This study deals with nearly one hundred years of geography in California: 1850-1941. The presentation falls into two sections: geographers and naturalists in California before the turn of the century, and those coming after 1900. On the whole, this division represents the break between pre-geography and real geography; and the break between early, individual men and studies, and later groups and departments of geographers. As one follows the development of geography from those early days to the present, four distinct types of people emerge: (1) pre-geographers; (2) visiting geographers; (3) permanent emigrant geographers; and (4) resident or domestic geographers.

The pre-geographers or naturalists period is best represented by such people as John Muir, Josiah Dwight Whitney, Asa Gray, William H. Brewer, and Sir Joseph Dalton Hooker. None of these can be considered geographers. In the cases of Brewer, Gray, and Hooker, they were botanists; or geologists such as Whitney; or true naturalists or nature lovers such as John Muir, the champion of western wildlife. They came to the state in the last half of the nineteenth century, motivated by personal purposes. Joseph Ewan illustrates this point well:

> Very early in the history of California reports came back of giants and riches, where ordinary things were extraordinary, and superlatives were elementary parts of speech. Great flocks of wild fowl in the marshes, grizzly bears that challenged the bravest of men, giant birds (the California Condor), giant trees, and giant seaweeds. Even the slugs in the settlers'
gardens were enormous! But it was those giant nuggets of gold! The spirit of the Seven Cities of Cibola lives on. 1

The second class of men are true geographers who visited the golden state for a variety of reasons (e.g., health, prosperity, or pleasure) and in varying degree have left their traces on the California shore. Some were extremely important to the overall, worldwide development of geography but left little impression on geography in California, while others came to California temporarily or permanently and had a tremendous impact on the development of local geographical study. Julius Froebel, Arnold Guyot, and Ferdinand Wilhelm von Richthofen exemplify well the first group. Much more significant to the California story are such men as Daniel Coit Gilman, George Davidson, James F. Chamberlain, and Harold W. Fairbanks. Each in his way left a legacy of thought and action to the science of geography in the state.

It should not be assumed that this division of geographers is unique to the nineteenth century, for during much of the first half of the twentieth century many eminent names in geography from the rest of the United States and the world have studied or given classes for brief periods, especially at Berkeley and UCLA. A "Who's Who" of twentieth century geography could easily be compiled from those names: Ellsworth Huntington, Ellen Churchill Semple, Vernor C. Finch, and Glenn Trewartha among others.

The most difficult to delineate is the third classification because it certainly overlaps the preceding group and encroaches upon the following division. The period from 1921 to 1941 also saw an unprecedented growth in the population of the state, in the growth of the University of California, and in the growth of the subject of this study. One man stands above all others as a prime example of an immigrant (to California) geographer--Carl O. Sauer. Sauer has served as the state's greatest stimulus to geographical inquiry and expansion upon the California landscape.
By 1941, a state of maturity in geography had been attained, perpetuating itself from among its own--native Californians or students in California. This era is marked by the students of Sauer (and, to a lesser extent, students from UCLA) departing their training institutions seeking new research frontiers. Some remained in the state to influence or initiate new departments at other colleges or universities, such as Peveril Meigs at Chico State, Clara Hinge at San Jose State, and J.E. Spencer at UCLA. Some left for other states, as did Jan O. Broek and C.W. Thornthwaite. Some remained at Berkeley, as did John Keselli and John Leighley.

**Early Geographers and Pre-Geographers**

Whether it was due to the lure of gold or in quest of adventure, naturalists, botanists, geologists, explorers, and geographers flocked to the virgin state of California in the first half of the nineteenth century. Most prominent among this group of men were the naturalists—historically the forerunners of geographers.

Naturalists have always been the vanguard of explorers; so it was in California. A few like John Woodhouse Audubon, Isaac J. Wistar, Titian Ramsey Peale, and John L. LeConte, were scions from old naturalist rootstocks. Some of these emigrant naturalists would cast their lot to stay in California—and California in a cultural sense meant San Francisco.²

The California Academy of Science was established in San Francisco in 1853 (just three years after statehood). The Academy served as a focal point for the hundreds of natural and physical scientists who visited the area from 1853 until the turn of the century.

