Six courses for seniors, covering general anthropology, ethnology, prehistoric archaeology and physical anthropology.

(b) Courses for graduates.

1. Mexico. Archaeology, ethnology, physical anthropology.

2. New Mexico. Pueblo Indians.

3. Japan.

4. Laboratory courses in anthropology.

During summer quarters, two of the above courses are offered; in others, two courses in class work and laboratory work besides.

Merton L. Miller, Ph.D., Associate in Anthropology.

1. The races of Europe. Seniors.

William I. Thomas, Ph.D., Associate Professor of Sociology, gives a number of courses related to anthropology.

UNIVERSITY OF ILLINOIS, URBANA.

Dr. A. H. Daniels, Professor of Philosophy, gives a course in general anthropology, three hours per week for one semester.

Physical and psychical elements of ethnography. Origin of man. Races of mankind. Historical and comparative study of customs, ceremonies, rights beliefs and folk-lore of primitive peoples.

UNIVERSITY OF INDIANA, BLOOMINGTON.

Anthropology is officially classed with the Department of Economics and Social Science.

Ulysses Grant Weatherly, Professor of Economics and Social Science, offers two

terms' work, two hours per week. Physical anthropology, anthropometric work, race classification, etc. The origins of civilization and of society, with some study of American antiquities.

UNIVERSITY OF KANSAS, LAWRENCE.

Frank W. Blackmar, Professor of Sociology.

1. General anthropology, twenty weeks, five hours a week.
2. General ethnology, twenty weeks, five hours a week.

UNIVERSITY OF MINNESOTA, MINNEAPOLIS.

Samuel G. Smith, Lecturer in Sociology, treats incidentally of anthropology in his courses.

UNIVERSITY OF MISSOURI, COLUMBIA.

Charles A. Ellwood, Professor of Sociology.

One course in ethnology, three hours a week, throughout the year.

There is no course given in anthropology in the narrow sense of the term. The work in ethnology 'necessarily covers the subject matter of anthropology in a general way.' The work now offered is only elementary. Professor Ellwood will offer advanced work as soon as an assistant in anthropology and ethnology is appointed.

UNIVERSITY OF NEBRASKA, LINCOLN.

The reply of Professor Charles E. Bessey, Dean of the University, is quoted in full:

"As a separate subject it has no place as yet in the departments of instruction. Indeed, the word, 'Anthropology' does not occur in our Annual Calendar. Yet we have for years offered instruction in some of the topics which enter into scientific anthropology. Thus we have several courses covering the greater part of the field of somatology (in the department of zoology), and psychology (in the department of philosophy), as well as something of an-

thropology proper (in the departments of sociology and history). If these were to be brought together in one greater department the amount of anthropological work offered and actually taken by students each year would be found to be quite considerable. I estimate that during the year just closed fully 1,200 of the 2,200 students in the University pursued anthropological studies. If we were to bring these together they would make a department second only to that of English, which has about 1,800 students."

The instructors are Drs. H. B. Ward (Zoology); R. H. Wolcott (Physiology); Dr. A. B. Hill (Psychology, Logic, Ethics); Dr. E. A. Ross (Sociology); and Dr. F. M. Fling and Professor H. W. Caldwell (History).

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.

Faculty of Philosophy. Courses in ethnology and American archæology.

Stewart Culin, Lecturer and Curator of the Section of Asia and General Ethnology.

1. Outlines of North American archæology.
2. Comparative ethnology.

In order to systematize the work offered in archæology, Dr. Hilprecht, Professor of Semitic Philology and Archæology; Dr. Clay, Lecturer in Assyrian, Hebrew, and Semitic Archæology; and Dr. Bates, Lecturer in Greek and Classical Archæology have been associated with Mr. Culin in the administrative group entitled Archæology and Ethnology. The work is to be developed in connection with the Free Museum of Science and Art.

Progress is reported in the movement to found a 'Brinton Memorial Chair' of Anthropology at the University of Pennsylvania.

UNIVERSITY OF VERMONT, BURLINGTON.

Anthropology is grouped with natural and social science.

G. H. Perkins, Professor of Geology.

1. General course. Senior elective. A survey of the ethnological, social, moral and intellectual characteristics of the principal races of the world, followed by a discussion of the origin and development of laws, government, arts, industries, language, literature and religious systems.

Professor Emerson.

1. Social institutions.

UNIVERSITY OF WISCONSIN, MADISON.

Joseph Jastrow, Ph.D., Professor of Psychology, offers one course bearing on anthropology. It is entitled, 'Mental Evolution' and is based on Tylor's Anthropology.

WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO.

M. M. Curtis, Professor of Philosophy, gives a course of lectures on the history of anthropology, its main problems and bearings.

WILLAMETTE UNIVERSITY, SALEM, OREGON.

President Willis C. Hawley, Professor of Sociology, offers a course in anthropology for juniors and seniors consisting of text, lectures and assigned readings. Two hours a week for the year.

YALE UNIVERSITY, NEW HAVEN, CONN.

William G. Sumner, LL.D., Professor of Political and Social Science.

What Professor Sumner offers is described by himself as follows: "Somatic anthropology has no independent place in the undergraduate curriculum. It is taught as an adjunct to the social sciences by text-books and lectures. Two hours per week. Special students in the Graduate School have lessons in the subject as presented in Ranke's 'Der Mensch,' with lectures, other literature and museum illustrations." The last named course has hitherto been given on alternate years.

E. Hershey Sneath, Ph.D., Professor of Philosophy.

1. Philosophical anthropology. An outline study of man, his body and mind in their rela-

tions, his relations to nature, to his fellows, and to God.

Of the thirty-one universities and colleges offering anthropology, it is found to be an adjunct of sociology in nine, of philosophy in five, of psychology in three, of geology and zoology in five, and of medicine in one; while in five instances it stands practically alone and in three it is unclassified.

The process of differentiation has already taken place in the larger institutions and is destined to reach all at an early date. If about four fifths of those who are teaching the subject are impelled to do so because of its important bearing on their chosen field of work and because there is, at present, no one else to do it, they have a right to depend on being relieved of this additional burden by their own students, some of whom will specialize in anthropology and hold professorships where none now exists.

This seems to be the normal line of development and would of itself, in time, suffice to carry instruction in anthropology to every growing college and university in America. But there is evidence of forces at work which will serve to accelerate the general forward movement. An instance of this is the founding of a 'Department of Archaeology' at Phillips Academy, Andover, Massachusetts, with two instructors, a collection of 40,000 specimens and funds to carry on the work.

No institution of higher learning, worthy of the name, can long afford to be without advantages which can be had at a first class preparatory school.

GEORGE GRANT MACCURDY.

NEW HAVEN, CONN.

ON THE MEASUREMENT OF TIME.

In the period of the earth's rotation on its axis, called the sidereal day, Nature has provided a convenient, easily determined