DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1917, No. 19

REPORT
OF A
SURVEY OF THE UNIVERSITY OF NEVADA

WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, July 17, 1917.

SIR: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of the survey of the University of Nevada, made under my direction and at the request of the governor of the State of Nevada by Samuel P. Capen, specialist in higher education in the Bureau of Education, and Edwin B. Stevens, executive secretary of the University of Washington. Although this report is primarily of interest to the citizens of the State of Nevada, it makes a contribution to the study of university administration which will have much interest for persons concerned with the management and control of similar institutions elsewhere and for all students of higher education.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

INTRODUCTION.

On July 8, 1916, the Commissioner of Education was requested by the governor of Nevada to undertake the direction of a survey of the University of Nevada and to report the findings to the educational survey commission created by the 1915 legislature of the State. The commissioner acceded to the request and appointed Dr. Samuel P. Capen, specialist in higher education in the Bureau of Education, and Mr. Edwin B. Stevens, executive secretary of the University of Washington, as a committee to make the survey.

During the months of August and September, 1916, the committee prepared elaborate inquiries, which were sent to the registrar and the financial officers of the institution. Members of the Bureau of Education also collected for the committee's use statistical material bearing on the population and industries of the State, on the development of its system of secondary and higher education, and on general educational conditions in the far West.

The committee spent the period from September 18 to October 1 at the university, in the personal examination of its organization, resources, standards, and policies. It held conferences with the president, deans, financial and recording officers, heads of departments, and the leaders of student organizations. It inspected the buildings and equipment and reviewed the records of financial and educational operations. It also held conferences with various citizens of the State not connected with the university. On September 26 it met with the educational survey commission and submitted to the members an outline of the proposed scope of its report. This outline met with the approval of the commission and has been followed, with a few minor changes of order, in the preparation of this document. On September 29 the committee met with the board of regents of the university. It discussed with the board the general policies of the institution and asked certain specific questions (printed in the Appendix, p. 137), to all of which it received full and frank replies.

The committee formulated its conclusions and recommendations in conference on the 30th of September and the 1st and 2d of October. The following three months were devoted to the preparation of the report, the first draft of which was approved by the Commissioner of Education and dispatched to the governor of Nevada, January 4, 1917.

The chairman of the committee met with the board of regents on February 7, 8, and 9, and discussed with members of the board the contents of the report. A few minor changes in the phrasing of portions of it were made in response to the board's suggestions. On February 11, 12, and 13 the chairman met with the former president, the deans and instructors, and various members of the faculty. As the result of these conferences, certain educational statistics were modified, a few phrases thought to be susceptible of misconstruction were changed, and one recommendation, based on what was shown to be an incorrect estimate of the enrollment, was eliminated. On February 14 the chairman presented the revised version of the report to the governor, at Carson City, and summarized for the benefit of certain legislative committees which dealt with university appropriations the principal recommendations of the report. On February 17 an abstract of the document was sent to the governor and to representatives of the Nevada press.

The committee takes this opportunity to record its grateful recognition of the patience and courtesy with which all of its requests for information have been met by the officers and faculty of the university. The burden which its inquiries imposed on the registrar and the comptroller was especially heavy. Its appreciation of the prompt and cheerful services which these officers have rendered is keen.

REPORT OF A SURVEY OF THE UNIVERSITY OF NEVADA.

Chapter I.

THE UNIVERSITY OF NEVADA AND PUBLIC SENTIMENT.

The University of Nevada, like every other State university, is the creature of the State. The major part of its support is derived from State contributions. Its primary purpose is to furnish certain kinds of higher technical and liberal training to citizens of the State. It was established by the people's representatives voluntarily, and it has been maintained (on the whole with surprising liberality) in accordance with the popular will. The people's rights in it are therefore undisputed.

Their keen present interest in its management and standing might also be taken for granted, both in view of the large annual investment of public money which it absorbs and because of the considerable percentage of the youth of the State who frequent it. It is not necessary, however, to take the existence of this interest on faith. No visitor can remain long in Nevada without being almost forcibly assured that its university occupies an exceedingly prominent place in the thoughts of most intelligent citizens and in the general economy of the Commonwealth. Indeed, there is perhaps no other State in which the State university for the time being bulks so large in the lives of the residents of the principal urban communities.

But, unfortunately, the unusual preoccupation of the State with the affairs and plans of the university is not in this case indicative of public confidence or satisfaction. Public interest in the University of Nevada appears to be largely compounded of partisanship, suspicion, and, on the part of many parents, concern at what are believed to be the present policies of the institution.[1] Representatives of various groups of citizens have presented to the members of the survey committee complaints and criticisms which in their totality constitute a formidable bill of particulars confirming this interpretation of the public attitude. It could serve no useful purpose to rehearse these charges in detail. Many of them, indeed, are trivial and unworthy of credence, unimportant if true, except that they register

[1] This statement refers specifically to the period during which the study was made (September, 1916).

an atmospheric pressure in which no public institution can permanently thrive. But out of the many unsubstantiated and irrelevant criticisms which were laid before the committee there emerge certain allegations too serious to be ignored. They must be faced unflinchingly by the university itself, if it is to preserve the good will of its constituency. They must be recorded in any report which aims to present a just estimate of the university's status and administrative practices. Their existence must to some extent influence the recommendations in which such a report culminates.

The gravest allegation made against the university by citizens of the State is that it is impossible for responsible persons to find out anything about its management. It is believed by many that not only is there no adequate institutional publicity, but that university officers deliberately try to prevent the public from learning significant facts. This applies to the major educational policies of the institution, as, for instance, the plans for the development of its various colleges. It applies especially to the financial operations of the university. The biennial reports of the board of regents contain, to be sure, full statements of the receipts and disbursements of university funds by the comptroller. But these reports are only biennial. The last one is nearly two years old. Inquiries made in the interval have been met with reticence or are believed to have been evaded. The quite natural conclusion of the inquirers has been that there is something to conceal.[1] The speculations as to what this might be run apparently all the way from general administrative extravagance to actual misuse of the university funds. Every change of university organization that has been made is suspected of being unduly costly, and it is assumed that the officers desire to suppress the truth in regard to expense as long as possible. It would be hard to overestimate the corrosive effect of such suspicions as these upon public confidence, or the seriousness of the handicap which they lay upon the development of the university.

Coupled with the widespread feeling of uneasiness in regard to the financial management of the university is the not uncommon belief that the tenure of members of the faculty is precarious. Certain persons think that professors are likely to be dismissed suddenly, arbitrarily, and on grounds that are actually sinister, whereas the reasons publicly assigned for such dismissals may be irrelevant to the true causes. Time and again the committee was seriously assured that if the forthcoming election placed certain candidates on the board of regents, then certain professors long in the service of the university and highly regarded by the community would be

[1] It should be noted that legally the board is under no obligation to report oftener than once in two years.

dismissed. The unanimity with which this opinion appeared to be held by the persons who interviewed the committee is very significant.

Uncertainty as to the basis for dismissal from office is absolutely disastrous to sound university work. If the public believes that professors can be dropped on slight charges, without a hearing and without recourse, then members of the faculty themselves will soon share the belief. The timid ones will fall into toadyism or become the victims of nervous irritation; the bold and independent spirits will go on their way, to be sure, but will shortly seek other positions. Rifts and cliques will appear in the instructing body itself. The morale of the university, that equanimity of spirit, that friendly cooperation necessary for effective teaching and productive scholarship, will be broken. Evidence is not wanting that part of the faculty of the University of Nevada is already persuaded that disciplinary action will shortly be taken against some of its members.

The rules of the board of regents relating to tenure of office are presented on page 29. If these rules are observed by the board itself, the suspicion just alluded to is unfounded. They place the tenure of faculty members on a sound basis. It is of course important that the rules should be held to and that they should be made public.

It might be expected that the student body and alumni of an institution which is at odds with an influential portion of its constituency, and in which a certain number of professors feel their tenure insecure for causes not involving professional competency, would exhibit a lack of solidarity and of institutional loyalty. The committee's opportunities to investigate student sentiment were limited. It did not, in fact, regard this as one of its principal tasks. Nevertheless, it was informed by citizens, by faculty members, and by representatives of the students themselves that the spirit of the student body, while giving evidence of improvement during the present academic year, was on the whole not strong; that indifference, unrest, and a vague distrust of the authorities prevailed. Officers of the university also stated to the committee that the institution has seldom received the strong support of a well-organized alumni body. An alumni organization exists, but apparently it has not been successful in enlisting the active interest of the majority of graduates. University spirit, in short, as the term is usually understood, is but slightly developed in Nevada. Certain devoted and able students are working loyally and with some effect to bring about a more unified student sentiment. A few alumni have stood by the institution in its time of stress and have preserved an undiminished interest in its affairs; but, on the whole, there is no ready and enthusiastic response to the requests and plans of the official leaders of the university.

Another allegation frequently made to the committee concerned the present attitude of the institutional authorities toward standards of scholarship. The belief was expressed that these had been slightly, but sensibly, lowered within the past two or three years; that while on paper the university seemed to be demanding as much or more than previously, nevertheless, there was lax enforcement of printed standards in the interest of increased enrollment. Later in the report the committee discusses this question, which vitally concerns the integrity of the institution, in some detail and shows that the allegation is unfounded.[1] Here it suffices to emphasize the insidious effect of such a belief. In respect to standards of scholarship, a State university must be free from suspicion.

If there must be no doubts of its virtue in the matter of academic standards, it is equally imperative that the attitude of the institution toward questions of public morals shall be firm and unequivocal. A university ought not to enter partisan conflicts which are to be decided by political action. Politics are not its sphere. But the university can not be indifferent to the moral conditions of the community which it serves. It must be against drunkenness, against gambling, against prostitution, and there should exist no scintilla of doubt anywhere that it is against these and all kindred evils. No legislative appropriation even if it would be jeopardized by a positive stand on these matters, which is extremely unlikely, is worth the price of the silence that seems to give consent. There are no business interests whose support is powerful enough to compensate for failure to follow the path of obligation.

The truth of these statements is, in the committee's judgment, strikingly confirmed by the present dilemma of the University of Nevada. Leading representatives of the university have of late refused to concern themselves openly with the moral conditions of the city and the State.[2] Of this fact there is no doubt. It has been several times stated both publicly and to the committee by the officials themselves.

The committee admits that the issues involved in the position taken by the university officers are not clean-cut. Perhaps it is not possible to define categorically what the action of such officers on any particular question relating to public morals should be. The committee assumes, however, that certain propositions will meet with general assent.

First, as has already been noted, there must be no doubt that the university as an institution stands for the highest individual and

[1] See p. 68 et seq.

[2] It should in justice be noted, however, that the authorities have unostentatiously taken steps to secure the cooperation of city officials in keeping the students of the university away from unwholesome resorts. The committee received testimony on this point from the mayor, the chief of police, and others.

social morality. It can not express its attitude politically, but its position should be clear and open. Second, the position of an institution can be publicly made known only by its officers. Without their voice it is dumb. Third, there is a negative aspect of the first proposition. The authorities of an institution may on no pretense permit the institution to profit by an act or a condition detrimental to the public welfare. Fourth, it must not be forgotten that an institutional official is a citizen as well as a member of the board of regents or of a faculty. As a citizen, he has a right to his own opinion on matters affecting the public interest. His position on board or faculty should not operate to gag him or to suppress his individuality.

These propositions appear to contain an irreconcilable contradiction. If the attitude of an institution can only be expressed through the men and women who make up its controlling bodies, and if such officers should in their capacity as citizens be perfectly free to give utterance to their own individual opinions, is not the position of the institution on questions of great public moment necessarily identical with that of those of its officers who are, through their respective offices, its spokesmen? In a certain sense this is true. Probably it is also desirable in a majority of cases. Aside from matters of partisan politics, in which the university should not take sides, enlightened opinion is generally unanimous on such questions as are here under discussion. In the rare cases where an official spokesman of an institution holds a contrary view to that held by the majority of the institutional community, two alternative courses of action seem, in the committee's judgment, to be open to him; he may declare what is the official position of the institution and at the same time state that his own views are divergent; or if he can no longer truly represent his community, he may resign. However, the committee believes that no rule can be proposed which would act as an infallible guide in such unusual circumstances. These are not cases for rules but for the tact and judgment that are the essential attributes of a real leader.

The committee has dwelt thus at length upon the principles involved because it has felt that a certain lack of precision existed in the public mind as to the rights and obligations of the university officers. At the University of Nevada there is apparently no dualism of view with regard to the issues under discussion. It is not suggested that the officers do not represent the academic community or that they do not individually desire the improvement of public morals. It is rather their reticence that is objected to; their eagerness to keep the university neutral; and their failure at the same time to take an open stand as individual citizens. But a university in these matters can not be neutral; neither can it safely endure the suspicion of being surreptitious. If

the committee may judge by the frequency with which the matter was brought to its attention, there is no policy of the institution, not even the alleged mystery surrounding its financial transactions, which has aroused a greater measure of dissatisfaction.

These are the major charges made against the University of Nevada by those citizens with whom the committee came in contact. That they are commonly made and widely believed is sufficient to produce a condition of tension between the university and its supporters that must in the long run be ruinous to the institution.

Contrasted with this is the type of relations which have been established between a few of the most influential State universities and their constituencies. These relations are characterized by public appreciation of new university projects, the mutually helpful interplay of advice and counsel between the officers of the university and representatives of the public—cordial cooperation, in short, between the university and the citizens in an effort to improve the intellectual, moral, social, and economic conditions of the State. State universities where such relations prevail have come to be regarded as instruments for the general welfare, remote from parties and the petty personalities of political conflicts, single as the compass in their aim, their every act open to public inspection, inviolable as the courts.[1]

Facts and discussions appearing in later portions of the report will, it is hoped, throw further light on the basis of some of these allegations and will suggest remedies for a condition so unwholesome.[2] It suffices at this point for the committee to indicate whether or not there is any real justification for the public attitude. It has already been intimated that there is no dispute with regard to two recent policies of the university officials. There has been no sufficient effort to keep the State constantly informed of the operations of the institution, and the authorities have not taken an uncompromising position with reference to public morals. Unless the committee has been misled, these policies of reticence and noninterference constitute also the principal grievances of responsible citizens against the management of the university. Most of the other complaints which were called to the attention of the committee either spring naturally and inevitably from these or may be dismissed altogether as examples of the spiteful and unmotivated gossip which always falls to the lot of persons in charge of public institutions. But it is evident, for instance, that public doubt as to the integrity of financial operations has raised fears for the security of the teaching staff and skepticism with regard to academic standards—fears which have been still further augmented by what is interpreted as the

[1] Elsewhere in the report are noted the hopeful beginnings of such relations in Nevada.
[2] See especially Ch. II, pp. 28 et seq., Ch. V, pp. 76 et seq., and Ch. IX, pp. 112 and 118.

complacent attitude of the authorities toward civic unrighteousness. The management of the university has, therefore, in a large measure brought about its own troubles.

However, the public is not wholly guiltless. Having organized an expensive, complicated, and delicate machine, the people of any State ought to place it in the hands of trusted and competent representatives and then support them loyally and confidently. The representatives should be held responsible for its successful operation. Ways should be devised to hold them to strict accountability. The people should realize two things especially: (1) Some institutional plans and transactions can not be made public on the moment of their inception, without causing serious embarrassment and added expense (e. g., the taking of an option on a piece of real estate), and (2) professional educators are rarely indifferent to moral questions, nor are they inclined to exploit the institutions to which they are attached for any sort of personal advantage. They are as prone to mistakes of judgment as other men and women, as fallible generally as other human beings. But the profession, being paid largely in gratitude and respect, simply does not attract men of strong aggrandizing tendencies, men greedy for power or wealth. The kind of persons who find their way into it are exceedingly conscientious, painstakingly zealous for the public service. The committee does not intend these remarks as a panegyric on the teaching profession. It merely states what is a commonly accepted fact.

The application of the fact to the present discussion is plain. The people of the State appear not to have given the university officers the benefit of the doubt. They have too frequently chosen to place a sinister interpretation on acts which probably were performed in perfect good faith. They have been distrustful and have lent a ready ear to slander. This is a state of mind for which the committee sees no external remedy. It is to a large extent responsible, however, for the present relations existing between the university and the public.

These observations lead the committee irresistibly to two conclusions. The State of Nevada needs leadership from its university which will establish such reciprocal relations as have already been described, leadership which will be strong enough to cure public opinion of its prevailing distemper. The State of Nevada also needs to take the control of its university out of politics. Until it does so no permanent improvement in the relations between the university and its constituency may be expected, nor will the university be able to furnish the leadership which the State requires. The connection of the university with partisan politics is the root of all the evil. This subject will be discussed in some detail in the next chapter.

Chapter II.

GOVERNMENT AND CONTROL OF THE UNIVERSITY OF NEVADA.

BOARD OF REGENTS.

The University of Nevada is controlled by a board of regents consisting of five members, elected at general elections, on party tickets. At each general election two regents are chosen for the long term of four years, and one for the short term of two years. The majority of the board is therefore subject to change once in two years, at any general election.

The following section from the Revised Laws of Nevada (4641, sec. 3) indicates the powers and duties legally assigned to the board:

First.—To prescribe rules for their own government, and for the government of the university.

Second.—To prescribe rules for the reports of officers and teachers of the university.

Third.—To prescribe the course of study, the time and standard of graduation, and the commencement and duration of the terms and the length of the vacations of the university.

Fourth.—To prescribe the textbooks, and provide apparatus and furniture for the use of pupils.

Fifth.—To appoint a president of the university, who shall have a diploma from some recognized college of learning of good standing, or some State normal school, who has had at least five years of practical experience as an instructor, who is familiar with the modern methods of imparting instruction generally approved in the United States, and who shall be indorsed as to moral character and qualifications as an instructor by the president and faculty of three institutions of learning authorized by law to confer degrees.

Sixth.—To prescribe the duties of the president, and fix his salary and the salaries of all other teachers in the university.

Seventh.—To require the president, under their direction, to establish and maintain training or model schools, and require the pupils of the university to teach and instruct classes therein.

Eighth.—To control the expenditures of all moneys appropriated for the support and maintenance of the university and all moneys received from any source whatsoever.

Ninth.—To keep open to public inspection an account of receipts and expenditures.

Tenth.—To annually report to the governor a statement of all their transactions, and of all other matters pertaining to the university.

Eleventh.—To transmit with such report a copy of the president's annual report.

Twelfth.—To revoke any diploma by them granted, on receiving satisfactory evidence that the holder thereof is addicted to drunkenness, is guilty of gross immorality, or is reputably dishonest in his or her dealings: *Provided*, That such person shall

have at least 30 days' previous notice of such contemplated action, and shall, if he or she asks it, be heard in his or her own defence.

The board must meet quarterly, and may hold special meetings at the call of the chairman. The State superintendent of public instruction must visit the university at least once in three months and report quarterly to the regents on its condition.