The register of notables in science grew. In 1859, Louis Agassiz, son of Alexander, came to San Francisco to take a position with the Coast Survey as an engineer. He
later made studies in zoology and marine biology of the San Francisco area.\textsuperscript{3}

The botanists Sir Joseph Hooker and Asa Gray (credited by Ronald Good\textsuperscript{4} as being the forerunners of modern plant geography) traveling together recorded their impressions of California in that era. After pausing in San Francisco and Chico, they continued to Shasta. Gray wrote, "The trip to Shasta involved a long stagecoach journey, but it was most interesting."\textsuperscript{5} Hooker was alarmed by the destruction of the Sequoias and by the wasteful lumbering practices that he saw--"the doom of these noble groves is sealed."\textsuperscript{6}

On April 21, 1860, the California State Legislature created the office of State Geologist and authorized a geological survey of the entire state. Josiah Dwight Whitney was selected first State Geologist and William Henry Brewer became Whitney's first appointment as botanist. To accompany Brewer and Whitney on the survey came Clarence King, James T. Gardiner, and Charles F. Hoffman.\textsuperscript{7}

Due to lack of public financial support, the survey never attained its original goals—that of a detailed study of the entire state with accompanying maps and texts. Some portions of their work have been published, however. Whitney managed to publish six volumes on California; while Brewer, almost bankrupt because of his unfortunate experience with the survey, published one book, his journal: \textit{Up and Down in California}. He succeeded here only with the aid of an old friend, Daniel Coit Gilman and Leland Stanford. Brewer returned to Shelfield Scientific School to serve as Professor of Agriculture (1864-1903). Whitney left for Harvard in 1875, holding a position as Professor of Geology until his death in 1896. During his days at Harvard, he organized frequent field surveys, one of which went to the Rocky Mountains. Along with him came old friends Brewer and Hoffman, and (as a student) William M. Davis.\textsuperscript{8}

John Muir was a completely different breed of man. Muir
is the west's foremost example of a true lover of nature: he felt a special communion with mother earth matched by few other men. After coming to the United States in 1849 and receiving his Bachelor of Science degree in geology from the University of Wisconsin, "John of the Mountains" set forth for California. Muir reached the golden state in 1868, spending the next ten years in the Sierra Nevadas studying, describing, and defending all facets of the natural landscape. His most noted book, The Mountains of California, published during the battle for a national forest in the Sierras, illustrates very well the inner sympathy he felt for nature. To Muir, sheep were "hoofed locusts"; the forests of California were "the inventions of God."

Yosemite excited John Muir like no other place. Unlike Whitney who felt that the valley of Yosemite was formed by a tremendous dislocation of a fault block, Muir believed that glacial action was responsible for the sculpturing of the beauty of Yosemite.

The real value of John Muir, however, lies in his writings about his wanderings. These tales aroused interest--public, private, and scientific--about the Sierra Nevadas and about California. He added to the growing body of knowledge about the state through his numerous articles, fine illustrations, and glittering stories. Muir was extremely important to the conservation movement within the state, for it was through him that the people and the politicians were encouraged to set aside large blocks of land as national or state forests. He died in 1914 in Los Angeles, but the Sierra Club, which he helped to organize, survives him to this day.

The overall contribution of Whitney, Brewer, and Muir is that they expanded what was known about California. They served as lures to future scientists and settlers. They were the stimuli to what was to take place during the last part of the nineteenth century and the first half of the
twentieth century. Thus, they set the foundation; the superstructure was yet to be built.

In 1869, the transcontinental railway was completed, linking San Francisco with the east. With the advent of the railroad new industry was possible. Closely interrelated with this period of economic transition were the influx of people, the chartering of the University of California, and the consequent development of geography in the state.

Early Geographers

In order to gain a detailed view of early geographers in the state, it is necessary to backtrack to the mid-nineteenth century once again. In 1854, Julius Froebel, the German geographer and critic of Carl Ritter's teleological views, visited California as part of his travel in Latin America and the western United States. Upon his arrival at San Francisco in the fall of 1854, after traveling by boat along the coast from San Pedro, he wrote:

On the morning of October 3rd., we entered the Golden Gate. Much had I heard of the grand scenery of the Bay of San Francisco, and I can only say that reality surpassed my expectations. . . . Whatever splendid sites of cities other parts of the world may have to boast of, in North America the palm will never be disputed to San Francisco.

He continues:

Every European, many Asiatic, and some American languages, meet the ear while you are walking the streets. This apparent chaos of heterogeneous elements has been brought together, and is kept in motion under the great form and system of Americanism, with its relentless labor, its ever-active spirit of speculation, and its devotion to utilitarian purposes. 10

He published a two volume narrative entitled Seven Years.
Travel in Central America, Northern Mexico, and the Far West of the United States (1858). The book is essentially a diary of his days spent in North America with colorful descriptions and fine insights into the character of the west.

On the return voyage from China in 1862, the Prussian Expedition to East Asia lost the services of its geologist and geographer, Ferdinand Paul Wilhelm von Richthofen, as he chose to stay in San Francisco. Baron von Richthofen, credited by Van Valkenburg as one of the two men to carry on and keep alive the traditions of geography initiated in Germany by Ritter and Humboldt, found respite within the California Academy of Science. Although he had private means, Richthofen worked occasionally with the State Geological Survey, becoming a very good friend of Whitney. Apparently they worked very well together, for they soon conceived a similar geologic survey for China to which Richthofen devoted many years of his life before returning to the University of Berlin.

Arnold Guyot of Princeton, considered by many the holder of the first chair of Geography in an American university, visited California in 1871. The importance of Guyot's visit lies not so much in the work he carried out (some meteorological and altitudinal studies in the Sierra Nevadas), but in the fact that Guyot was such a prominent name in American geography in the nineteenth century.

The effect of the visits of the above three geographers, and the others who followed suite, is difficult to measure: at best they were minimal. They were merely passing through the neighborhood and they paid the state the compliment of a brief stay. In actuality, California geography inherited very little from these notable, though fruitless, visits.

Quite differently, four men—George Davidson, Daniel Coit Gilman, Harold Fairbanks, and James F. Chamberlain—migrated west between 1850 and 1890; and with them they brought prestige, intellect, and vigor. All four geographers were unique, singularly brilliant, and individually fascina-
ting characters deserving of detailed personal analysis.

George Davidson came to California in 1850 as a scientific assistant to the United States Coast Survey, the beginning of a long, colorful career in such endeavors within California. Until his death in 1921, Davidson labored with limitless energy. His accomplishments: (1) concise study of San Francisco Bay for harbor improvements; (2) two hundred and sixty books and pamphlets—including the geography and history of the Pacific states, The Coast Pilot; (3) thirty years as president of the Pacific Geographical Society; (4) Regent of the University of California; (5) Professor Emeritus at Berkeley; (6) teacher of geography from 1898 until his death at Berkeley; (7) an important figure in the establishment of Lick Observatory in San Francisco.13

Obviously, Davidson was more than a geographer, but he always returned to his true love, geography. In fact, he gave the first geography course at Berkeley in 1898, "The Currents and Climatology of the Pacific Coast."14 During his twenty-three years at Berkeley, as through his writing, he stressed the physical and geologic aspects of geography. Davidson's name must be underscored when speaking of early geography in California.

Daniel Coit Gilman came to California in 1872 to serve as the second president of the University of California. Trained at Yale in history and geography, Gilman did his graduate work at Harvard where he lived at the home of Arnold Guyot. A frequent visitor to the Guyot home in those days was Alexander Agassiz. Gilman traveled to Europe and became well acquainted with Carl Ritter. Returning to the United States, he organized the Shelfield Scientific School at Yale (the institution from which William H. Brewer was to be graduated) before moving to California.

In his inaugural address he spoke earnestly and eloquently on the subject of scientific and technical educa-
tion. "Science, though yet you have built no shrine for her worship," he said,

was the mother of California. . . . My chief anxiety is whether
the people of this coast are yet ready to pay for the luxury and
the advantage of such serviceable institutions. It will require
a great many teachers, costly laboratories, large funds--more,
I fear, than the University, with all the claims upon its treas­
ury, is yet able to command.  