University accounts, like other State accounts, must be passed on by the board of examiners before being paid.

The following interesting legal provision is also worth noting, (4646, sec. 8):

It shall be the duty of the president of the university to instruct in the university, and, under the direction of the board of regents, to manage all matters connected with the institution, to employ assistant teachers and servants, purchase supplies, and make monthly statements to the board of regents of all receipts and expenditures, supported by vouchers.

CONSTITUTION OF BOARDS OF REGENTS IN OTHER STATES.

The following tabular view of the constitution of boards of regents or trustees of State universities and colleges shows that the utmost variety prevails with respect to the number of members, the method of choosing them, and the length of term. It is plain that there is no common theory of university control. Legislatures have determined the constitution of the governing boards of State universities on the analogy of boards of trustees of other corporate bodies with which the legislative members were familiar, or in accordance with a contemporary experiment in administration, or with the intention of providing political checks and balances. All of these motives are clearly to be read in the collected laws providing for the establishment of State boards of regents.

The form of board control, however, has come to be recognized as of vital importance to the success of any modern university. Much discussion of the subject has made it evident that university administration is not essentially unlike the administration of any other public function which is carried on by specially trained experts; such functions, for instance, as the public library, charities and correction, the care of parks, and, of course, the public schools. Through a long process of trial and error, States and cities have discovered certain principles which appear to underlie efficient board control of such public activities. To these there is now general assent. They appear to the committee to be equally applicable to the constitution and practice of the board of regents of a State university.

TABLE 1.—*State universities and State colleges—Organization of boards of control.*

Name of institution and of board.	Members.	How chosen.	Term in years.	Is president of institution member of board?	Titles of ex officio members.	Compensation of members.	Political requirements.
ALABAMA—University: Board of trustees	12	10 elected by board (1 from each of 8 congressional districts and 2 from sixth district), 2 ex officio.	12	No	Governor (ex officio president of board), State superintendent of education.	0	None.
Polytechnic Institute—Board of trustees	12	10 appointed by governor (1 from each of 8 congressional districts and 3 from third district), 2 ex officio.	12	No	do	0	Do.
ARIZONA—University: Board of regents	10	8 by governor, 2 ex officio	4	No	Governor, superintendent of public instruction.	$5 per diem	Not more than 4 from same political party.
ARKANSAS—University: Board of trustees	9	7 by governor (1 from each congressional district), 2 ex officio.	6	No	do	$2.50 per diem	None.
CALIFORNIA—University: Regents of the university.	23	16 by governor, 7 ex officio	16	Yes	Governor, lieutenant governor, speaker of assembly, superintendent of public instruction, president State board of agriculture, president Mechanics Institute, president university.	0	Do.
COLORADO—University: Board of regents	7	6 elected by people, 1 ex officio	6	Yes	President of university (without vote except in case of tie).	0	Elected on party ticket.
Agricultural College—State board of agriculture.	10	8 by governor, 2 ex officio	8	Yes	Governor, president of college	0	None.
School of Mines—Board of trustees	5	By governor	4	No	None	0	Do.
Teachers College—Board of trustees	7	6 by governor, 1 ex officio	6	No	State superintendent of public instruction.	0	Do.
CONNECTICUT—Agricultural College: Board of trustees	10	6 elected by State senate, 2 by alumni, 1 by State board of agriculture for 1 year, 1 ex officio.	4.1	No	Governor	0	Do.

DELAWARE—College: Board of trustees	32	8 by governor, 20 by board of trustees, 4 ex officio.	(1)	Yes	Governor, president of college, president of State board of education, master of State grange.	0	Do.
FLORIDA—University and State College for Women: State board of control	5	By governor	4	No	None	0	Do.
GEORGIA—State University: Board of trustees[2]	28	18 by governor (1 from each of 12 congressional districts, 4 from State at large, 2 from Athens), 9 ex officio, 1 special life trustee by act of legislature.	8	No	Governor, 8 presidents (1 from each of subordinate boards of control).[2]	0	Do.
College of Agriculture— Board of trustees (Subordinate to university board).	11	By governor (3 from university board, 3 from directors of Georgia experiment station, 5 at large).	(1)	No	Commissioner of agriculture must be one of the 3 experiment station members.	0	Do.
School of Technology— Board of trustees (Subordinate to university board).	10	By governor (3 from university board, 7 at large).	(1)	No	None	0	Do.
North Georgia Agricultural College— Board of trustees (Subordinate to university board).	10	By governor (3 from university board, 7 at large).	(1)	No	do	0	Do.
HAWAII—College of Hawaii: Board of regents	5	By governor	5	No	do	0	Do.
IDAHO—University: State board of education.	6	5 by governor, 1 ex officio	5	No	State superintendent of public instruction.	$400 per annum.	Do.
ILLINOIS—University: Board of trustees	12	9 elected by people, 3 ex officio	6	No	Governor, president State board of agriculture, superintendent of public instruction.	0	Elected on party ticket.
INDIANA—University: Board of trustees	8	5 elected by State board of education, 3 elected by alumni association.	3	No	None	$6 per diem	None.
Purdue University— Board of trustees	9	By governor (2 nominated by State board of agriculture, 1 by State board of horticulture, 1 by Purdue alumni association).	6	No	do	0	Do.

[1] Term is indeterminate, for life or until removed.

[2] The University of Georgia is composed of nine distinct units as follows: (1) The university at Athens; (2) the college of agriculture at Athens; (3) the school of technology at Atlanta; (4) the normal and industrial college at Forsyth; (5) the industrial college for colored youths at Savannah; (6) the north Georgia agricultural college at Dahlonega; (7) the State normal school at Athens; (8) the medical college at Augusta; (9) the south Georgia normal college at Valdosta. For each of eight of these units there is a governing board almost autonomous. The University of Georgia has a board of trustees composed of 28 members. The president or chairman of each of the 8 subsidiary boards is an ex officio member of the university board. This university board has a dual function. It is the superior or coordinating board of the eight subsidiary boards, and it is the actual governing board of the university at Athens.

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TABLE 1.—*State universities and State colleges—Organization of boards of control*—Continued.

Name of institution and of board.	Members.	How chosen.	Term in years.	Is president of institution member of board?	Titles of ex officio members.	Compensation of members.	Political requirements.
IOWA—University, College of Agriculture, Teachers College: State board of education.[1]	9	By governor	6	No	None	$7 per diem	Not over 5 from same political party.
KANSAS—University: State board of administration.	3	do	4	No	do	$3,500 per annum.	Not over 2 from same political party.
KENTUCKY—University: Board of trustees	32	15 by governor at large, 6 on nomination of the alumni, 11 ex officio.	6	Yes	Governor, superintendent of public instruction, commissioner of agriculture, president of university, 7 members of State board of Agriculture.	0	Board must be bipartisan.
LOUISIANA—University: Board of supervisors	15	12 by governor, 3 ex officio	4	Yes	Governor, president of university, State superintendent of public education.	0	None.
MAINE—University: Board of trustees	8	7 by governor, 1 by alumni association.	7,3	No	None	0	Do.
MARYLAND—State College of Agriculture: Board of trustees	9	By governor	9	No	do	0	Do.
MASSACHUSETTS—Agricultural College: The corporation	18	14 by governor, 4 ex officio	7	Yes	Governor, commissioner of education, commissioner of agriculture, president of college.	0	Do.
Institute of Technology—Corporation (private)	54	35 life members elected by corporation, 15 elected from alumni nominations, 3 ex officio, the president of institute.	5	Yes	Governor, chief justice of supreme court, commissioner of education, president of institute.	0	Do.
MICHIGAN—University: The regents	10	8 elected by people, 2 ex officio	8	Yes	President of university, superintendent of public instruction (both without vote).	0	Elected on special ticket.

Agricultural College— State board of agriculture.	8	6 elected by people, 2 ex officio	6	Yes	President of college, superintendent of public instruction (both without vote).	0	Do.
College of Mines— Board of control	6	By governor	6	No	None	0	None.
MINNESOTA—University: Board of regents	12	9 by governor, 3 ex officio	6	Yes	Governor, State superintendent of education, president of university.	0	Do.
MISSISSIPPI—University, A. and M. College, Industrial Institute: Board of trustees of the university and colleges of Mississippi.	9	7 by governor, 2 ex officio	6	No	Governor, State superintendent of education.	$5 per diem	Do.
MISSOURI—University: Board of curators	9	By governor	6	No	None	0	Do.
MONTANA—University, College of A. and M. Arts, School of Mines: State board of education.	11	8 by governor, 3 ex officio	4	No	Governor, State superintendent of public instruction, attorney general.	0	Do.
NEBRASKA—University: Board of regents	6	Elected by people	6	No	None	0	Elected on party ticket.
NEVADA—University: Board of regents	5	Elected by people, 4 for 4 years, 1 for 2 years.	4,1	No	do	0	Do.
NEW HAMPSHIRE—College: Board of trustees	13	9 by governor, 2 by alumni, 2 ex officio.	3	Yes	Governor, president of college	0	Not more than 5 from same political party.
NEW JERSEY—Rutgers College: Board of trustees	41	33 by board for life, 5 by board on nomination of alumni association, 3 ex officio.	Life, 5	Yes	Governor, chief justice, attorney general.	0	None.
Also State board of visitors.	24	By governor (2 from each congressional district).	2	No	None	0	Do.
NEW MEXICO—University: Board of regents	5	By governor	4	No	do	0	Not over 3 from same political party.
Agricultural College— Board of regents	5	do	4	No	do	0	Do.
School of Mines— Board of regents	5	do	4	No	do	0	Do.

[1] This board appoints a finance committee of 3 from outside its own membership, each member of which receives $3,500 a year salary.
[2] One special additional member from De Soto County is appointed by the governor for a term of 4 years to act on university affairs only.

TABLE 1.—*State universities and State colleges—Organization of boards of control*—Continued.

Name of institution and of board.	Members.	How chosen.	Term in years.	Is president of institution member of board?	Titles of ex officio members.	Compensation of members.	Political requirements.
NEW YORK—Cornell University:							
Board of trustees	40	1 life member, 5 by governor, 15 by trustees, 10 by alumni, 1 by State grange for 1 year, 8 ex officio.	5,1	Yes	Governor, president of university, lieutenant governor, speaker of assembly, commissioner of education, president of State agricultural society, commissioner of agriculture, librarian of Cornell library.	0	None (a majority may not be of any one religious sect or of no religious sect).
NORTH CAROLINA—University:							
Board of trustees	102	100 elected by legislature, 2 ex officio	8	No	Governor, superintendent of public instruction.	0	None.
State College of Agriculture and Engineering—							
Board of trustees	17	16 by governor, 1 ex officio	8	No	Governor (chairman of board ex officio).	$4 per diem	Do.
NORTH DAKOTA—University, Agricultural College:							
State board of regents	5	By governor	6	No	None	$7 per diem	Do.
OHIO—Ohio University:							
Board of trustees	21	19 by governor, 2 ex officio	Life	Yes	Governor, president of university	0	Do.
Ohio State University—							
Board of trustees	7	By governor	7	No	None	0	Do.
Miami University—							
Board of trustees	27	do	9	No	do	0	Do.
OKLAHOMA — University, School of Mines:							
State board of education	7	6 by governor, 1 ex officio	6	No	State superintendent of education	$6 per diem	Do.
A. & M. College—							
State board of agriculture.	5	4 by governor, president of board elected by people.	4	No	None	(1)	President elected by party ticket.
OREGON—University:							
Regents of the university.	13	10 by governor, 3 ex officio	12	No	The State board of education, composed of governor, secretary of state, superintendent of public instruction.	0	None.

Agricultural College— Board of regents	13	9 by governor, 4 ex officio	9	No	The State board of education, composed of governor, secretary of state, superintendent of public instruction, master of State grange.	0	Do.
PENNSYLVANIA — State College: Board of trustees	31	6 by governor, 9 by alumni, 12 by agricultural societies, 4 ex officio.	3	Yes	Governor, president of college, superintendent of public instruction, secretary of State board of agriculture.	0	Do.
PORTO RICO—University: Board of trustees	7	4 by governor, 3 ex officio	Indeterminate	Yes	Commissioner of education (ex officio president and chancellor), treasurer, speaker of house of delegates.	0	Do.
RHODE ISLAND—State College: Board of managers	7	5 by governor, 1 from and by State board of agriculture, 1 ex officio.	5, 2	No	State commissioner of public schools	0	Do.
SOUTH CAROLINA—University: Board of trustees	11	7 by legislature, 4 ex officio	6	No	Governor, superintendent of education, chairmen of committees on education of house and senate.	0	Do.
Clemson College— Board of trustees	13	7 by Clemson estate for life, 6 by governor for 4 years.	Life, 4	No	None	0	Do.
Citadel, the Military College of South Carolina— Board of visitors	10	5 by legislature, 5 ex officio	6	No	Governor, adjutant and inspector general, State superintendent of education, chairmen of military committees of house and senate.	0	Do.
SOUTH DAKOTA—University, College of A. and M. Arts, School of Mines: Regents of education	5	By governor	6	No	None	$1,000 per year	Must be selected from among the different political parties existing in the State.
TENNESSEE—University: Board of trustees	18	14 by governor (10 from congressional districts, 2 from Knoxville, 2 from Memphis), 4 ex officio.	12	Yes	Governor, superintendent of public instruction, commissioner of agriculture, president of university.	0	None.
TEXAS—University: Board of regents	9	By governor	6	No	None	0	Do.
Agricultural and Mechanical College— Board of directors	9	....do	6	No	....do	0	Do.
College of Industrial Arts— Board of regents	6	By governor (3 must be women)	6	No	....do	0	Do.

[1] $2,500 per year (president); $6 per diem (others).

TABLE 1.—*State universities and State colleges—Organization of boards of control*—Continued.

Name of institution and of board.	Members.	How chosen.	Term in years.	Is president of institution member of board?	Titles of ex-officio members.	Compensation of members.	Political requirements.
UTAH—University: Board of regents	14	12 by governor, 2 ex officio	4	Yes	Secretary of state, president of university.	0	None
Agricultural College—Board of trustees	13	12 by governor, 1 ex officio	4	No	Secretary of state	0	Do.
VERMONT—University of Vermont and State Agricultural College: Board of trustees	20	18 elected by legislature (9 university trustees, for life, 9 State trustees for 6 years), 2 ex officio.	Life, 6	Yes	Governor, president of university	0	Do.
VIRGINIA—University: Rector and visitors	10	9 by governor, 1 ex officio	4	No	Superintendent of public instruction	0	Do.
Agricultural and Mechanical College and Polytechnic Institute: Board of visitors	10	8 by governor; 2 ex officio	4	No	Superintendent of public instruction, president of board of agriculture.	0	Do.
Military Institute—Board of visitors	11	9 by governor 2 ex officio	4	No	Adjutant general, superintendent of public instruction.	0	Do.
College of William and Mary—Board of visitors	11	10 by governor, 1 ex officio	4	No	Superintendent of public instruction	0	Do.
WASHINGTON — University: Board of regents	7	By governor	6	No	None	0	Do.
State College—Board of regents	5	do	6	No [1]	do	0	Do.
WEST VIRGINIA—University: [2] State board of control (financial).	3	do	6	No	do	$5,000 per year	Not over 2 from the dominant political party.
State board of regents (academic).	5	4 by governor, 1 ex officio	4	No	State superintendent of free schools	$1,000 per year	Not over 3 from the dominant political party.

WISCONSIN—University: Board of regents	15	13 by governor (at least 2 must be women; 1 appointee from each of 11 congressional districts, 2 at large), 2 ex officio.	6	Yes	State superintendent of public instruction, president of university.	0	None.
WYOMING—University: Board of trustees	11	9 by governor, 2 ex officio	6	Yes	State superintendent of public instruction, president of university (both without votes).	0	Do.

[1] The president of the college is secretary of the board without a vote. [2] West Virginia has created two boards, one to control finances, the other to control instructional affairs.

PRINCIPLES OF UNIVERSITY CONTROL.

The first of these relates to the number of members. *Experience has shown that public administrative boards,*[1] *consisting of from 7 to 15 persons have usually been most successful.* The main reasons are perhaps clear, but the committee ventures to restate them. They are: (1) Business is conducted most expeditiously and efficiently by a group small enough to sit around a single table and to discuss without formal parliamentary tactics; (2) the group should be large enough, however, to represent different elements and opinions in the body politic.

Many successful administrative boards, educational and other, consist of 5 members, as does the present board of regents of the University of Nevada. The committee is quite ready to concede that the difference in efficiency and representative character between a board of 5 and one of 7 members may be very slight or in given cases nonexistent. The criticisms and recommendations which it is about to offer concerning the Nevada board are based primarily on shortcomings in the constitution of that body which have no reference to its size. But the committee feels that, as it is going to urge a complete reorganization of the Nevada board of regents, the question of numbers should not be overlooked. A board of 5 members is more easily dominated by an influential personality than a board consisting of 7 persons. It is considerably easier to get a majority of 3 than a majority of 4.

The second principle to which allusion has been made concerns the method of selecting board members. Reference to the tabular presentation on pages 16–23 will reveal the fact that State boards of regents are in the majority of cases either elected by popular vote or appointed by the governor. The larger number of boards are appointed.

The committee unhesitatingly indorses the appointment of university regents by the governor, with confirmation by the senate, as against popular election. The weaknesses of popular election must already be painfully apparent to the intelligent citizens of Nevada. The drawback which overshadows all others is that the university is thus drawn unavoidably into the turmoil of partisan politics. The university is not on such occasions a major political issue, however. As far as its management is an issue at all, it is distinctly a minor issue.[2] It is the tail of the political kite. Candidates for the board of regents are frequently men to whom the party has refused what are

[1] This refers to boards which exercise legislative functions only. Executive boards whose members devote their whole time to the work of administration (such as the Kansas State board of administration) are not taken into account in this statement of principles.

[2] Advocates of the election of members of city school boards are strenuously opposed to having board members chosen at regular political elections. School issues are then lost sight of. Special elections for school directors are regarded as essential.

regarded as more desirable honors, but who must be recognized. The regency is perhaps a sop to wounded political vanity. Once in office, it becomes necessary to keep up political fences, perhaps to fight for reelection. The possible embroilment of the university in these activities need only be alluded to.

What genuine university issue can there be which once in two years requires settlement at the polls? A university should have no connection with or inclination toward any political party. If it is a question of reviewing carefully the acts or the competency of members of the board, the objection immediately arises that these matters never are, and can not be, weighed in the heat of a partisan conflict. If the State desires to register its opinion on the amount of support the institution should receive, it is not necessary to vote on the regents to do so.