Under his direction, the present site of the Berkeley
campus was chosen and developed with "proper regards to topo­
graphic features, preserving and utilizing the irregularities
of the surface; carriage ways, broad areas of approach, equestrian trails, and hotels for faculty and students."  

Gilman was responsible for the inception of the botani­
cal planting program in evidence today at all of the Univer­
sity of California campuses.

Many of his philosophies and programs were basic to the
study of geography today in California, as well as in Wiscon­
sin and Michigan (where he later served as president). From
his training in Germany, Gilman developed the system of edu­
cating graduate students through the seminar method. He was
an innovator when it came to giving financial assistance to
his graduate students. He also stressed the importance of
research and publications as the way of life for a scholar,
and as a means of evaluating the merit of his faculty members.

Probably the least known of the geographers in this
group is Harold W. Fairbanks, geographical photographer. Fairbanks followed a familiar path: he came to California in 1890 (the year of his B.S. in geology from Michigan) to work with the State Mining Bureau. In 1896, he received his Ph.D. from Berkeley in geology. Fairbanks is best known for his collection of over four thousand photographs of California illustrating various phases of physical geography. The years from 1911-1926 were spent trying to improve the design
and content of geography courses in the elementary and secondary schools of California. He was interested in seeing students answer the "why" questions in geography, rather than learning places and facts by rote. He believed that "no combinations of courses could take the place of geography."17 Many of his books aimed at accomplishing the improvement of such courses. In 1915 he was Supervisor of Geography for the Berkeley Public Schools. During two different summers he gave courses on the teaching of geography and on the geography of California at the University of Southern California and at the University of California, Los Angeles. Fairbanks died in Santa Monica, humble and sure that his endeavors were in vain.

Far more influential than Fairbanks was James F. Chamberlain of the Los Angeles Branch of the San Jose State Normal School. He defined geography as "the study of human conditions as they actually exist, and of their intimate relations to physical phenomena and forces."18 His study of secondary schools of the Pacific Coast states in the 1930's revealed the extremely low status geography had at that level. Teachers were, for the most part, unprepared to teach geography correctly, or geography was not considered important enough to teach. Chamberlain remained at the University of California, Los Angeles, serving as Chairman of the Department of Geography until the mid-1930's.

These four pioneer geographers serve as ties with the past in California geography, as bridges with other geographers in America at that time, and as links to present studies—each through his own endeavors. Fairbanks was the photographer and educator, Gilman the organizer and innovator, Davidson the scientist and author, and Chamberlain the leader and builder. All four were geographers by training and by vocation; all were interested in making geography an important part of all levels of education. Together, they devised the guidance system that lifted geography into the
The Evolution of Modern Departments

Although it is generally assumed that the University of California was the initial department of geography in the state, the fact is that the State Normal Schools included geography in their course of instruction as early as 1881. In that year, the first session of San Jose State Normal School (the first such school in California) was held. Instruction included two required semester courses in geography. The Southern Branch of the Normal School began instruction at Los Angeles in 1882, offering geography also as part of its basic curriculum. By 1887, Chico had become part of the system following the same plan of instruction as San Jose and Los Angeles.

The individual schools did not develop similarly, however. Only at Los Angeles did geography become a separate department before the turn of the century. It was in 1895 (three years before the first class of geography was given at Berkeley by Davidson) that James F. Chamberlain served as chairman of that first department. Consequently, the Los Angeles department has the distinction of being the oldest department of geography at any institution of higher learning in the state. What occurred at Los Angeles between 1895 and 1919 is neither particularly startling nor interesting. A more accurate account of the Normal School scene is best illustrated by developments at San Jose and Chico.

Geography, as required during the first term of a student's work at San Jose Normal School, was defined as: "The earth as a planet; defining the terms; dimensions and motions; continents, vegetation, and mapping." During the second term of instruction, all students were compelled to take: "Physical Geography—a review of various phenomena of the earth studied with reference to natural laws." Other
than these two compulsory courses, the student was not offered (nor could he elect) any other classes in geography. The school required the student to take other, more important courses such as penmanship and outline drawing.