It may also be very strongly urged that popularly elected boards do not in the long run command ability of as high an order as boards chosen by other methods. The common party practice already mentioned of using nominations to the board of regents to satisfy the desire of some men for political reward would of itself tend to place upon the board from time to time persons unqualified for the task. Moreover, few men of the type required for the performance of the duties of regent will of their own initiative engage in the disagreeable business of a campaign for the sake of the opportunity to render a difficult public service. The men who should sit on State boards of regents should be sought. The office of regent then becomes a post of honor bestowed for distinguished merit and integrity, a post which no citizen, however eminent, can refuse to accept. Several States have organized their university boards of regents so that membership of them is regarded in this light. Nothing less will permanently assure to State universities the enlightened government which such important enterprises require.

The foregoing remarks are not intended as a specific criticism of the present members of the board of regents of the University of Nevada. It is not the committee's function to pass judgment on the personal qualifications for their high office of members of the board, past or present. It merely points out that such results as it has just mentioned have been proved by the experience of many States to follow popular election, especially when such election is for short terms on party tickets and simultaneous with a general election. Whether these results have obtained in Nevada may be left to the citizens of the State to determine. It may be remarked in passing, however, that the committee was several times informed that nominations to the board had been used in the way just indicated, and that the participation of certain members of the board (those seeking reelection) in every campaign involves the university to

some extent also. An example of the unsettling effect on university work of this intimate relation of its governing board to party politics was indeed thrust forcibly upon the committee's attention—since its visit was made during a political campaign—and has already been mentioned. (See p. 8.) From all of which considerations the second principle, so often referred to, emerges. It might be stated thus:

The governing boards of State universities should have no connection with partisan politics. This condition is best attained if their members are appointed by some official agent representing the whole community, preferably by the governor.

Certain citizens of Nevada have raised two objections to this proposition. The first is that if regents are appointed the public has no control over them, no power to turn them out if they do not prove satisfactory. The second is that gubernatorial appointments are often made for political reasons, perhaps with a desire to control the board.

The first objection may, of course, be raised against filling any public office by appointment. The incumbent is inaccessible to a discontented electorate. There is no recall. On the other hand, the appointing officer has an opportunity to weigh the qualifications of the appointee for the particular post to be filled with a care that the electorate can never exercise. He is sensible also of the effect on his own reputation and political fortunes of an unfit appointment. In any event, the United States as a Nation and its component States as sovereign Commonwealths are committed to a dual method of filling public office. Federal judgeships, special positions carrying judicial powers, and most offices demanding highly expert capacity under the Federal Government are filled by appointment, and similar positions are in many States filled in the same way. Experience has not demonstrated the superiority of popular election as a means of selecting the holders of positions of this class. The bench of Massachusetts, for example, bears comparison with that of any State where judges are chosen by the people. It is not commonly suggested that the Federal judiciary or the Interstate Commerce Commission would be improved if recruited by popular election.

The second objection is easily disposed of. The safeguard against improper gubernatorial appointments made for political reasons is to render it impossible for any governor to appoint a controlling fraction of the board.[1]

This brings the committee to the statement of the next principle, to wit: *University regents should be appointed for long terms.* Of the two chief reasons for this policy, one has just been stated. The other is that the honor and dignity attaching to the office are thereby

[1] Removal by the governor on proved charges of malfeasance in office may well be provided for in any act specifying gubernatorial appointment.

enhanced. If the governor makes but one appointment to the board of regents each year, or but one in two years, public attention is focused on the office, on the appointee, and on the appointing official. The appointment becomes an event of considerable importance in the life of the State.

A fourth principle, which again is the product of the experience of many communities with public boards similar in functions and duties to boards of university regents, is that *the members of such bodies should receive no compensation beyond their necessary traveling expenses.*[1] This principle is based upon several considerations. The men and women who should be appointed to board positions would not be attracted by the salaries or honorariums which the community is likely to pay. It has never been difficult, however, to find persons of the highest ability who were ready to render a necessary and honorable public service without reward. On the other hand, the salaries which have occasionally been paid to members of educational boards of control have in some instances proved attractive to persons of inferior capacity. The tendency in such cases is to throw the positions into the realm of political influence. Board memberships become "jobs" in the political sense. Once this tendency is established persons of the type that should be drafted for board service are unwilling to accept appointments.

But perhaps the most dangerous outcome of the payment of salaries to members of educational boards is that it begets an inclination to earn the compensation by meticulous attention to the details of administration. Nothing is more disastrous to the proper functioning of an institution. It is essential that the legitimate limits of board action should not be transgressed. The committee understands the sphere of the governing board to embrace three main activities. These are: The determination of the general policies of the institution or institutions under its control, in consultation with the executive officers; the appropriation of moneys or the approval of the distribution of appropriations made by public appropriating bodies; and the appointment of institutional employees on the recommendation of the institutional executives. In other words, the function of the governing board is, in the broadest sense of the word, legislative. If it attempts to usurp executive functions, chaos usually follows.

The committee is happy to testify that the board of regents of the University of Nevada has, to a degree seldom observed in other States, recognized this distinction and that it has for some years confined its activities to the operations just summarized. The foregoing observations are offered, therefore, not in the way of criticism,

[1] The present board of regents of the University of Nevada is an unpaid board.

but rather to complete the statement of the principles fundamental to successful board organizations and to serve as a word of caution in case the State sees fit to reorganize the governing board of its university in the general direction of the recommendations which are to follow.

The last two principles which should be mentioned may perhaps be inferred from what has already been said. At all events, their acceptance by the people of Nevada may be taken for granted, in view of the composition and past policy of its own board of regents. They can therefore be briefly stated, without supporting evidence. They are:

(1) *Members of a university board of regents should be representative citizens, persons of enough education to enable them to form competent judgments on questions of university policy, preferably in a majority of cases university graduates; but not educational experts.* The most successful administration of public education has been furnished by lay boards, representing the best thought of the community and working through expert executive officers. (2) *The scope of the board's activities should be strictly limited either by law or by board ruling to the three general functions outlined above.*

Acceptance of these principles of educational administration will put the State of Nevada in readiness to adopt a system of university control which should remedy many of the past defects in its management and should remove the institution permanently from the baneful influence of politics.

The committee recommends that steps be taken to amend the constitution of the State to permit the creation by the legislature of a board of regents of the State university to consist of seven members, to be appointed by the governor and confirmed by the senate, each member to serve eight years and not more than two to be appointed in any biennial period. It further recommends that no member of the board receive compensation for his services, except his necessary expenses in attending meetings of the board.

The committee recommends a board of seven rather than nine or some larger number of members, because of the immense distances in Nevada and the consequent difficulty which attendance on board meetings imposes on persons living in the southern and eastern parts of the State.

POLICIES OF THE BOARD OF REGENTS.

The committee has inquired with some care into the recent policies of the present board, and it desires to record certain of its observations. Reference has already been made (see p. 27) to the wise division of power and initiative between the board and the executive officers of the university. This division, in so far as it concerns the

question of greatest moment to the educational integrity of the institution, is defined in Article VI, section 5, of the by-laws of the board. The section reads in part as follows:

> The president of the university shall be the official administrator and executive agent of the board. He shall be ex officio a member of all committees; he shall attend the meetings of the board of regents and meetings of all committees; he shall make such recommendations to the board of regents from time to time as may seem to him wise, touching any phase of the university policy or administration. *He shall make all nominations for appointment to positions under the board of regents, and in case nominations are not approved he shall make others. It is not expected that the board of regents will accept without question all nominations of the president, but no appointments can be made without his nomination, and no dismissal can take place without his recommendation.*

This is for the most part admirable. If the State decides to reorganize the board of regents as recommended above the recognition of the proper prerogatives of the executive provided for in this by-law, especially in the italicized portions (italics are the committee's) should by all means be preserved. It is essential both to the maintenance of a sense of security and dignity among members of the faculty and to the defense of true university standards that the initiative, in all matters relating to appointment and dismissal, reside in the president.

Equally wise is the position of the board established three years ago, with relation to tenure of office. The following quotation from the minutes of the meeting of the board held September 22, 1913, states its declared policy:

> The tenure of office of professors and associate professors is unlimited. Every professor or associate professor holds his position as long as he remains an efficient and progressive student, teacher, and investigator. When he ceases to grow, when he is beginning to die at the top, the president may consider whether it is time to sever his connection with the teaching body of the university.
>
> The tenure of office of an assistant professor is five years from the date of his election.
>
> Instructors and assistants are elected annually to their positions.
>
> In case, for any reason, it becomes necessary to dispense with the services of any professor, associate professor, or assistant professor, the university will give official notice at least seven months prior to the close of the year, or on the 1st of December prior to June 30.
>
> In the case of instructors and assistants, the university will give them notice at least five months prior to the close of the fiscal year to as whether the university wishes to retain their services or not.

The Bureau of Education has given considerable circulation and general indorsement to the report of the committee of fifteen of the American Association of University Professors on academic freedom and academic tenure made to the association December, 1915. The two chief postulates of the committee bearing on academic tenure were, (*a*) that appointments should run for a definite term, understood by both parties to the agreement, with ample notice in case of non-

renewal; and (*b*) provision for a judicial hearing whenever it becomes necessary to dismiss a person of professorial rank. The first of the association's demands, which everyone will agree is necessary to place academic appointments on a square and businesslike basis, is amply met by the vote of the board of regents just cited. In view of the public uncertainty concerning the tenure of university professors in Nevada (see p. 8), the committee believes the board might profitably consider the advisability of adopting a rule providing for hearings in cases of dismissal also.

It is apparent that many people in Nevada have little or no conception of academic freedom and the necessity for preserving it at all costs. The committee has before it newspaper articles and editorials published in the State within the year, calling for the dismissal from the university faculty of a professor who expressed in public an opinion on a public question of great moment to the State which differed from the opinions assumed to be held by the president and board of regents. The professor in question was even on one occasion referred to as a "hired man," whose silence, it was argued, in case he did not agree with his official superiors, had been bought by the salary which the State paid him. The committee was amazed to discover that this view of a professor's relationship to public questions appeared to have caused no shock, even to intelligent and fair-minded citizens. It was declared by many that the dismissal called for would probably be made. Such indignation as found expression in the committee's hearing was at the probable loss of a valued teacher rather than at the suggested infringement of the right of free speech.

The committee desires to emphasize the fact that on this vitally important question the board of regents of the University of Nevada has taken a much more advanced and high-minded position than a portion of the press of the State, or than those groups of citizens with whom the committee came in contact.[1] Resolutions passed by the board of February 6, 1914, and appearing in the minutes, constitute a charter of liberties which can be paralleled in few universities, State or private. The committee commends them to the attention of the citizens of the State:

> Whereas there has frequently come before the board of regents for consideration the right of the president of the university and the members of the faculty thereof to enter into matters outside of and nowise connected with the university; and
>
> Whereas it appears to the board of regents that no definite action was ever taken by the board relative to the president and members of the faculty taking part in matters not connected with the university; and
>
> Whereas the board of regents of the university regard it as of fundamental importance that the men connected with the university should exercise the rights and privi-

[1] The questions submitted by the committee on the occasion of its meeting with the board of regents may be found in Appendix, p. 137. All of these were answered fully and satisfactorily by the board.

leges which belong to them as citizens of the municipality, and of the State, and of the Nation: Now, therefore, be it

Resolved, That the president, the members of the faculty, and all others connected with the university are, and have been at all times (in so far as the present board is aware), free to take part in all matters pertaining to the public welfare, as good citizens, and as good citizens to exercise the rights and privileges secured them under the law, with full freedom of thought and action.

And be it further resolved, That when those connected with the university take part in any matters pertaining to the public welfare of the Nation, or the State, or any locality in the State, their action is as an individual member of the community, unless such action is taken under the direction of the board of regents; but in all such matters, whether done for the public welfare of the Nation, or of the State, or any locality within the State, the regents regard it as of fundamental importance that the good name and standing of the university should be considered, and that no such action should be taken by the president, or any member of the faculty, or any person connected therewith, that would reflect upon the university, without first consulting the board of regents; and that no action should be taken by those connected with the university which would tend to create in the public mind the opinion that they were acting in any other capacity than that of an individual.[1]

And be it further resolved, That all matters affecting the university in any way must be first referred to the president, and by him to the board of regents, for final action.

While it is evident that in respect to three of the most important questions with which a governing board has to deal—namely, the division of power and initiative, the tenure of office, and academic freedom—the policies of the board of regents of the University of Nevada have been essentially sound, there are other directions in which the board is obviously open to criticism. During the administration of a former president the board saw fit to separate the financial from the educational administration of the university, placing the former in the hands of the comptroller (under the general direction of the board) and exempting that official from responsibility to the president.[2] The president has thus not only been deprived of authority in fiscal matters, but has even to some degree, by force of circumstances, been in ignorance of the current status of the various funds by which the educational work of the university is supported.

In a recent survey of the higher institutions of Iowa the Bureau of Education came in contact with a similar provision for separating the presidents[3] from direct contact with institutional finances. The committee quotes the comment of the bureau on this practice:

> To one unfamiliar with the actual internal workings of an American State university it may seem wholly practicable to divorce the educational supervision from all fiscal control, and, as already indicated, this has more than once been suggested. But to persons cognizant of the actual circumstances the practicability of this plan seems open to grave doubts. Not only must there be some one whose judgment in educational matters can be trusted when expenditures for wholly new enterprises are at issue; there must also be some authority who shall determine the thousand and one questions of *detail* in

[1] The committee notes that the phraseology of this paragraph is not so clear as might be wished.

[2] The president and the board of regents have, however, prepared the general budget.

[3] In Iowa three State institutions are governed by a single board, which employs a finance committee to handle financial matters.

expenditure within the limits of a general budgetary program. For example, who shall determine whether, of $2,000 available in general funds, the department of botany shall be allowed to purchase certain desired and perhaps essential additions to its equipment or instead of this the department of history be permitted to make indispensable additions to its library? Only one can be done at a time. Questions of this kind under any budgetary system are constantly coming up in the larger institutions, and it seems somewhat obvious that an intelligent college president is more likely to reach a decision based on a just consideration of the educational issues involved than any layman, however well intentioned. Illustrations of the same type might be repeated indefinitely.

The committee found that the conditions suggested in this paragraph had been to a certain extent realized at the University of Nevada. Budgets made with sincere intentions have repeatedly been broken. Heads of departments have been uncertain of the amounts of their departmental appropriations, uncertain whether unexpended balances in their favor would still be available in the latter part of the fiscal year, uncertain which official should be approached for funds to carry on needed departmental work. Nearly every department head interviewed by the committee reported these difficulties and complained especially of the instability of departmental budgets. Confusion has reigned, not altogether unmixed with distrust.

Perhaps a still more serious mistake of the board has been its recent apparent unwillingness to answer legitimate inquiries regarding the university policies and finances. The committee has already referred to the consequences of this attitude. (See p. 8.) A particular instance occurred during the current year when the board declined to answer a series of questions concerning the financial management and educational policy of the institution addressed to it by a daily newspaper in the State.

The committee can understand the board's very natural reluctance to publish such a circumstantial account as was requested of the salaries and traveling expenses of the university officers and of other incidental expenses of the institution; nevertheless, the committee is convinced that the board should have furnished the statement. Subsequent developments would seem to confirm the committee's opinion that, in the long run, less harm would result from full publicity, however objectionable, than from an apparent desire to keep any facts concealed. The committee believes that the case under discussion has aroused so much public interest in the State as to justify specific mention in this report. It also desires to state emphatically that its investigation disclosed no evidence that the board's management of the matters concerning which questions were asked was unbusinesslike or prejudicial to the best interests of the institution. For the enlightenment of those citizens who have perhaps entertained a different opinion, it publishes in the Appendix (p. 137) the inquiry, the board's rejoinder, and the answers to the questions raised which had been prepared by the university officers and which were submitted to the committee at its

request. The committee was furnished also with copies of other supporting evidence, pay rolls, etc., which confirmed the officers' statements, but which it judges unnecessary to print.

The board's failure to give sufficient publicity to its financial transactions seems to have been in part due to its earlier mistake of separating the educational from the financial management of the university. The comptroller's office developed a system for recording the fiscal operations of the university which was not designed to facilitate the furnishing on short notice of information on any particular phase of the institution's activities. The board realized this defect, and in the summer of 1916 sought the advice of the comptroller of the University of Illinois with a view to installing a new system of accounting. The system proposed and since adopted by the board is in harmony with recommendations of the Association of Business Officers of the State Universities and Colleges of the Middle West, and represents in general a thoroughly approved form for the conduct of a university comptroller's office. Its distinguishing feature is complete budget control. With such a system the executive may know at all times the exact status of every fund and of the university finances as a whole. Under it the responsibility for the financial as well as for the educational management of the institution is restored to the president, to whom it properly belongs. At the time of the committee's visit the books of the university were being audited preparatory to the installation of the new system, which was to be put in operation, so the committee was informed, in January, 1917.[1] The committee's comments on the details of the system, with certain minor criticisms, appear in Chapter IX. Its general indorsement of the plan may be recorded here. With this instrument, and the committee believes with its changed intentions, the board will be in a position to meet the demand for greater publicity of university transactions.

The committee desires to refer to one other matter which perhaps may not properly be described as a policy of the board, yet in which the board's actual procedure may from time to time bear some of the aspects of a deliberately adopted policy. Under the law the board's freedom of choice is limited in one of the most important of its functions, namely, the selection of the president of the university. The section of the act specifying the powers and duties of the board was quoted at the beginning of this chapter. The paragraph relating to this matter is so extraordinary that it is worth requoting here:

Fifth. To appoint a president of the university who shall have a diploma from some recognized college of learning of good standing or some State normal school, who

[1] In connection with this change in the system of accounting an extraordinary accusation was brought to the committee's attention. It was assured that the transfer of items from one set of books to another was a device to cover financial obliquity, and that the old books were then to be burned. The committee can only point out that this preposterous suspicion is one more of the fruits of the board's reticence.

has had at least five years of practical experience as an instructor, who is familiar with the modern methods of imparting instruction generally approved in the United States, and who shall be indorsed as to moral character and qualifications as an instructor by the president and faculty of three institutions of learning authorized by law to confer degrees.

The only explanation which the committee can see for the inclusion in the act of such a prescription is that the earlier legislators who passed the act did not trust future boards of regents to use due diligence and precaution in choosing a university executive. In effect the law, if strictly observed, takes the selection of the president out of the board's hands. The committee judges, moreover, that the terms of it would generally be exceedingly difficult to fulfill. Aside from men of the first eminence in the educational world, men for the most part occupying commanding positions and so beyond the reach of new offers, the committee believes there are not perhaps at any one time more than a small handful of individuals in the entire country who could secure the indorsement of three faculties to their candidacies for the position of president of the University of Nevada. Members of university and college faculties, in the committee's experience, are extremely cautious in giving recommendations. They feel that they must personally be able to vouch for any person to whom they give approval. It is evident that few men could be sufficiently well known to three faculties to secure their intelligent indorsement, and if the indorsement is merely perfunctory it is of course worthless.

If the committee's estimate of the number of candidates who could at any time meet the terms of the law is too conservative, it is still convinced that on other grounds such a prescription is very unwise. The qualifications which make a good president, especially of a small institution in a State like Nevada, may be the product of quite other influences than the somewhat nomadic experience demanded by the law. The committee can conceive that a small State university in a State which is still to be developed might, under certain circumstances, be well served by a young man who could come to it in a spirit of consecration and enthusiasm, prepared to devote his life to it, to grow up with it, to help build a State, with all a young man's ardor for such a task. The committee can conceive that the board might find an individual possessing all the rarer qualities essential to a good executive and an educational leader, and yet, under the terms of the present law, not be able to appoint him.

The committee suggests that limitation of any sort upon the freedom of the board in making appointments is highly undesirable, and it ventures to repeat its dictum, expressed earlier in the report, that the people of the State should take pains to provide for the manage-

ment of the university by competent representatives, should give them full freedom of action, and should then hold them strictly responsible for the success of the undertaking. In accordance with this conviction, the committee recommends that, if the board is reorganized as proposed, the provision that the president must be indorsed as to moral character and qualifications as an instructor by the president and faculty of three collegiate institutions be not included in the law defining the powers and duties of the board of regents.

In the following chapters the committee takes up the work of the university, its relation to the State, and important phases of its internal management.

SUMMARY OF RECOMMENDATIONS.

1. The change of the system governing the selection of the board of regents and the creation of a board of seven members, to be appointed by the governor and confirmed by the senate, for terms of eight years.

2. In case the system is changed as indicated, the abolition of the prescription requiring the person appointed as president of the University of Nevada to be indorsed by the president and faculty of three collegiate institutions.

Chapter III.

HIGHER EDUCATION IN NEVADA AND THE FACTORS WHICH CONDITION IT.

It is the purpose of this chapter to indicate the general relationship of the University of Nevada to the State. The development of a State university and the character of the instruction that it offers are conditioned in a peculiar degree by the social needs of the State in which it is located and by the facilities for secondary training which the State affords. In a certain sense there is and can be no common type of State university, nor even an ideal State university, apart from its environment. Every State university is more or less the product of local conditions and local exigencies. This fact accounts in large measure for the great variations among American State universities. Apparently these variations are not accidental and temporary, but permanent and essential. They do not of course necessarily affect standards of educational work. It may be possible in time to establish a single national standard for higher education. Indeed, such a standard is being constantly more closely approximated. The variations represent rather differences of organization and method brought about by the different types of service demanded. The obligation therefore clearly rests on State university officials to effect as close a correlation as possible between the offerings of the university and the needs of its constituents. The outside investigator who is called upon to estimate the wisdom of a State university's policies and the efficiency of its management must also study the field of the university; that is, the State.

THE STATE OF NEVADA.[1]

Certain uncompromising characteristics of the State of Nevada at once demand consideration. Their influence on the evolution of education, both higher and secondary, has been determinative; they will doubtless continue to affect it. Nevada is sixth in land area and forty-ninth in population among the States and Territories of continental United States. The rainfall throughout the State is for the most part insufficient for the growing of crops, without irrigation,

[1] The statistical material relating to industries and population in this chapter is taken from the Thirteenth Census of the United States, Statistics of Nevada; and Vol. IV, Occupation Statistics, Abstract of the Thirteenth Census, unless otherwise noted.

and there is little undeveloped water power. The State is crossed from north to south by a series of high mountain ranges, with broad arid valleys between. The slopes of the mountains offer pasturage for live stock. Owing to the scarcity of water, but 3.9 per cent of the land area of the State is devoted to farms (census figures of 1910), and this includes the large ranches using the public domain for grazing purposes. Approximately 1 per cent of the area of the State is irrigated. This constitutes 93.3 per cent of the land in farms which is reported by the last census as improved. Nevertheless, about 75 per cent of the land devoted to farming is not irrigated and, as has just been indicated, for the most part not improved. This land is used chiefly for grazing. The greater portion of it does not appear to be susceptible of irrigation. Crop production under irrigation is abundant. The approximately three-fourths of a million acres of improved farm land yielded in 1909 (the last census figures available) crops valued at nearly $6,000,000. Seventy per cent of these crops, however, were hay and forage, i. e., crops used largely for the support of live stock.

These facts should be associated with the following. Of the somewhat more than $60,000,000 reported as the value of farm property in 1909, about one-third was represented by live stock. The average number of acres in a farm was 1,009.6, and the average value of individual farms was $22,462. The farms other than those used almost exclusively for grazing purposes, however, are not on the average very large. The inclusion of the large ranches, often 50,000 to 100,000 acres in extent, accounts for the high average acreage per farm for the State. In spite of the small proportion of the area of the State devoted to agricultural purposes, agriculture is one of the two major industries, as regards both the value of the investment and the number of persons engaged (see figure on p. 41). It has increased rapidly in magnitude, as is indicated by the fact that in the period from 1900 to 1910 the increase in the total value of farm property was 110.6 per cent. Nevertheless, agricultural operations have been and apparently will for a long time continue to be preponderatingly those concerned with the raising of live stock. Not only the climate and topography of the State, but also the present ownership and control of agricultural lands, tend to foster this branch of agriculture.[1] Tenant farming, it should be noted, is as yet little practiced. All but 12.4 per cent of the farms were in 1910 operated by owners or managers.

The other major industry is mining. Nevada is in fact one of the principal mining States of the country. The Comstock lode, the

[1] The further development of intensive agriculture as practiced on irrigated lands is urgently needed. On the products of such agriculture the urban and village communities largely depend.

extraordinary deposits at Tonopah, Goldfield, and other places have yielded hundreds of millions of dollars in gold and silver, a product, it might be remarked in passing, which has largely been carried out of the State and of which the State has never received its just tithe. Statistics several years old are particularly unsatisfactory as relating to an industry subject to such rapid fluctuations as mining. The latest census returns are for the year 1910, just after the mining boom of 1907. Since then the industry has suffered a considerable depression and has latterly begun to recover. In spite of their antiquity, however, certain of the figures of the 1910 census may serve to give a general idea of the extent of mining operations. In that year there were 1,021 mines and quarries, in which an aggregate of $156,607,108 was invested. The number of persons engaged in the industry was 8,785[1] and the total reported value of the product $23,271,597. It is commonly asserted by those qualified to speak that only a small fraction of the mineral resources of the State has thus far been exploited.

As against the extent of agriculture and mining the manufacturing industries of the State are comparatively small. In 1909 there were were but 177 manufacturing establishments, involving a capital of $9,807,000. The number of persons engaged was 2,650,[2] and the total value of the product $11,887,000, of which but $3,521,000 was added by the manufacturing process.

Physical characteristics and the types of industries whose development they permit naturally determine in large degree the size and distribution of a State's population. The population of Nevada was 81,875 in 1910. Since 1870, the first census year subsequent to the admission of the State to the Union, the population has undegone extraordinary fluctuations. Between 1900 and 1910 it increased about 93 per cent. The estimated fluctuations in this 10-year period, together with age and sex distribution of the population (Indians excluded), are presented in the table published below:[3]

[1] Compare figure on p. 41. The discrepancy between the number just given of the persons engaged in mining and the number on which the figure is based is due to the fact that the occupational statistics collected by the census include all individuals who report a given occupation as their means of livelihood whether or not they are employed in it at the time of the enumeration. The statistics of the mining industry from which the figures above are drawn record only the number of persons actually engaged in mining during the census year.

[2] Compare figure on p. 41. The category manufacturing and mechanical industries used as the basis for the figure includes carpentering and other outside occupations. The manufacturing industries alone are referred to in the text above.

[3] The table and notes were prepared by Prof. R. Adams, of the University of Nevada. The estimate for the year 1905 differs widely from the estimate reported by the United States Bureau of Census, the latter being based on the rate of increase in the preceding decade. Prof. Adams also estimates the increase between 1910 and 1914 at approximately 5 per cent instead of the 20.58 per cent reported by the census.

TABLE 2.—*Estimate of the growth of population of Nevada, 1900–1910 (Indians excluded).*[1]

Population, by ages.	1900, census.	1904, estimate.	1905, estimate.	1907, estimate.	1910, census.	Per cent of increase in decade.
All ages and both sexes	37,119	50,000	60,000	85,000	76,646	106
Males of all ages	22,911	34,000	41,000	58,000	49,918	118
Females of all ages	14,208	16,000	19,000	27,000	26,728	88
Males 21 years and over	16,139	26,500	33,000	48,000	38,499	138
Males under 21 years	[1] 6,772	7,500	8,000	10,000	[2] 11,419	41
Females 21 years and over	7,697	9,400	12,200	18,500	16,629	116
Females under 21 years	[1] 6,511	6,600	6,800	8,500	[2] 10,099	55
Males 6 to 20 years	4,765	4,800	5,000	7,000	7,811	63
Females 6 to 20 years	4,301	4,200	4,500	6,000	6,747	56

[1] Children 10 to 14 years of age constituted 22.1 per cent of all persons in Nevada 5 to 19 years of age, as against 24.1 per cent for the United States. The evidence of an increase in population, so far as found in statistical form, is not of a character to permit of an estimate of the highest degree of accuracy

The reports of the State comptroller show that the receipts from gaming licenses increased as follows: 1900, $5,663; 1904, $11,623; 1905, $29,462; 1907, $36,061. The growth in receipts constitutes very good evidence of the increase in population, and it is an indication of the homeless and migratory character of many of the workers. We can not, however, assert the existence of any constant ratio between gambling games and population.

The total assets of all national banks experienced a marked increase, as follows:

1900	$549,000	1908	89,281,000
1901	614,000	1909	9,630,000
1902	640,000	1910	10,561,000
1903	794,000	1911	10,070,000
1904	1,637,000	1912	11,469,000
1905	2,136,000	1913	10,895,000
1906	3,137,000	1914	9,867,000
1907	9,086,000	1915	10,179,000

The school census reports are of considerable value in determining the population of school age, 6–18 years, but allowance must be made for the fact the number given before 1908 were too large, because of an effort on the part of some districts to get more than their fair share of the distributive school moneys. Because of the lack of efficient school supervision the reports of school enrollment are defective, but the error is in the opposite direction: too small a number of children were reported. The report for 1908 as compared with that of 1907 show a decrease in the number of school census children amounting to 1,038, and at the same time the reports of teachers showed an increase in enrollment amounting to 2,220. The new supervision system had reduced the number of census children by stopping fraudulent counting, and there was a full count on the enrollment. According to reports, the enrollment of 1907 was equal to 57 per cent of the number of census children, and in 1908 the enrollment rose to 81 per cent.

The vote for candidates for Congress affords a basis for estimating population, and there is an approach toward a constant ratio between the number of votes and the population, but this ratio is not to be relied upon implicitly. In periods of very rapid gains in industrial activity men move about so much that they may fail to gain a voting residence, or they may fail to develop an interest in elections such as to bring out a full vote. Our vote in relation to the number of adult males is always small, and in periods of great business activity it is unusually small. Consequently a migration of a few thousand adult males from the State in a time of reduced activity is not accompanied by a reduction of the vote in corresponding measure.

The vote for candidates for Congress 1900–1910 was as follows: In 1900 it was 10,165 votes, in 1902 it was 10,921, in 1904 it was 11,398, in 1906 it was 14,236, in 1908 it was 23,891, in 1910 it was 20,163.

[2] A few persons of unknown age are treated as minors.

Nevada had seven incorporated cities in 1910, only two of which, Reno and Sparks, came under the census definition of a city, i. e., a place having 2,500 inhabitants or more. The smallest of these incorporated places, Searchlight, had a population of 387. The aggregate population of the seven cities was 19,698, or 24.1 per cent of the total population of the State. The designation of only incorporated places as cities, however, does not adequately represent the distribution of Nevada's population between urban and rural territory. Several very small places were incorporated, and two of the three largest towns were not. The population of the larger towns was as follows:

Reno	10,867	Carson City	2,466
Goldfield	4,838	Virginia City	2,244
Tonopah	3,900	Ely	2,055
Sparks	2,500	Winnemucca	1,786
		Caliente	1,755
Towns of 2,500 or more	22,105	Elko	1,677
		Towns with less than 2,500	11,983

TABLE 3.—*Per cent of urban population.*

	Aggregate population.	Per cent of total population.
Towns having a population of 2,500 or more	22,105	26.9
Towns having a population of less than 2,500 and more than 1,500	11,983	14.7
Total	34,088	41.6
Population of State	81,875	.....

According to the census calculation Nevada is chiefly a rural State. Actually, however, a rather small percentage of its inhabitants live in farm communities. The majority live in small towns. It is estimated, for example, that about 12 per cent of the children of school age reside in farm districts. Over half are found in the 10 leading towns, and most of the remainder in the other towns and villages. In this respect the conditions of the State are unique. It should also be noted that no large cities are located close to its borders in other States. These facts have an important bearing on the whole educational system, as will later be apparent.

Certain large generalizations concerning the character of the population are also of moment. The accompanying graph (figure 1) shows the distribution among various pursuits of the persons engaged in gainful occupations in 1910. Figures 2, 3, and 4 show the similar distribution in groups of neighboring States, of Middle Western States, and of Eastern States. The following table gives the per cents of the population of Nevada and of the United States engaged in the different kinds of occupations.

TABLE 4.—*Persons 10 years and over engaged in gainful occupations in 1910.*

Occupations.	Nevada.	United States.
	Per cent.	*Per cent.*
Total	100.0	100.0
Agriculture, forestry, and animal husbandry	19.5	32.2
Extraction of minerals	21.9	2.5
Manufacturing and mechanical industries	17.0	27.9
Transportation	11.4	6.9
Trade	7.6	9.5
Public service (not elsewhere classified)	1.4	1.2
Professional services	5.5	4.4
Domestic and personal services	12.7	9.9
Clerical occupations	3.0	4.6

Figure 5 represents the racial composition of the population of Nevada, both the gross numbers and the percentages of each group being shown.

Still more significant for its bearing on education is the following table showing the age distribution in 1910 of the population of

Nevada, of the population of the United States, and of the population of Arizona, Utah, Colorado, and New Mexico combined. Figure 6 represents a comparison of Nevada and the United States with respect to the age distribution of the population.

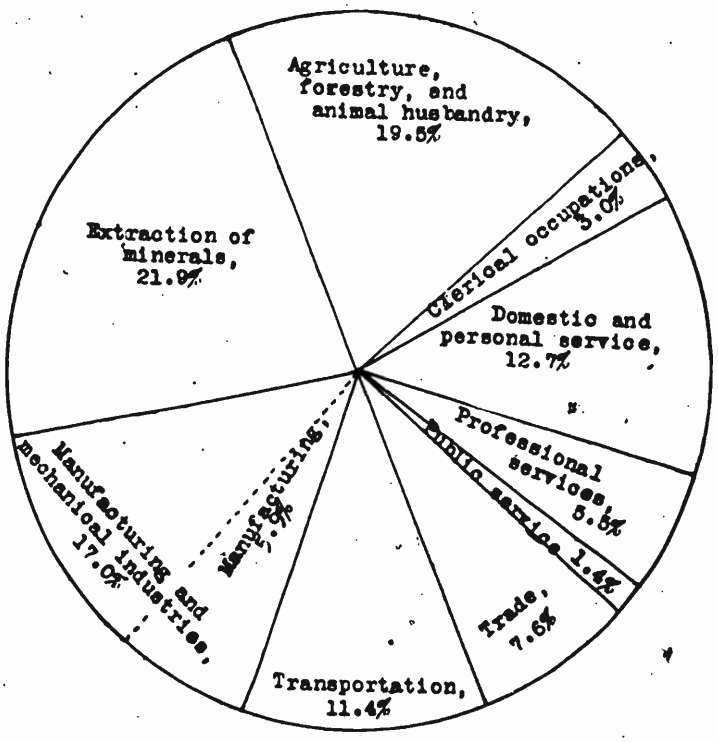


FIG. 1.—Distribution of persons engaged in gainful occupations in Nevada, 1910.

TABLE 5.—*Age distribution of total population, 1910.*

	Nevada.		United States.	Arizona, Utah, Colorado, and New Mexico.	
		Per cent.	*Per cent.*		*Per cent.*
Total	81,875	100.00	100.0	1,704,030	100.00
Under 5 years	6,383	7.80	11.6	205,323	12.05
5 to 14 years	10,606	12.99	20.5	346,691	20.34
15 to 24 years	13,301	16.20	19.7	326,111	19.13
25 to 44 years	33,717	41.20	29.1	525,060	30.87
45 to 64 years	14,224	17.40	14.6	240,490	14.11
Over 64 years	3,644	3.80	4.3	54,376	3.20

Two other sets of figures are also worthy of record. In 1910, of the total population 10 years of age and over, 6.7 per cent was illiterate.[1] In the total population of the State there were in the same

[1] This includes the Indians, a racial group that contains a high percentage of illiterates.

year 55,551 males and 29,324 females, or 179.2 males to 100 females. In the urban population there were 133.1 males to 100 females, and in the rural 190.4.

From the foregoing a number of interesting conclusions immediately detach themselves. With respect to population and industries Nevada still exhibits the characteristics of a frontier State. Its vast territory supports but a handful of people. These are chiefly native whites, and the majority of the foreign-born come from the hardy adventurous stocks of northern and western Europe. The inhabit-

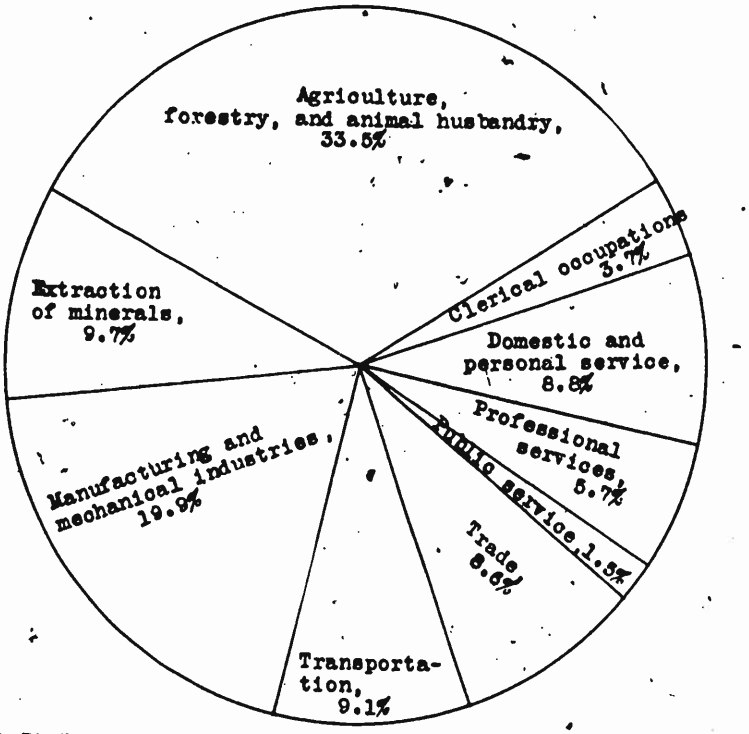


FIG. 2.—Distribution of persons engaged in gainful occupations in Utah, Colorado, Arizona, and New Mexico combined, 1910.

ants are moreover preponderatingly in the prime of life and preponderatingly males. This makes possible a high degree of productive power as compared with the number of persons to be supported and the number of children to be educated. The percentage of children is unusually small. The people are widely scattered, living for the most part in small isolated communities and mining settlements. The few cities are principally distributing centers, and with the exception of Reno have shown little stability of population. The two dominant industries, grazing and mining, are frontier industries.