Geography as an individual discipline at San Jose dates from the 1920's, and it saw rapid advancement during the 1920's under the leadership of Miss Clara Hinge. After receiving her Bachelor of Arts from Berkeley in 1912, Miss Hinge began teaching at San Jose. Not until 1920, when Miss Hinge overhauled the entire program of instruction, did the department there begin to achieve its modern status.

Within seven years of the founding of San Jose, the third Normal School was established at Chico. Chico followed a pattern of courses of instruction similar to that of San Jose—both as a Normal School and as a State Teachers College. Geography, in 1929, was combined with geology under the leadership of C.K. Studley, Professor of Geography. Studley was assisted in his work by Peveril Meigs, III—a then recent graduate of Berkeley (B.A.) in geography.

By 1940-41, Meigs had taken the reins of leadership in geography at Chico State; Studley was no longer with the school. The interim saw Meigs become the fifth man to be granted a Ph.D. from the Department of Geography at Berkeley. From 1933 forward, he could be seen to put his stamp, and that of Sauer, on the department at Chico. Meigs introduced such courses as: "The Cultural Landscape," "General Anthropology," "Middle America," and "Anthropology of Native American Indian Cultures"—all very closely related to what Sauer was teaching at Berkeley. The influence of Sauer in this case, and many others, is undeniable.

Carl Sauer serves as an excellent point of reference when dealing with the Department of Geography at Berkeley, for such a discussion neatly falls into two sections: "Before Sauer" and "After Sauer." The first was characteristically centered on physical geography, geology, and climatology;
while the latter has been based on Sauer's man-land, historical geography concepts.

The department at Berkeley dates formally from 1908, when Ruliff Holway served as chairman. Holway, characteristically for his time, had been trained at Stanford in geology; he gave classes in physiography. With him on that first faculty were Dr. Lincoln Hutchinson (Commercial Geography) and Cleveland Abbe (Climatology). In 1913, the University of California Press printed its first publication in geography: "The Russian River, A Characteristic Stream of the California Coast," by Ruliff Holway. The monograph was sixty pages long.

During the period from 1908 to 1923 (the year of Sauer's assumption of the chairmanship), the department was oriented around physical geography.

With the retirement of Holway in 1923, Sauer took the helm in June, symbolic of methodological and philosophic change that was to take place. Within eighteen months, Sauer had published through the University Press his "Morphography of Landscape," representing a considerable change in the orientation of geography at Berkeley. The dominance of Sauer's teaching is quiet obvious, when viewing the list of Ph.D.'s granted at the school from 1927-1941. The first such degree went to John Leighley, "Study in Urban Morphology: the Towns of Malardalen in Sweden" (1927). During those fourteen years, twelve more doctorals were completed by some of the most influential geographers in California and the United States: Charles W. Thornthwaite (1930); Peveril Meigs, III (1933); Joseph E. Spencer (1936); Lauren C. Post (1937); John E. Keselli (1938); and Henry J. Bruman (1940).25

The impact of Carl Sauer on the department at Berkeley must be reiterated for through Sauer it developed an entirely new approach to geographical study, a new philosophy of what geographers were supposed to be doing. There was no longer a barrier to halt advances in the direction of either cultural, historical, or physical geography as had existed earlier.
under Holway. Sauer's themes admitted the need to balance the dualism in geography that exists between the cultural and the physical spheres; consequently, the curriculum at Berkeley was enriched and the diversity of geographers there increased.

In many ways the course of instruction at Los Angeles resembled the structuring at Berkeley before Sauer. It was in 1919 that the Southern Campus of the University of California was established at the site of the Los Angeles Normal School on North Vermont Avenue. Along with Chamberlain that year were Myrta McClellan, B.S. (Instructor); Kathleen Beck, B.S. (Instructor); Ruth Baugh, A.B. (Instructor); and Ford A. Carpenter, LL.D. (Lecturer in Meteorology).