The latter especially, owing to its rapid and unforeseen fluctuations, leads to a constant shifting from place to place of those engaged in it. There has been of late, however, a tendency toward a steady increase in population. Apparently the continuance of this tendency will depend to a great extent on the discovery and exploitation of further mineral resources and upon the development of agricultural pursuits apart from the production of live stock.[1] Such agricultural develop-

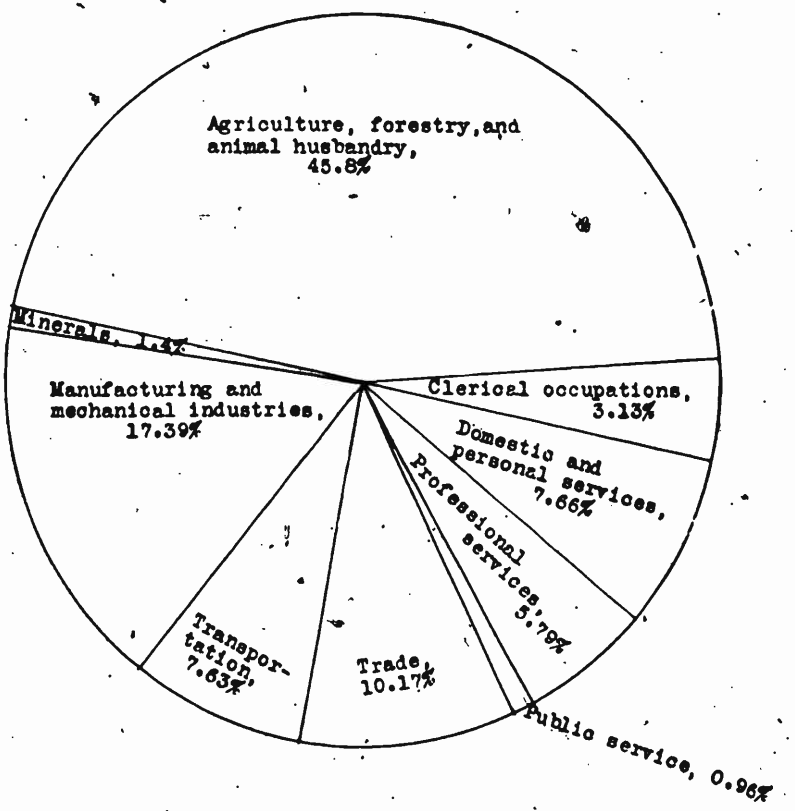


FIG. 3.—Distribution of persons engaged in gainful occupations in South Dakota, Nebraska, and Iowa combined, 1910.

ment is only possible with the aid of irrigation or through the evolution and spread of new types of farming which are as yet little or not at all practiced.

It seems manifest that the organized public effort of the State must for a long time to come be focused on the full development of its natural resources. This purpose should constantly inform legislation. It should be one of the principal aims of education.

[1] The great cattle and sheep raising industries require but few people. Their further development will not materially increase the population.

The State needs both practical farmers and trained agriculturists. It needs mining engineers, civil, mechanical, and electrical engineers. As will later be emphasized, it greatly needs teachers, not only to spread the knowledge of those practical arts and technical processes involved in the occupations of rural and mining communities, but quite as much to help enrich and interpret life in environments where of necessity the pressure of material things is severe. On the other hand, the State has no large immediate need for members of the so-called learned professions, for highly trained business administrators, or for practitioners of various of the less common higher technical branches. The numbers of these persons in the total population are always small, and the present requirements of the State can be met by training agencies already established in other sections of the country.

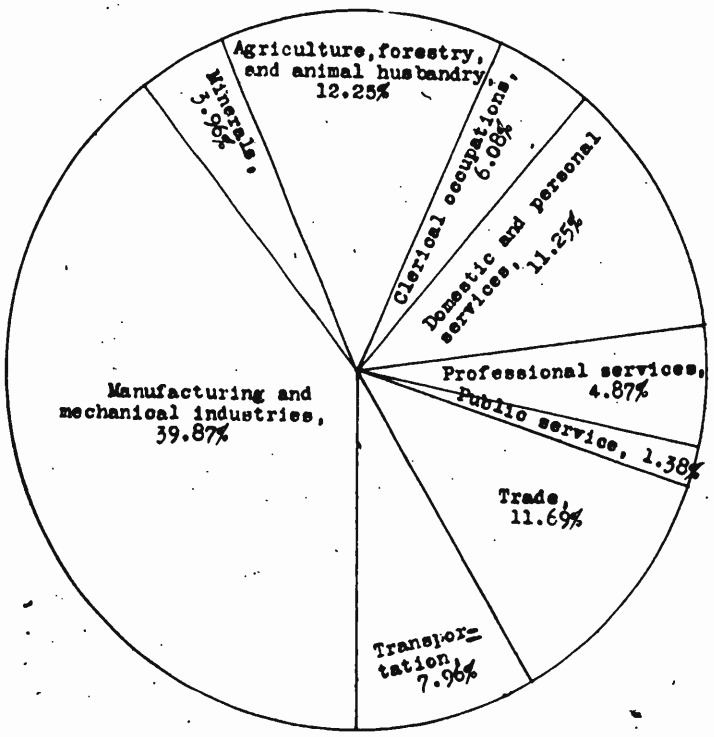


FIG. 4.—Distribution of persons engaged in gainful occupations in New York, Pennsylvania, New Jersey, and Ohio combined, 1910.

SECONDARY EDUCATION IN NEVADA.

The commission created by the State legislature in 1915 to survey the educational institutions of the State—and at whose request the Bureau of Education has made the present study—will report

in detail on the secondary schools of Nevada. The brief summary offered herewith is presented in order that the university may be seen in its educational setting. State-supported higher institutions belong to the State system of public education. Their connection with the secondary schools of the State is close and definite. The character of the courses which they offer to entering students is

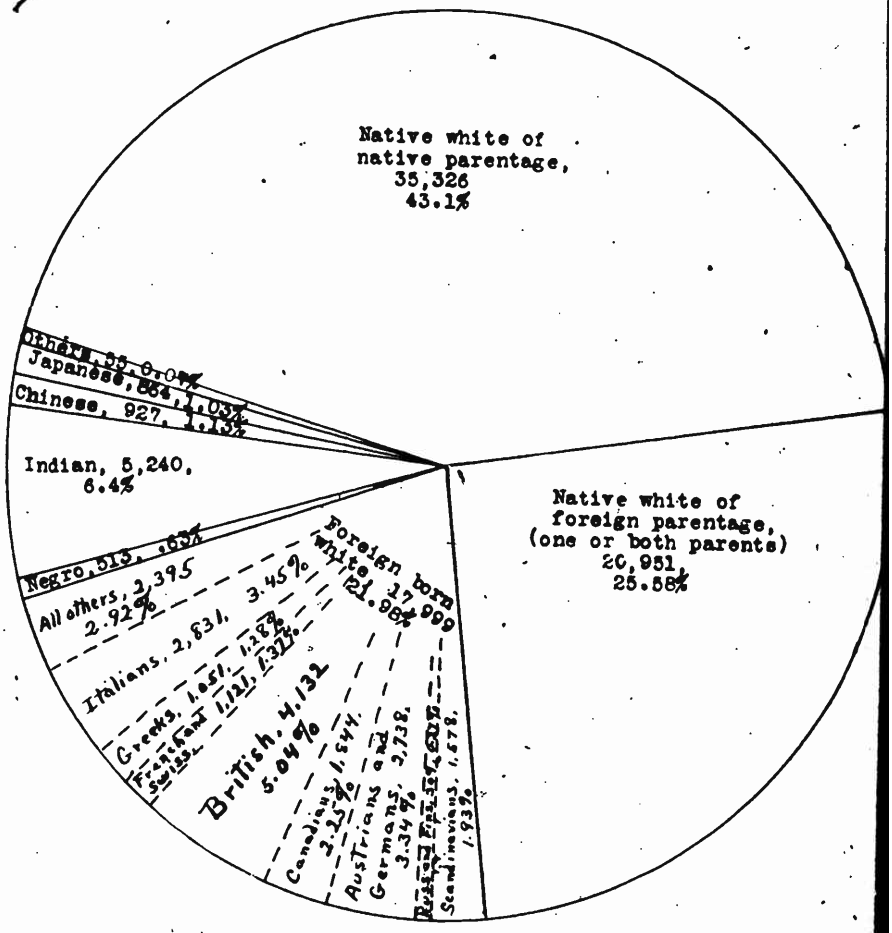


FIG. 5.—Racial composition of population.

largely determined by the work of the secondary schools. As a rule the great majority of their students are drawn from these schools. To be fairly estimated, therefore, they must be viewed against the background of the secondary schools.

Secondary education in Nevada exhibits one unique peculiarity—it is wholly public. The difficulties under which secondary schools

have been established and maintained have also been extraordinary. The facts adduced above concerning the topography of the State and the distribution of its population bear out this assertion. Nevertheless, the development of secondary school facilities in the last

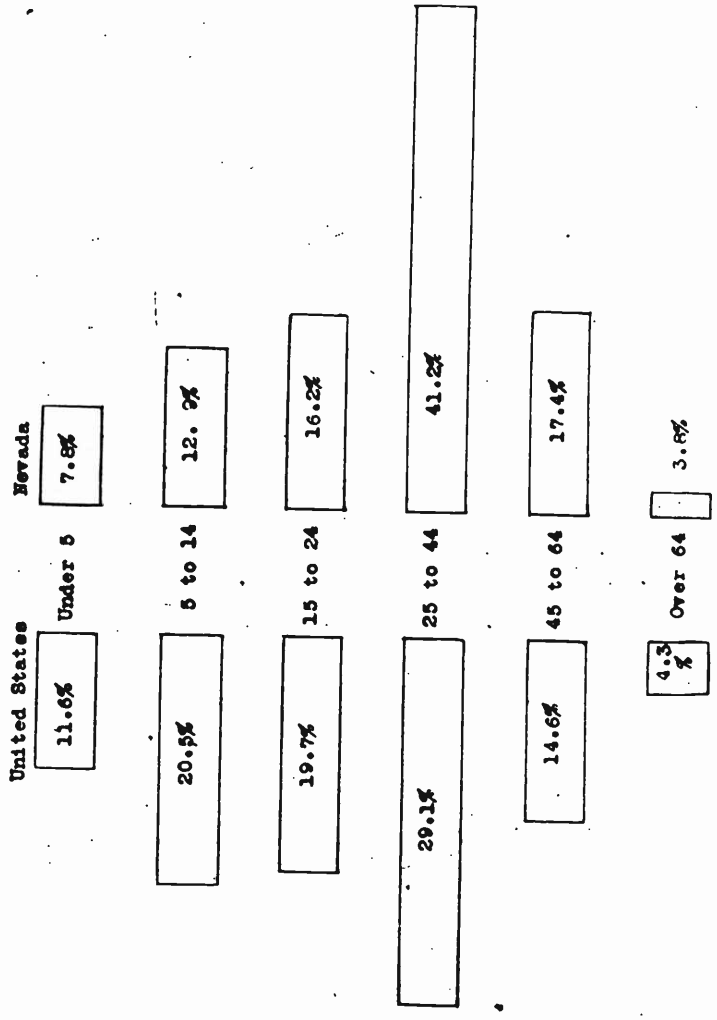


FIG. 6.—Age distribution of total population in 1910—Nevada compared with United States.

10 years has been exceptionally rapid. The following table shows the percentage of gain and loss in population, school population, and secondary enrollment from 1895 to 1914. A table showing growth in these three directions in 15 other States is given in the Appendix, p. 142.

TABLE 6.—*Percentage of gain and loss in population, school population, and secondary enrollment from 1895 to 1914.*[1]

[Figures in italic show per cent of loss.]

Years.	Population.	School population.	Secondary enrollment.
1895	42,010	9,408	322
1900	42,335	9,260	568
Per cent	*1.57*	*1.57*	76.09
1905	42,335	9,013	422
Per cent	0.00	*2.67*	*25.18*
1910	81,875	17,439	836
Per cent	93.39	93.48	98.10
1914	98,726	16,201	1,022
Per cent	20.58	*7.09*	22.25

Figure 7 illustrates graphically the facts presented in the table and shows also the growth in higher educational enrollments. Nevada does not rank particularly well with other Western States in the percentage of the whole number of pupils that is enrolled in secondary schools. Reference to the table on p. 41, however, will show that the age group including persons of high-school age is unusually small. Of the 11 Western States, 5 show a larger percentage of the whole number of pupils undergoing secondary education. But one shows a smaller percentage of the total population enrolled in secondary schools.[2]

Viewed from another angle Nevada's secondary school system bears a somewhat favorable comparison with those of other new and sparsely settled States. There were 19 four-year high schools in 1915–16. Seventeen of these were accredited by the State University.[3] The entrance requirements of the university are standard in amount and scope. (See p. 69.)

The citizens of Nevada have faced great physical obstacles to the development of secondary education, but they appear already to have laid a sound foundation for a secondary school system. Incidentally it might be remarked that the cost both in money and in effort has been large. The State must look forward to even greater expenditures, however, before Nevada can have a fully developed system of secondary schools.

In reports made on other State systems of education the Bureau of Education has indicated by extending upward the enrollment

[1] The figures of population and school population are taken from the United States Census report. There are discrepancies between these figures and those in the table on p. 39, which are explained in the notes on the latter table. Secondary enrollment figures are obtained by the Bureau of Education through direct reports from the schools.

[2] Indeed Nevada has a smaller percentage of the total population enrolled in all types of educational institutions combined than any other State in the Union. The per cent is 12.6, as against 21.4 for the whole United States. This is chiefly due to the smaller proportion of children.

[3] An accredited school is one whose standards and equipment have been approved by the agents of a higher institution (generally the State university) and whose graduates are accepted for entrance by that institution without examination.

curves the numbers that might be expected in schools and colleges at various future periods. While of course an accurate forecast of future enrollment can not thus easily be obtained, undoubtedly the

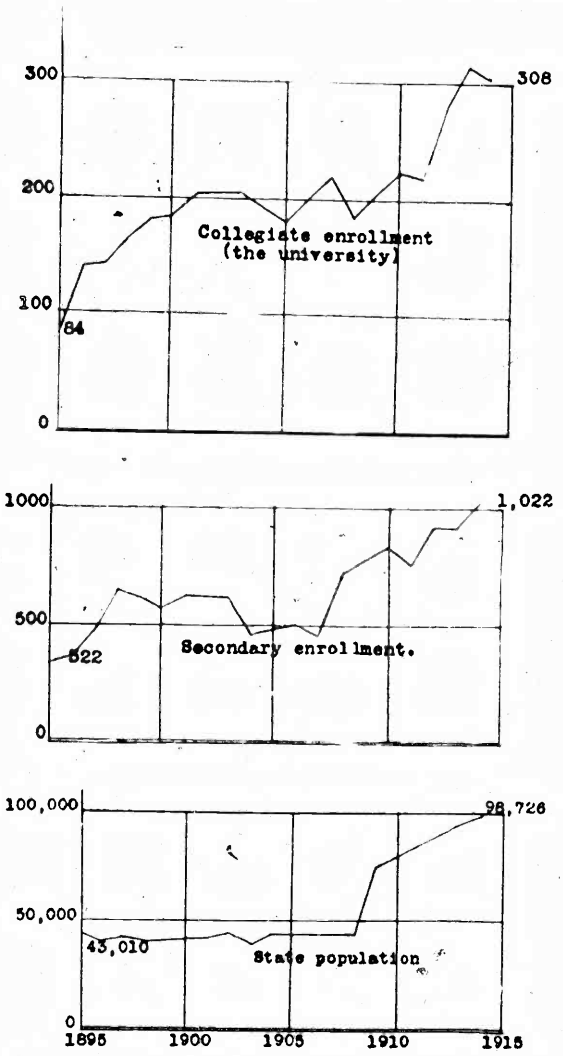


FIG. 7.—Population of Nevada—Collegiate and secondary enrollment.

general tendency is by this means rather vividly illustrated. Below are the curves of secondary school and collegiate enrollment projected from the year 1914 to the year 1925 (figure 8). It will be noted that the actual gain in secondary enrollment in the last two

years has been considerably greater than the number indicated by the projected curves for this period. The hypothetical enrollment

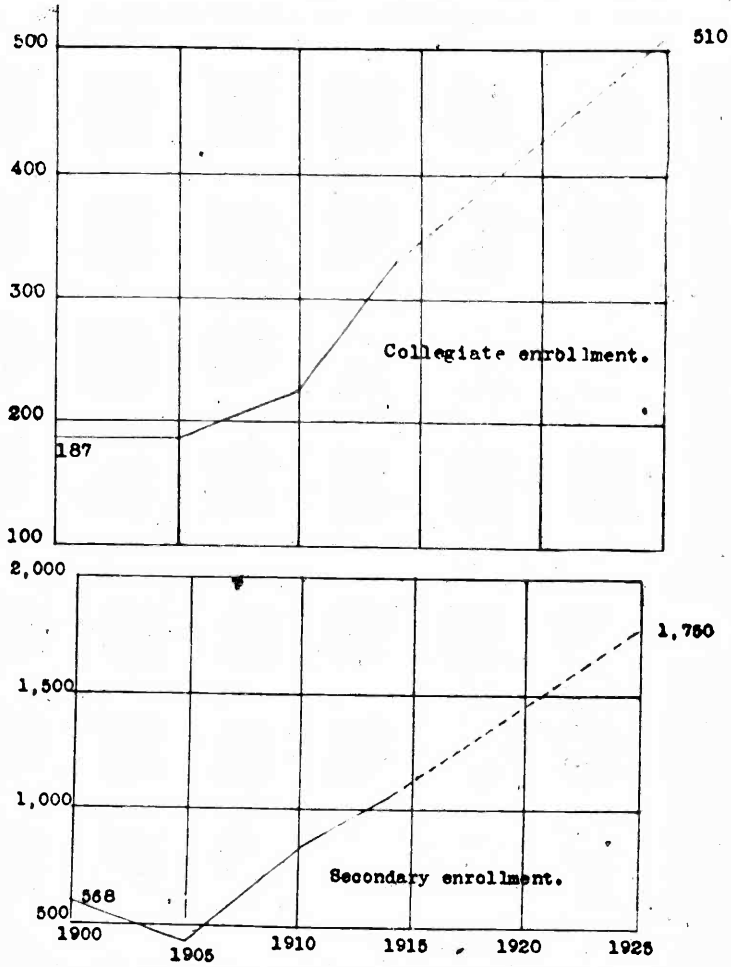


FIG. 8.—Collegiate and secondary enrollment, 1914 to 1925.

figure (1,750) for 1925, therefore, is probably a very conservative prophecy.[1]

[1] The committee is not unaware of the fact that many other circumstances than those mentioned here will affect the size of secondary enrollments. Naturally the small percentage of persons under 24 years of age (in Nevada it is approxiately 26 per cent of the total population, as against 51 per cent for the whole United States) is a retarding factor. The rate of growth in population often has a considerable influence also, although in the present stage of American education this influence is sometimes less than may be imagined. For confirmation of this statement the reader is referred to Bulletin, 1916, No. 19, pp. 17-23, and Bulletin, 1916, No. 26, pp. 25-30, Bureau of Education. In a State like Nevada movements in population and the development of transportation facilities are likely just now to have much more effect on secondary enrollments than even a large and unexpected increase in the number of inhabitants. Then, of course, the standards and traditions of new immigrants determine in large measure whether or not their children shall frequent high schools.

HIGHER EDUCATION IN NEVADA.

Nevada is one of five States in which the only institutions of collegiate rank are State institutions. In but two other States, however, Delaware and Wyoming, is all work above high-school grade, including teacher training, concentrated at the State university.[1]

It is doubtless clear that a State with less than 100,000 population does not need and could not well support more than one higher institution. Indeed, if one has regard to the size of the population alone, it is amazing that Nevada has been able to maintain with credit a single institution of university grade. But, as will shortly be shown, the small number of people behind the institution has been offset by certain other factors.

The Bureau of Education has already several times noted [2] that every higher institution exercises a strong magnetic pull on its immediate environment. The force of the attraction is much less strong at a distance. Many detailed studies of enrollments have shown that most colleges and universities draw the majority of their students from within a radius of 50 miles. Few institutions obtain any considerable percentage of their enrollments from outside a circle with a radius of 100 miles. (Maps on pages 79 and 80 will show that the University of Nevada is one of these few.) In view of this tendency, which is so well-nigh universal as to take on the appearance of a natural law, it is doubtless expedient to have State universities located rather close to the centers of population. Other things being equal, it would appear to be most convenient to have a State university somewhere near the center of the State. But few State universities are thus strategically placed and, in fact, in few Commonwealths is the population so distributed that the establishment of the State university in the center of the State would after all be most appropriate. In Nevada the location of the university at Reno, although the city is on the extreme border of the State, has been most favorable to the institution's growth. It has been able to serve much larger numbers of young people than would have been possible had it been situated anywhere else. Washoe, Storey, Ormsby, Lyon, and Douglas Counties are the most densely populated counties in the State, both as regards rural and urban inhabitants.

The committee believes that the State is to be congratulated on its settlement of two fundamental matters relating to the university. The first is the location of the institution. Secondly, the State has not separated its higher educational enterprise into several parts,

[1] Because of their flexible organization and slight enrollments, the teacher training classes, called county normal schools, are not reckoned as higher institutions.

[2] See also Gen. Educ. Bd. Rep., 1902-1914, p. 19 et seq.

as so many young and sparsely populated States have been led into doing, but it has kept all branches consolidated in a single institution, thereby preventing an expensive and irritating rivalry. The committee is aware that the separation of the college of agriculture, and its establishment in another part of the State, has been discussed, and that the plan still has a certain measure of public support. It ventures to advise emphatically against such a step. The separation of the State universities and the colleges of agriculture and mechanic arts in other States has thus far proved of doubtful advantage from the educational point of view.[1] In other respects it has been productive of jealousies, misunderstandings, political conflicts, and personal antagonisms which comport ill with the true spirit and purpose of higher education. A State which has not already on its hands the problem of adjustment between these two institutions may well avoid it.

SUPPORT OF HIGHER EDUCATION IN NEVADA AND OTHER STATES.

The measure of support which the University of Nevada is receiving is a matter of unusual interest both to the citizens of Nevada and to outside students of education. That a State of less than 100,000 population should be able to maintain a university at all is a source of some surprise to those who know no more about the State of Nevada than the size of its population. The figures presented in the accompanying tables and documents should make plain whether or not the State has been unduly burdened by having the institution at its charge.

In these tables the expenditures for both private and public higher education are included. In many of the older States higher education has been left largely to private initiative and is endowed and supported for the most part by private benefactions. Nevertheless, the institutions on private foundations are as truly public agencies for higher training as are State-supported institutions. The existence of them relieves the State of the necessity of providing similar facilities at public expense. Moreover, the fact should not be overlooked that to a large degree the citizens of the State pay for private as well as public institutions. The taxation for the support of private higher institutions may be so indirect and so distributed in time as to escape recognition, yet it is in a very real sense a fiscal burden which the citizens of the State must bear. On the other hand, States which have few or no private institutions must of necessity meet the demands of their people by the provision of public institutions. Allowing for variations produced by certain peculiar

[1] For a discussion of possible advantages, however, see Bulletin, 1916, No. 19, p. 48 et seq.

State conditions,[1] the following tables make possible a fairly reliable comparison of the generosity of the States in the matter of the support of higher education.

Table 7 shows the total wealth of the States in 1912, the amount spent for higher education in the following academic year, and the amount spent for higher education for each $1,000 of wealth. Table

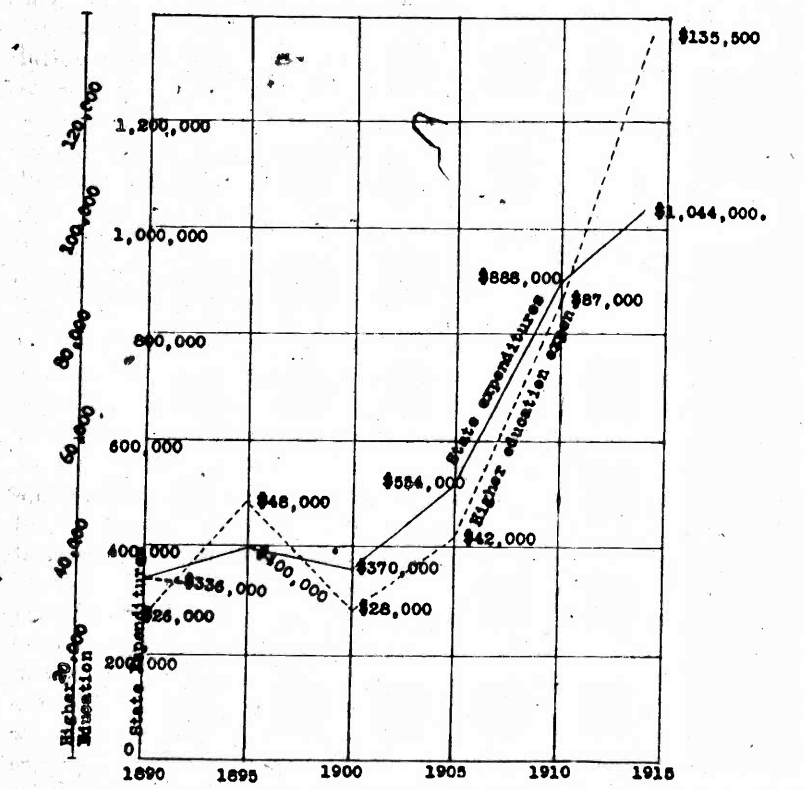
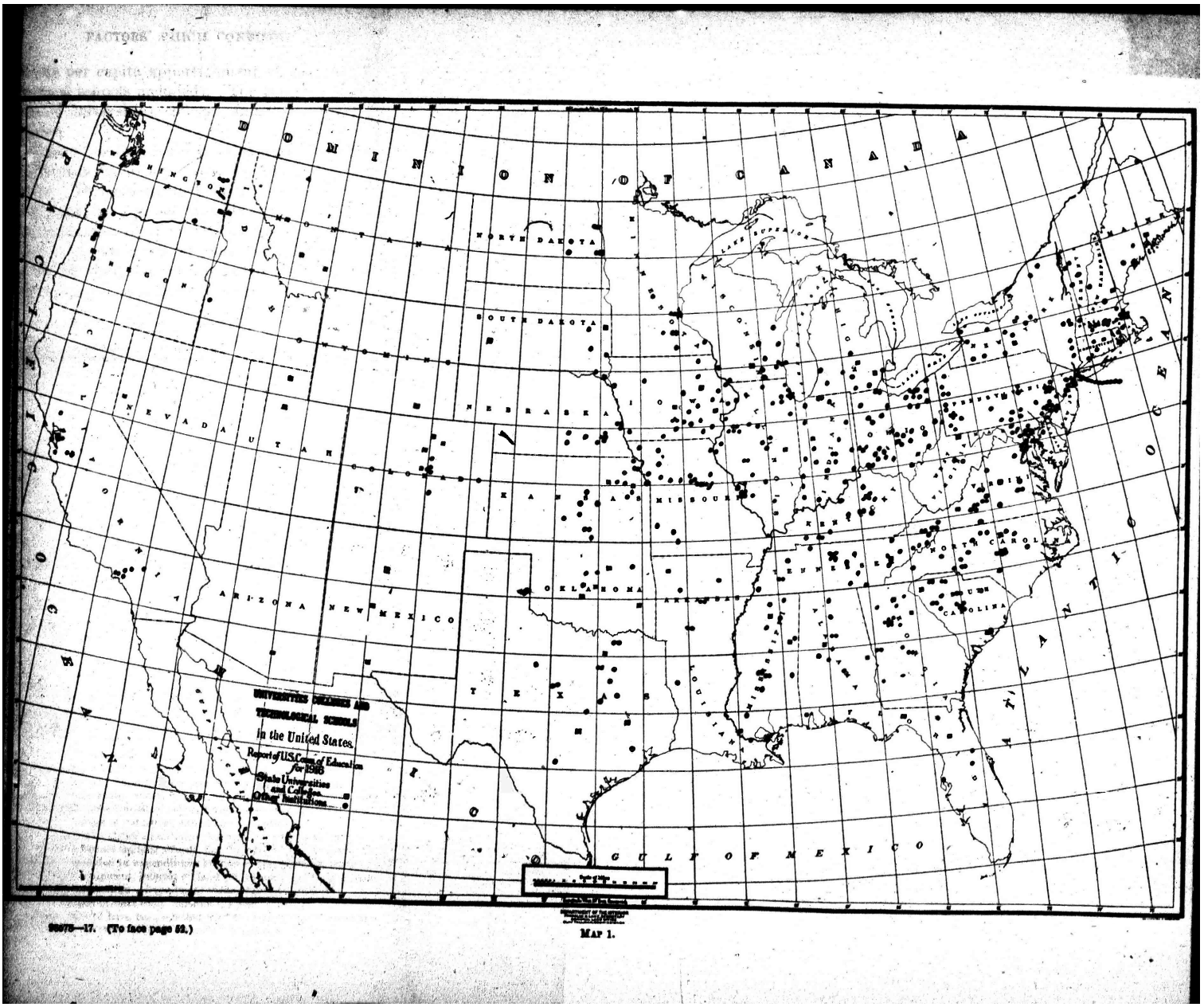


FIG. 9.—Total State expenditures, compared with expenditures for higher education, at the fixed ratio of 1 to 10.

8 shows the rank of the States with respect to the expenditure recorded in column 3 of Table 7. Table 9 shows the population of each State (census figures of 1910), the receipts of higher educational institutions, including normal schools, and the apportionment per capita among the citizens of the States of the receipts of higher institutions. Table 10 shows the rank of the States with respect

[1] For example, the high rank of Delaware in Tables 8 and 10 is due to the fact that the State in the year under consideration made large appropriations for the sound establishment of the State College. The high rank of Massachusetts in the same tables is not altogether significant, because Massachusetts contains many long-established wealthy institutions and in turn educates a large proportion of the young people of the whole Northeast.



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MAP 1.

to the per capita apportionment of the receipts of higher education (normal schools included). The accompanying map shows the location of universities, colleges, and technological schools in the United States.

Figure 9 indicates the relation which expenses for higher education in Nevada have borne to total State expenditures for the past 25 years. Throughout the United States State appropriations for higher education have grown steadily from year to year. In many States the proportion of the total State appropriations which is devoted to higher education has increased steadily also. In Nevada, it will be observed that the ratio between these two classes of expenditures has remained substantially constant.[1]

TABLE 7.—*Amount expended for higher education for each $1,000 of wealth.*

[Based on the estimated true value of all taxable property, United States Census, 1912, and total receipts of universities, colleges, and normal schools as shown in the Report of the Commissioner of Education.]

States.	Total wealth in 1912.	Spent for higher education, 1913–14.	Spent per $1,000.
Alabama	$2,050,000,000	$1,323,000	$0.65
Arizona	487,000,000	601,000	1.23
Arkansas	1,758,000,000	524,000	.30
California	8,023,000,000	5,458,000	.68
Colorado	2,286,000,000	1,142,000	.50
Connecticut	2,154,000,000	2,706,000	1.26
Delaware	294,000,000	1,142,000	3.88
Florida	1,015,000,000	449,000	.44
Georgia	2,299,000,000	1,407,000	.61
Idaho	591,000,000	417,000	.71
Illinois	14,596,000,000	9,774,000	.68
Indiana	4,951,000,000	2,089,000	.42
Iowa	7,437,000,000	3,815,000	.51
Kansas	4,294,000,000	2,327,000	.53
Kentucky	2,152,000,000	1,077,000	.50
Louisiana	2,057,000,000	1,122,000	.55
Maine	1,030,000,000	948,000	.92
Maryland	2,002,000,000	1,898,000	.95
Massachusetts	5,735,000,000	8,445,000	1.47
Michigan	5,169,000,000	3,799,000	.73
Minnesota	5,367,000,000	4,140,000	.79
Mississippi	1,306,000,000	1,140,000	.87
Missouri	5,546,000,000	2,314,000	.42
Montana	1,113,000,000	540,000	.48
Nebraska	3,605,000,000	1,842,000	.51
NEVADA	441,000,000	208,000	.47
New Hampshire	613,000,000	1,130,000	1.84
New Jersey	5,362,000,000	2,066,000	.39
New Mexico	502,000,000	301,000	.60

[1] Explanation of figure 9.—Items included in total State expenditures: State officers, judicial department, fish commission, State prison, State insane, deaf, dumb, blind, orphans home, State printing, States capitol grounds and buildings, weather service, special elections, district agricultural societies, State university, State militia, water, State library, interest on State debt, public schools, hospital for mental diseases, mines inspection, State police, sheep commission, irrigation, G. A. R., food adulteration, banking commission, bureau of industries, expositions, quarantine.

Items included in higher educational institutions: The State university. In 1914 there were expenditures for three normal training schools, but these have been omitted. The Virginia City Mining School is omitted. Included in expenditures for higher education are State appropriations for support, new buildings and equipment; interest on land-grant funds; and United States direct appropriations. Fees and earnings are omitted. Experiment station funds are omitted.

Source.—Report of State comptroller for the year.

Transfers seem to have been omitted from the comptroller's report and money spent for investment in bonds or for the redemption of Nevada State bonds is deducted.

TABLE 7.—*Amount expended for higher education for each $1,000 of wealth*—Continued.

States.	Total wealth in 1912.	Spent for higher education, 1913–14.	Spent per $1,000.
New York	$21,913,000,000	$16,139,000	$0.74
North Carolina	1,745,000,000	1,644,000	.94
North Dakota	2,038,000,000	1,250,000	.61
Ohio	8,552,000,000	4,817,000	.56
Oklahoma	4,321,000,000	845,000	.19
Oregon	1,843,000,000	1,232,000	.67
Pennsylvania	14,137,000,000	7,673,000	.54
Rhode Island	893,000,000	503,000	.56
South Carolina	1,301,000,000	1,569,000	1.21
South Dakota	1,331,000,000	960,000	.72
Tennessee	1,834,000,000	1,461,000	.80
Texas	6,552,000,000	3,223,000	.49
Utah	735,000,000	515,000	.70
Vermont	797,000,000	482,000	.60
Virginia	2,175,000,000	2,980,000	1.37
Washington	3,055,000,000	1,954,000	.64
Wisconsin	4,282,000,000	5,428,000	1.27
Wyoming	345,000,000	193,000	.56
West Virginia	2,180,000,000	871,000	.39

TABLE 8.—*Amount expended for higher education for each $1,000 of wealth in order of rank, by States, 1913–14.*

1. Delaware	$3.88	25. North Dakota	$0.61
2. New Hampshire	1.84	26. Georgia	.61
3. Massachusetts	1.47	27. Vermont	.60
4. Virginia	1.37	28. New Mexico	.60
5. Wisconsin	1.27	29. Ohio	.56
6. Connecticut	1.25	30. Rhode Island	.56
7. Arizona	1.23	31. Wyoming	.56
8. South Carolina	1.21	32. Louisiana	.55
9. Maryland	.95	33. Pennsylvania	.54
10. North Carolina	.94	34. Kansas	.53
11. Maine	.92	35. Iowa	.51
12. Mississippi	.87	36. Nebraska	.51
13. Tennessee	.80	37. Kentucky	.50
14. Minnesota	.79	38. Colorado	.50
15. New York	.74	39. Texas	.49
16. Michigan	.73	40. Montana	.48
17. South Dakota	.72	41. NEVADA	.47
18. Idaho	.71	42. Florida	.44
19. Utah	.70	43. Indiana	.42
20. California	.68	44. Missouri	.42
21. Illinois	.68	45. West Virginia	.39
22. Oregon	.67	46. New Jersey	.39
23. Alabama	.65	47. Arkansas	.30
24. Washington	.64	48. Oklahoma	.19

TABLE 9.—*Per capita apportionment of receipts of higher educational institutions, 1913–14.*

States.	Population.	Total apportionment.	Per capita.
Alabama	2,138,000	$1,323,000	$0.62
Arizona	204,000	601,000	2.94
Arkansas	1,574,000	524,000	.33
California	2,378,000	5,458,000	2.30
Colorado	799,000	1,142,000	1.43
Connecticut	1,116,000	2,706,000	2.43
Delaware	202,000	1,142,000	5.65
Florida	751,000	449,000	.60
Georgia	2,609,000	1,407,000	.54
Idaho	326,000	417,000	1.28
Illinois	5,639,000	9,974,000	1.77
Indiana	2,701,000	2,089,000	.77
Iowa	2,225,000	3,815,000	1.71
Kansas	1,691,000	2,327,000	1.38
Kentucky	2,290,000	1,077,000	.47
Louisiana	1,656,000	1,122,000	.68
Maine	742,000	958,000	1.28
Maryland	1,295,000	1,898,000	1.46
Massachusetts	3,366,000	8,445,000	2.51

TABLE 9.—*Per capita apportionment of receipts of higher educational institutions, 1913–14*—Continued.