In spite of its early origin, the department at Los Angeles did not attain a prominent level within modern geography until about 1930. At best, the period from 1919-1928 can be seen as maintaining the status quo. Burton Varney joined that staff in 1927 from Berkeley, and Clifford Zierer, visiting from the University of Chicago in 1926 during a summer session, decided he liked southern California and remained.

1929-31 marked the origin of the modern department at Los Angeles, characterized by two periods of growth. First, teaching assistantships were initiated, the faculty grew to five full-time geographers, and the course content had evolved to a new level. By 1933-34, such names as Kawai Kuozo, Glenn Cunningham, and Hallock Raup were on the faculty and at the dissertation stage of their work--usually through Berkeley.

The second period at Los Angeles began in 1936, when Joseph E. Spencer came to the department fresh from the tutelage of Carl Sauer at Berkeley. Spencer's technique and views reflected those of Sauer quite clearly; the main difference in their work was in the areas of study that they stressed--Sauer, northern Mexico; Spencer, eastern Asia. The influence of Spencer was, in many ways, to Los Angeles what Sauer's was to Berkeley.
The UCLA department did serve an additional, and very interesting, purpose during the 1919-1941 era. It acted as a resort or spa for prominent geographers of the time who were seeking either leisure for the summer coupled with gainful employment or who were here for studies. The eminent names that visited UCLA once or more during those summers is quite amazing: 1921, Derwent Whittlesey (University of Chicago); 1923, Charles C. Colby (University of Chicago); 1926, Vernor C. Finch (University of Wisconsin); 1925, Clifford Zierer (University of Chicago); 1927, Ellen C. Semple (University of Chicago); and 1920, Glenn Trewartha (University of Wisconsin). Today the tradition continues as many renowned geographers from all parts of the world visit, from time to time, UCLA, Berkeley, and various state universities.

There is a very telling and significant comparison from the public sector to what was occurring at the two major private institutions in California. Stanford University and the University of Southern California are both the oldest and most esteemed private schools in the state, and importantly they share a common history of underdeveloped geographic studies.

Stanford from the outset was without a separate department devoted solely to geography. By 1914, the discipline was taught, precariously, within the department of geology. Geology, for that matter, was fairly well entrenched at Stanford by this time; courses in geology and mining today continue to dominate the earth sciences there. Bailey Willis, a geologist by training, gave both geography classes, the only two such classes.

Meanwhile, at the University of Southern California, geography had become an independent study in 1934. From that date until 1942, Malcolm Haven Bissell was chairman and sole instructor at USC. The courses were predominantly economic in nature, stressing such studies as "Commodities of Commerce, Resources of North America, and Regions and Resources." Before the independence of geography, it was
taught under the geology department which offered many classes in mining and mineralogy--very similar to Stanford.

What was taking place at both schools was a squeeze between budgetary limitations and the needs of the physical and social sciences. Both institutions were founded in bedrock--that is, geology, mining, and physiographical sciences. When choices were made on expanding existing departments or expanding into new fields (namely, geography), the decisions were made in favor of the fundamental sciences of geology and physiography. It is quite possible that geography, in a modern sense of the word, was considered to be a luxury department. This is conjecture, but it is founded on fact: the state institutions have backed, quite heavily, modern geography, while the private schools have been ambivalent.

Epilogue

The phenomenal expansion of geography in the United States during the years since World War II is paralleled by its growth in California. Few states can boast of such superiority in the field of geographic endeavors--quantitatively or qualitatively. This point is especially valid when one is referring to historical-cultural aspects of geography. California proudly serves as the residence of many top men in the field: Sauer, Glacken, Leighley, Spencer, Parsons--to name just a few. The two largest branches of the University of California are home to two extremely influential departments of geography, and the California State Universities and colleges have a number of superior programs in geography. The density of geographers, graduate students in geography, and geographical work is greater in California than in any other place in the United States. More than any other state of recent times, California has been responsible for "exporting" geographers to other parts of the nation and the world to serve in various departments of geography or to become part of diverse and private agencies.
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* The author wishes to thank Dr. Gordon Lewthwaite, California State University, Northridge, for assistance with the early drafts of this paper.


2 Ewan, p. 2.

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8 Farquhar, p. xviii.


10 Muir, pp. 15-16.


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