States.	Population.	Total apportionment.	Per capita.
Michigan	2,810,000	$3,799,000	$1.35
Minnesota	2,076,000	4,140,000	1.99
Mississippi	1,797,000	1,140,000	.63
Missouri	3,293,000	2,314,000	.70
Montana	376,000	540,000	1.44
Nebraska	1,192,000	1,842,000	1.54
NEVADA	82,000	208,000	2.53
New Hampshire	431,000	1,130,000	2.62
New Jersey	2,537,000	2,066,000	.81
New Mexico	327,000	301,000	.92
New York	9,113,000	16,139,000	1.77
North Carolina	2,206,000	1,644,000	.75
North Dakota	577,000	1,250,000	2.17
Ohio	4,767,000	4,817,000	1.01
Oklahoma	1,657,000	848,000	.51
Oregon	673,000	1,232,000	1.83
Pennsylvania	7,666,000	7,673,000	1.00
Rhode Island	543,000	503,000	.93
South Carolina	1,515,000	1,569,000	1.04
South Dakota	584,000	960,000	1.64
Tennessee	2,185,000	1,461,000	.67
Texas	3,897,000	3,223,000	.83
Utah	373,000	515,000	1.38
Vermont	356,000	482,000	1.35
Virginia	2,062,000	2,980,000	1.[illegible]
Washington	1,142,000	1,954,000	1.71
West Virginia	1,221,000	871,000	.71
Wisconsin	2,334,000	5,428,000	2.33
Wyoming	146,000	193,000	1.32

TABLE 10.—*Rank of States as to per capita receipts of higher educational institutions, including normal schools, 1913–14.*

1. Delaware	$5.65	25. Michigan	$1.35
2. Arizona	2.94	26. Wyoming	1.32
3. New Hampshire	2.62	27. Idaho	1.279
4. NEVADA	2.53	28. Maine	1.277
5. Massachusetts	2.51	29. South Carolina	1.04
6. Connecticut	2.43	30. Ohio	1.01
7. Wisconsin	2.33	31. Pennsylvania	1.00
8. California	2.30	32. Rhode Island	.93
9. North Dakota	2.17	33. New Mexico	.92
10. Minnesota	1.99	34. Texas	.83
11. Oregon	1.83	35. New Jersey	.81
12. New York	1.770	36. Indiana	.77
13. Illinois	1.768	37. North Carolina	.75
14. Iowa	1.714	38. West Virginia	.71
15. Washington	1.711	39. Missouri	.70
16. South Dakota	1.64	40. Louisiana	.68
17. Nebraska	1.54	41. Tennessee	.67
18. Maryland	1.40	42. Mississippi	.63
19. Virginia	1.45	43. Florida	.60
20. Montana	1.44	44. Alabama	.57
21. Colorado	1.43	45. Georgia	.54
22. Kansas	1.38	46. Oklahoma	.51
23. Utah	1.38	47. Kentucky	.47
24. Vermont	1.35	48. Arkansas	.33

Attention is here especially called to the fact that Nevada ranks forty-first in Table 8, on the basis of the amount spent on higher education for each $1,000 of wealth. It is evident that, while the State is paying a large amount for its university per capita of its population (as is indicated in Tables 9 and 10), actually the institution constitutes a relatively slight drain on the total property of the State,[1] and it is of course the relation of the expenses of the university to the

[1] Other illuminating tables showing the resources available for all educational purposes appear in the Appendix, pp. 143 et seq.

taxable—and taxed—resources of the State that is significant.[1] Further confirmation of this conclusion is found in the mill-tax rate by which the university is supported. This is considerably lower than the rates of many other States. While Nevada has done well, therefore, being a State of small population with many urgent demands for its public funds, to develop and maintain a university of reputable grade, the university has not been a very considerable burden. The State has been less liberal in its support than many other States have shown themselves to be toward the institutions of their creation.

HIGHER EDUCATIONAL ENROLLMENTS.

The summaries of secondary and higher enrollments and the estimated changes in population presented below show that, although the population of Nevada more than doubled between 1900 and 1907 (see table on p. 39), there was little increase in high-school or university enrollments.[2] During the succeeding seven years the population underwent a little fluctuation, chiefly in a downward direction, but there was a marked gain in high-school enrollments. The great increase in university attendance began a few years after the increase in the secondary schools. The university has had its most rapid growth within the last four or five years.

TABLE 11.—*Population of Nevada—University and secondary enrollment.*

Year.	Total population (United States Census).	Total population (Prof. Adams's estimate.)	Collegiate enrollment.	Secondary enrollment.
1895				
1900	43,010		84	322
1905	42,335		187	568
1910	42,335	65,238	181	442
1911	81,875		220	836
1914	98,726	85,968	327	1,022

It has already been pointed out that Nevada does not rank high among Western States with respect to the per cent of the whole number of pupils and the per cent of the total population enrolled in secondary schools. To determine the relative extent of the service which the university is rendering the State through the medium of its resident courses of instruction, it is necessary therefore not only to examine the relative rates of growth of secondary and collegiate enrollment within the State, but also to compare the higher educational

[1] It should be noted, nevertheless, that under the constitution of the State about 20 per cent of the total wealth is untaxable.

[2] Students in the preparatory department of the university, for the years when the university maintained such a department, are not included in the figures on which the summary of collegiate enrollment is based, but are included in the figures representing the secondary enrollment. The collegiate enrollment for the year 1914 includes a summer school of 9. All the figures are those reported by the Commissioner of Education.

enrollment in Nevada with those in other States. It appears that, in the proportion of persons availing themselves of opportunities for higher education, Nevada compares very favorably not only with Western States, but with the other States of the Union. The per cent of the whole number of pupils that is enrolled in the university is 2.66. The only Western State having a greater percentage of the whole number in higher education is California, with 2.86 per cent. But three other States in other sections of the country—Massachusetts, Nebraska, and Wisconsin—and the District of Columbia report a larger proportion of the whole number of pupils enrolled in higher education.

Even when the percentage of the total population enrolled in higher institutions is considered, Nevada, in view of the small proportion of persons of school age in the State, makes quite as satisfactory a comparative showing. Five Western States—Colorado, Utah, Washington, Oregon, and California—report a larger per cent of the total population enrolled in higher institutions. In every one of these States, however, the proportion of the population below 25 years of age is greater than in Nevada. Comparing Nevada with the whole United States, it appears that Nevada ranks twenty-fifth among the States with respect to the per cent of the total population enrolled in higher institutions. Moreover, it falls but slightly below the average per cent of the whole country. In Nevada thirty-four one-hundredths of 1 per cent of the total population is enrolled in the university. In the United States thirty-seven one-hundredths of 1 per cent of the total population is enrolled in all higher institutions.

Two conclusions suggest themselves from the foregoing facts: Either the University of Nevada has attained a much greater relative development than the other parts of the system of public education and a disproportionate number of the citizens of the State are availing themselves of higher education; or Nevada is giving higher educational opportunities to an unusually large number of citizens from other States.

The committee has secured statements as to the States and counties of residence of all students enrolled at the University of Nevada during the last academic year. It appears that in the first semester of the year 1915–16, approximately 32 per cent of the total enrollment came from outside the State and that 21.7 per cent were residents of California. In the second semester approximately 29 per cent of the total enrollment was made up of nonresidents. The California contingent was roughly 22 per cent of the total. Perhaps, to be absolutely conclusive, the record should cover a longer period.[1] Incom-

[1] The committee might have secured this information, but it was reluctant to add further to the burdensome tasks which it had imposed upon the recording officers of the university, especially upon the registrar, tasks which were in every case performed promptly and cheerfully.

plete as it is, however, it is highly suggestive, especially when reenforced by the testimony of various institutional officers to the effect that there have always been large numbers of students from California and other Western States at the University of Nevada. If this testimony is accepted without further documentary support, it is clear that Nevada's high rank among the States on the basis of the proportion of persons enrolled in higher institutions is at least partly due to the presence of many nonresident students. The committee is about to discuss in another connection the attitude of State universities toward the acceptance of students from other States. While free migration may as a rule be encouraged, it is believed that an institution in which nearly one-third of the whole student body comes from outside the State may profitably scrutinize with care the motives of these nonresidents.

But from another point of view, the ratio which the number of persons enrolled at the University of Nevada bears to the whole number of individuals in the schools of the State and to the total population is instructive. It manifestly suggests that the University of Nevada is now about as large as might under present educational conditions in the country be expected until the population of the State increases. In a State as prosperous as Nevada, as immersed in profitable material pursuits, the public welfare depends to a greater degree than in many other communities upon the higher education, especially in liberal and cultural lines, of a large proportion of the people. The university ought not to seek numbers as an end, however. The committee is disposed to advise that the university authorities continue their efforts to present the claims of the institution to the people of the State and to induce larger numbers of young men and women from Nevada to frequent it, but that they make no special appeal for students outside the State.

ORGANIZATION AND SCOPE OF THE UNIVERSITY OF NEVADA.

The organization of the University of Nevada now embraces the following main divisions: The college of arts and sciences, offering liberal courses leading to the degrees of A. B. and B. S.; the college of engineering, including the Mackay school of mines, the school of mechanical and electrical engineering, and the school of civil engineering; the college of agriculture, including degree courses and short courses in agriculture and home economics; the Nevada State normal school; the university extension division; a public service division, containing such activities as the State veterinary control service, the State analytical laboratory, etc.; and a summer session designed primarily to furnish opportunities to teachers. Most of these divisions, departments, and schools are treated separately in

later portions of the report.[1] At this point it is sufficient to indicate that the development of departments has thus far corresponded to the demonstrated need for higher liberal and professional training in the State.[2] The college of arts and sciences is the only organic division of the university which does not minister directly, indeed, to the major vocational interests of the State. With respect to the desirability of the maintenance of a college of arts and sciences as part of a State university, however, there has never been any question. Such a college forms the nucleus of every State university, and it is the germ from which nearly every one has sprung. Its claims have often been presented and need not be urged again here. In spite of the rapid evolution of the vocational curricula, the college of arts and sciences has gained in numbers and strength and prestige all over the country.

The committee is of the opinion that, in view of the smallness of the population, the University of Nevada should not in the near future plan to develop other technical or professional departments. The State does not need them and may spare itself the expense. There are of course always a few individuals who would find a local law or medical school, for instance, convenient, but this does not, in the committee's judgment, constitute an obligation on the part of the State to provide such training. Perhaps a brief statement of some of the considerations involved may help to make the committee's position on the point clear.

It is characteristic of American higher education that almost complete reciprocity prevails between States. State universities erect no barriers against students from neighboring Commonwealths. At most a nominal tuition fee is charged, which is intended to cover a part of the actual expense devolving upon the State for the instruction of each student. Many State universities charge no tuition fee at all, receiving the citizens of other States on equal terms with natives. It is expected that there will be a considerable movement of students from one State to another. For the majority of States the number of nonresidents who are educated at State expense is probably just about balanced by the number of their own citizens who receive similar favors at the hands of other Commonwealths. But even the few State universities which, like Michigan and Illinois, have drawn unusually large numbers of students from outside the State borders have hesitated to put financial obstacles in their way, in the belief that these nonresident students both bring something valuable to the life of the institution and also take away with them

[1] For discussion of the college of arts and science, college of engineering, the Mackay school of mines, the college of agriculture, and the Nevada State normal school, see Chapter X. For discussion of the public service division, see Chapter IV.

[2] For the vocational distribution of graduates of the last 10 years, see Appendix, p. 145.

a comprehension of and interest in the State of their temporary adoption that are ample compensation for the investment made in their behalf. These considerations apply equally to Nevada, of course. But the State has to determine whether so large a proportion of nonresidents as was mentioned above may not threaten the integrity of the institution as a State university and tend to divert it from its legitimate purposes.

It is now commonly recognized that no university, not even the richest, can develop all modern lines of higher training. Each institution must to a certain extent specialize. Its scope must be determined primarily by the needs of its constituents. It is far more important that a university should provide facilities for the highest type of instruction and research in those branches most needed by its patrons than that it should attempt the impossible task of covering all departments of knowledge. Many universities have already begun to act upon this principle. There is constantly less readiness to expand into expensive new departments. The recent interest of State appropriating bodies in the details of university policy and their insistence upon the utmost frugality consonant with sound educational results in the operation of university establishments will doubtless accentuate this tendency. The few individuals who desire training in lines not cultivated by the home university now seek these opportunities elsewhere, and it is apparently to the public interest that they continue to do so. Even if the home university were to pay their expenses at other institutions outside the State limits, which, as far as the committee is aware, no State has yet done, the charge would be considerably less than the cost of maintaining professional departments for a small number of students. Certain large initial expenses must be incurred in the establishment of any branch of professional training, whatever the number of students who are to avail themselves of it.

The committee believes that the time is rapidly approaching when each great university will take special pride in the excellence, perhaps the preeminence, of its offerings in one or two lines of work. State universities in the more thickly settled Commonwealths will probably have to provide training in all the staple professional branches. But this obligation is not and will not be laid on a State of the size of Nevada. A community of less than one hundred thousand people, even if an enormously wealthy community, can not maintain a university worthy of the name without taxing itself at a high rate. The fact that Nevada stood forty-first among the States in 1913–14 on the basis of the amount expended for higher education for each $1,000 of wealth does not refute this statement, because the university has not yet been adequately supported. Specific statements of some of its larger needs appear later in this report. Suffice it here

to allude to its shortage of buildings and appliances in several of its most important departments and to the need for a considerable expansion of its instructional and experimental work in those lines which bear directly on the State's principal industries. If the university's appropriations were doubled, the money could doubtless all be profitably devoted to the sound development of the colleges, schools, and departments already established. The institution has, in fact, unique opportunities for achieving national eminence in at least two lines, in mining engineering and in agriculture as applied to arid lands and mountain ranges. This distinction would be worth attaining. Nevertheless, it is after all quite secondary in importance to the State's need for the more complete exploitation of those natural resources with which these applications of science deal.

Putting its views on these vital matters in a word, the committee would urge that the university make no immediate plans for the addition of further departments, and that it make no special effort to increase its enrollment for the mere sake of larger numbers. Its position in the educational world will be stronger and its services to the State more valuable, if it remains a small institution doing superlatively well what it undertakes to do.

SUMMARY OF RECOMMENDATIONS.

1. The rejection of proposals to separate the college of agriculture (and possibly other departments) from the university and to maintain it at another place.
2. The inadvisability of attempting to increase largely the university enrollment.
3. The restriction of the scope of the university for the present to the liberal and technical divisions already established.

Chapter IV.

THE UNIVERSITY OF NEVADA AND THE PUBLIC SERVICE.

It is commonly recognized that the State university has a threefold function with relation to the State: It must give liberal and vocational instruction through the medium of organized courses of study for students in residence; it must carry to communities and individuals who can not come to it for formal teaching information and instruction through the medium of its extension service; it must assist in the solution of the problems relating to the life and activities of the State and add to the sum of human knowledge through research. The modern State university is not therefore merely a local institution for the instruction of resident students, as perhaps many citizens are still inclined to believe. The manner in which the State university should perform this triple task of teaching, extension, and research depends again on the characteristics and needs of the State. In some States one of these functions may properly be stressed more than would be necessary in others, but there is now general agreement among students of university administration that the State universities should everywhere to some extent cultivate all three.

The traditional activities of the University of Nevada received brief mention in the preceding chapter. The university's performance of these other two functions deserves separate treatment, both by reason of the unusual organization of them and because of their importance to the people of Nevada.

THE PUBLIC SERVICE DIVISION.

The legislature of 1915 consolidated into a "Public service division" all the various extramural services which had from time to time been more or less directly connected with the university, together with certain other scientific activities. The public service division under an act approved March 11, 1915, consists of the following departments: The State analytical laboratory; the State hygienic laboratory; food and drug control; weights and measures; agricultural experiment station; agricultural extension; State veterinary control service; engineering experimentation.

The last three of these were established by the legislature of 1915. The act contains these sections providing for the control of the departments:

SEC. 3. The board of regents of the University of Nevada, upon recommendation of the president, shall designate and appoint a qualified individual to conduct each of these various departments of the public service division and shall grant him such assistants as they deem necessary, and the powers and duties of these individuals appointed as herein provided shall be as stated in the statutes establishing each of these several departments of the public service division: *Provided, however*, That in those instances wherein the statutes concerned impose upon the individual appointed as herein provided any police power, the appointment shall receive the approval of the governor of the State.

SEC. 4. All rules and regulations necessary for the proper administration and enforcement of the statutes establishing the departments comprehended in this public service division of the University of Nevada shall be made by the president and board of regents of the University of Nevada.

It will be observed that the public service division embraces all the organized agencies for extension and (since there is no graduate school) for research. In addition, it includes on the same administrative basis several other activities designed to conserve the lives and property of the people of the State, activities which when maintained in other States generally have no connection with the university.

EXTENSION.

Extension work at the University of Nevada is new. Thus far it consists of agricultural extension alone. The division of agricultural extension (now consolidated in the public service division) was organized July 1, 1914, under the provisions of the Smith-Lever Act. For the year 1915–16, in addition to the $10,000 appropriated under this act to every State in the Union, the State of Nevada received from the Federal Government as its proportion of the additional appropriation granted to each State accepting the provisions of the act $834, which sum was duplicated by appropriations of the State legislature. When the Smith-Lever Act matures in 1921 the State of Nevada will receive annually $15,699 from the Federal Government. While the amount received by the State of Nevada under this act is small, it nevertheless constitutes a very substantial foundation for extension work in agriculture and home economics. The work is thus far in its initial stages. It is being organized in close cooperation with the Department of Agriculture and has already led to gratifying practical results. The committee is glad to commend the plans in accordance with which it is being carried on.

The president of the university and the director of extension are right in urging increased support for the work of the extension division. A State with such immense distances and in which so large a percentage of the people are engaged in agriculture probably can not

be adequately served even by the full amount of the Federal appropriation under the Smith-Lever Act together with the State's necessary minimum addition to this sum. And yet, to the committee, another aspect of the extension problem seems equally worth emphasizing. Although perhaps the most insistent need for university extension in a rural State is met through the provision of agricultural extension, the legislature may be reminded that agricultural extension is but a small part of the whole extension field and that there are other as yet inarticulate needs which are no less real. For instance, an extension service arranged for persons engaged in mining would minister to a group as large as the agricultural population and as deserving of educational assistance. Many States are organizing through their normal schools extension courses for teachers which are coming to be regarded as among the most important agencies for developing professional spirit and imparting practical information. Nevada's normal school is a part of the university. If the State, whose teachers stand greatly in need of such service, is to reach its teachers through extension courses, these courses must naturally be furnished by the university.

It appears to the committee also that in a State where communities are so remote from one another, where there are few cities, and where transportation facilities do not yet touch all districts, there is a special need for the kind of university extension which does not relate directly to vocational interests. It is precisely the citizens of such a Commonwealth who would profit most by correspondence courses, lectures, and exhibitions dealing with art, literature, music, and the interesting elements of science. The possible developments of university extension are almost boundless, limited only indeed by the resources of the institution which purveys it. The committee has no intention of cataloguing even the most common extension activities. It merely desires to lay stress on the fact that the State has almost everything yet to do in this field and to point out some of the more obvious directions in which the extension service may develop.

ORGANIZED RESEARCH.

Research as carried on at the smaller State universities and colleges of agriculture is for the most part intensely practical. It has tended to relate itself directly to the present industrial problems of the State. Often its results have been of immediate industrial benefit. The committee does not, of course, hold the opinion that what might be called "dollar research" is the only kind that should be encouraged by a State institution. Many research undertakings which appear to have slight bearing on present economic needs have proved productive of remoter benefits of great importance. There is also a large class of investigations totally unrelated to material ad-

vantages the results of which have in intangible ways enriched human life and contributed to the progress of civilization. All these are the province of the university. Their prosecution must largely depend on university scholars. But research is as a rule a costly enterprise; especially in the sciences expensive equipment is often needed; and always there is involved the release of certain highly trained individuals from other duties. What is sometimes called "pure research," therefore, is generally a luxury in which the smaller universities that are still in the early stages of development can indulge but sparingly, if at all. It is proper that such institutions should center their efforts on problems of immediate practical concern, at the same time striving to keep alive in all departments the spirit of scientific inquiry against the day of larger resources.

The organized research of the University of Nevada is administered in the public service division chiefly through the agricultural experiment station and the department of engineering experimentation. The State hygienic laboratory and the State veterinary control service have also included a certain amount of research, among other activities. Of these agencies the first two aim directly at the solution of difficulties concerning the agriculture of the State.

THE AGRICULTURAL EXPERIMENT STATION.

The general purpose of the agricultural experiment stations established and supported in every State by acts of Congress of 1887 and 1906 is too well known to need explanation here. It is sufficient to note that the Nevada station has in the last three years confined itself exclusively to the investigation of three sets of pressing local problems—the water problem, the animal disease problem, and the group of problems bearing on range management and range improvement. In the study of animal diseases it has had valuable assistance from the director of the State veterinary control service, and has thus correlated its work with the work of that department. This practical policy of the station has received strong support from the present administration of the university and is indorsed by the Office of Experiment Stations of the United States Department of Agriculture. The committee believes that it must commend itself to all intelligent observers of the State's needs.

ENGINEERING EXPERIMENTATION.

The department of engineering experimentation was created by the legislature of 1915. In cooperation with the State engineer's office and the United States Bureau of Irrigation Investigations, projects have been undertaken to determine the extent of underground waters in various parts of the State and the feasibility of using these waters through pumping for agricultural operations. It

is apparent that such investigations are closely related to the work of the experiment station and comport with the purpose of a State university which includes colleges of agriculture and mechanic arts. The results already appear to justify the enterprise.

THE STATE HYGIENIC LABORATORY.

The principal function of the State hygienic laboratory is to aid local and State health authorities in combating communicable diseases. It provides "facilities for the diagnosis of infectious human diseases and for research into the nature, cause, and methods for the control of such diseases." The major part of its work has been and probably will be diagnostic. As such it is of great public benefit. An instance of the service which such a laboratory is in a position to perform for the State appears in connection with the recent epidemic of rabies among the live stock of a certain section of the State. In 11 months the laboratory administered the Pasteur treatment to 62 persons who had been exposed to the infection of the disease. The research work of the department is secondary and incidental.

THE STATE VETERINARY CONTROL SERVICE.

The object of the State veterinary control service, which was created by the legislature of 1915, is to perform the same service with respect to domestic animals that is rendered by the State hygienic laboratory to human beings. It includes the manufacture and distribution of various sera and vaccines. The director is State quarantine officer and head of the department of veterinary science and bacteriology of the agricultural experiment station. In the latter capacity he has made valuable contributions through research to the knowledge of the causes and nature of certain animal diseases. Both the economic and scientific importance of the State veterinary control service are unquestioned. Its connection with the university is appropriate.

ANALYTICAL WORK AND INSPECTION.

The remaining departments of the public service division may be conveniently grouped under this classification. It will be evident also from the brief statements already made that the work of the State hygienic laboratory and the State veterinary control service consists in part of activities represented by the foregoing heading.

FOOD AND DRUG CONTROL.

The work of this department embraces the analyses of samples taken in the field by representatives of the department, the analyses of food and drug products submitted to the laboratory by residents of the State, careful inspection of food and drug products offered for sale on local markets, and the sanitary inspection of places where food or drug products are manufactured, stored, and sold.[1]

[1] Quotation from the report to the honorary board of visitors, 1916.

The State law providing for food and drug inspection and analyses follows the national food and drugs act and specifies the adoption in Nevada of the Federal rules and regulations relating to the enforcement of it.

WEIGHTS AND MEASURES.

The standard weights and measures adopted by the National Government have also been adopted by the Nevada State Legislature, and the laboratory of weights and measures is charged with the duty of inspecting weighing and measuring devices used in the sale of commodities throughout the State to determine whether they meet these legal requirements. The food and drug control and the inspection of weights and measures are carried on from the same laboratory through the efforts of the same staff. The value of both services to the citizens of the State is patent.

In addition, the laboratory has undertaken to analyze the samples of water and soils submitted by residents of various parts of the State. Later in this report the need for the establishment of an adequately equipped soils laboratory, the lack of which has been in part supplied by this already overburdened department, will be mentioned.

STATE ANALYTICAL LABORATORY.

The State analytical laboratory, or State mining laboratory, was established 21 years ago in order that citizens might have ores and minerals taken within the boundaries of the State analyzed and assayed without cost. The composition of the samples submitted, together with a general statement of their uses and values, are reported to the senders. Record of the materials and of the localities in which they are found is kept by the university. In order not to place the university in competition with professional assayers and engineers, the reports made on samples do not include close determinations of the gold and silver values of the minerals. The service rendered by this laboratory has been of great benefit to prospectors and the demands made upon it have increased rapidly.

The committee has been in general much impressed with the effectiveness and value to the State of the work of the public-service division. It will be evident to all that as the demands on the division increase (and they have grown rapidly already), further equipment and more experts must be provided. Certain of its departments, as has been indicated, are charged with regulatory powers. The exercise of these powers is an occasional cause of friction tending to make the university temporarily unpopular with the persons over whom the authority is exerted. The question whether the university is the appropriate agency permanently to exercise such powers deserves the careful consideration of the legislature and of the university officers.

CHAPTER V.

STANDARDS AND THE DISTRIBUTION OF THE STUDENT BODY AT THE UNIVERCITY OF NEVADA.

Allusion has been made to the belief that the standards of the University of Nevada are not as high as they should be. The opinion that such is the case was expressed to the committee by members of the faculty, by students, and by certain citizens. Documentary evidence of the existence of this opinion may also be found in the issue of The Sagebrush, October 17, 1916. On the occasion of its meeting with the board of regents, the committee asked of the board the question: "Does the board of regents desire that the standards of the University of Nevada shall be equal to those of other first-class State universities?" (See Appendix, p. 137.) The board answered the question emphatically in the affirmative. In view of these considerations the committee judges it to be important that the actual practice of the university in the matter of standards should be made clear.

The integrity of academic standards is difficult to determine. They can not be tested with mathematical precision either by those on the inside or by outside investigators. The quality of a student's work can not be subjected to the same exact measurement or analysis that may be applied to a piece of machinery or a chemical compound. The human factors, teachers and students alike, are highly variable. Knowledge itself is but partially and imperfectly standardized. Institutional standards therefore can never be demonstrated beyond dispute, not even by comparison with other institutions, although such comparison is often illuminating.

The standards of a university depend chiefly on the mental attitude, on the conscience of its officers. Standards are likely to be high if these officers regard intellectual achievement as the prime business of a university; if they prize it above large enrollments and athletic prominence; if their rules are shaped to its attainment; if they enforce their rules firmly and honestly, even against lovable but ill-equipped individuals. Of course, no institution, least of all a State university, can ignore the facilities for scholarly preparation possessed by the schools which support it. It can not set up arbitrary requirements which are beyond the reach of those whom it must serve; but it may demand of its students the utmost intellectual

attainment for which their previous preparation fits them, and by steady upward pressure it may gradually raise the level of scholarship within its sphere of influence. It is in this way that the present standards of both universities and secondary schools have been established in the United States.[1] High standards then are the product of unremitting diligence on the part of university officials and of constant aspiration.

It is manifest that the estimation of university standards is largely a matter of judgment, and as such liable to error. However, there is generally a considerable body of evidence on which a judgment may be based. In the case of the University of Nevada the committee has collected a great deal of evidence. The most important items it proposes to summarize or to reproduce in full herewith, after which it will state its conclusions.

The first and most obvious piece of evidence relating to an institution's standards is its own statement of its requirements. Colleges and universities are under the necessity of giving wide currency to the announcements of their requirements for entrance and for graduation. These announcements commonly appear with full detail in their catalogues. The latest issue of the catalogue of the University of Nevada (Apr. 1, 1916) contains a clear statement of its requirements under the title "Admission and degrees" (pp. 70 to 90, inclusive).

According to this statement the university requires 15 units of secondary work for unconditional admission. Students who are candidates for degrees may be admitted with conditions in as many as two units. When admitted with conditions students are called "limited freshmen." These requirements on the quantitative side are in accord with the accepted practice of State universities and other reputable collegiate institutions in all sections of the country where admission by secondary school certificate prevails. There is at present a tendency, which the committee heartily indorses, to reduce to one unit or even to abolish entirely the amount of deficiency which may be allowed to a student at entrance. However, this tendency is by no means universal, and an institution which grants conditional admission on presentation of 13 clear secondary units is in good company.

With regard to the subject content of the 15 required units, the University of Nevada occupies a very progressive position. There are various types of standard admission requirements, discussion of

[1] In comparison with the accepted standards of to-day, the standards of the best American universities 50 years ago were low indeed. School conditions in certain States do not yet permit the enforcement of the most severe collegiate standards, but the obligation resting on the colleges of these States to contribute in the manner indicated above to the general elevation of standards is no less clear. Meanwhile, it is equally their duty to declare without equivocation or pretense just what is required for college entrance and graduation.

which would occupy disproportionate space in a document of this character.[1] Suffice it to say that one of the best-considered modern systems of entrance requirements is that adopted recently by the University of Chicago. The main principles of the plan are also recommended in substance by the committee on articulation of high school and college of the National Education Association in 1911.[2] While not conforming to this system in every detail (and indeed details must necessarily differ in different localities), the requirements for admission to the college of arts and sciences of the University of Nevada in general follow the Chicago plan (see the issue of the catalogue referred to, pp. 71 ff.) Admission to the technical colleges is on a somewhat less elastic basis, but this also is in accord with the best practice.

The University of Nevada, like most institutions of collegiate rank, grants facilities for study, however, to other than regular students. It accepts special students. The conditions on which special students are admitted and allowed to prosecute their work are stated on page 81 of the issue of the catalogue cited, as follows:

SPECIAL STUDENTS.

Persons not candidates for a degree, who may wish to pursue some one study and its related branches, may be admitted as special students without passing the usual entrance examinations.[3] Admission will be granted only upon the recommendation of the instructor under whom the special work is to be done, after such a recommendation has been passed by the council of administration. Special students must be at least 20 years of age and must register for not fewer than 10 hours of work per week. Exception to the rule in regard to the age limit and the number of hours of work can only be made by action of the university senate. No one may register in the university as a special student for more than two years, except upon the recommendation of the faculty of the college in which he is working and with the approval of the council of administration. The entrance committee will require from all special students a statement from reliable persons as to character and a record of previous academic work.

The requirements for securing the bachelor's degree imposed by the leading universities and colleges of the country vary greatly in details. In one point alone is there substantial uniformity, namely, in the number of academic counts (usually expressed in semester hours) demanded for the bachelor's degree. An overwhelming majority of colleges and universities require 120 semester hours. Occasionally the minimum number runs slightly higher, and there are variations above this minimum in the different schools and depart-

[1] The interested reader is referred for further details to Bul., 1913, No. 7, College Entrance Requirements, by Clarence D. Kingsley; to the Rep. of the Commis. of Ed., 1914, vol. 1, p. 160 and pp. 163 ff.; Rep. of the Commis. of Ed., 1915, vol. 1, pp. 148 ff.; and to the reports of the committee on college entrance requirements and of the committee on the articulation of high school and college, included in Proc. Nat. Ed. Assoc. for the years 1911, 1912, and 1913.

[2] See Proc. Nat. Ed. Assoc., 1911, pp. 559 ff.

[3] Like most State universities, the University of Nevada admits both by examination and by certificate from recognized secondary schools. The majority of students, however, are admitted by certificate.

ments. With respect to the quantitative requirements, however, the bachelor's degree may be said to be standardized.[1]

Most colleges and universities now organize the student's work in arts and sciences in accordance with some form of the group system, that is, the student is expected to choose one or two branches in which he will specialize. The remainder of his academic work is then made up (1) of subjects intended to contribute to a thorough comprehension of his special fields, (2) of subjects important for purposes of general information, and (3) of a certain limited amount of free options. Under different names and with large variations in practical application, the group system is in force in a very considerable number of the best colleges and universities of the country.

The University of Nevada requires for graduation in the college of arts and sciences 124 semester hours. In the colleges of agriculture and engineering the number of required hours is considerably higher. In the college of arts and sciences the courses leading to the baccalaureate degree correspond substantially to the general definition of the group system just given.[2]

Academic standards relate also to the conditions upon which students are allowed to remain in the university. With regard to these conditions the catalogue of the University of Nevada states (pp. 83 and 84):

> Any student who receives a final grade of less than 60 per cent in any subject shall be considered as "failed" in that subject.
>
> Any student who receives a grade of less than 70 and 60 per cent or more shall be passed conditionally. * * *
>
> If at the close of any semester a student does not pass in at least one-third of his work, he will be suspended from the university for a period of one semester. If at mid-semester or at the end of a semester a student does not pass in at least one-half of his work, he shall be placed on probation and notified of such probation by the registrar; if, then, at the end of the next regular report of grades by the faculty the student has shown no improvement, he will be suspended from the university for the following semester.

The foregoing paragraphs summarize the principal regulations and announcements bearing on the matter of standards. It appears that with reference to the announced requirements for admission to regular standing and the requirements for the baccalaureate degrees the university's position is orthodox. On subsequent pages the committee comments on the requirements for special students and for continuance on the rolls of the university.

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[1] The committee is not unaware of a tendency on the part of a number of institutions of repute to emphasize other than quantitative measures for the determination of fitness to receive the baccalaureate degree. Several of the strongest institutions in the country have never reckoned the work of candidates for degrees in terms of hours.

[2] Degree requirements in technical courses, such as those in agriculture and engineering, are generally much more closely prescribed than degree requirements in the arts and sciences. This is the case at the University of Nevada.

The highest printed requirements may be nullified by lax enforcement. The real test, therefore, of a university's standards is not what it says it requires, but what students must actually do to get in and stay in. The committee has paid particular heed to the enforcement of entrance requirements. It has reviewed with minute care the records of all students entering in 1915 and has subjected to a somewhat less detailed scrutiny the records of those accepted in the years immediately preceding. It concentrated its attention especially on the latest records, for two reasons: First, it is important for a judgment of the current condition of the university that the citizens of the State should know what it is doing now rather than what it did several years ago; and, second, it is precisely the present practice of the university that has been called into question. It was repeatedly suggested to the committee that the standards of the institution are less rigid now than they were several years ago. The summary in the following paragraph relating to regular students in arts and sciences may be taken as typical of the university's enforcements of the requirements for admission to regular standing.

Seventy-three persons entered as regular freshmen in arts and sciences in 1915. Seventeen of these, or 23.2 per cent, were deficient in some part of the entrance requirements. The number of units in which conditions were imposed varied from one-half to two. In no single case was a student admitted as a freshman with conditions amounting to more than two units. The committee noted but two cases in which the full two units of conditions allowed were taken. The majority of those who were deficient presented at least 14 units of work, corresponding to the university's prescription. Several offered more than the required 15 units, but had failed to cover all of the work in English or mathematics or foreign languages prescribed by the university as part of the entrance requirements. Entrance conditions are plainly recorded. Examination of the records of preceding classes showed that as a rule they are promptly made up.

The evidence shows that the university's requirements for admission to regular standing are conscientiously enforced With respect to its treatment of this group of students the institution deserves a clean bill of health. A university located in a section where secondary school facilities are no more perfectly developed than here could hardly in justice to its constituency set up more drastic requirements. It could not fairly, for instance, refuse to allow any conditions at all to entering students.

SPECIAL STUDENTS.

Attention was called above to the group of special students upon whom a different requirement is imposed. Examination of the summary of enrollment appearing on page 221 of the edition of the cata-

logue of April, 1916, shows that out of a total enrollment of 441 (short courses and extension courses not counted), 125, or 28.39 per cent, were special students. The university's definition of the term "special student" has, however, been loose. The category includes all persons not candidates for degrees, whether they have absolved the entrance requirements or not.[1] Deducting from the total just given all those qualified for regular standing, it appears that there were 101 genuine specials in 1915–16, who constituted 24.5 per cent of the student body.

In the majority of institutions that the Bureau of Education has thus far surveyed the percentage of special students has been so small as to be almost negligible. The number of these students constituted no problem whatever in the administration of the institutions concerned. Indeed, in but one other institution, the University of Arizona, has the Bureau of Education found a comparable percentage of special students. The conditions of population, industrial development, and secondary school facilities are similar in Nevada and Arizona. The presence of substantially equal proportions of special students in the total enrollments of these two State universities gives ground for the assumption that a liberal policy of admission is required in the present stage of the educational evolution of these States. Nevertheless, it will readily be apparent that so large a number of special students creates certain serious difficulties in the administration of these institutions. A group of students amounting to nearly one-third of the entire enrollment can not be ignored when the policies of the university are formulated.

In considering the problem as presented at the University of Nevada several questions regarding these students instantly arise. Does the state of secondary education in Nevada necessitate the admission of so many specials to a university that is endeavoring to set up high standards for degree work? Where do the special students come from—from Nevada, from communities without secondary school facilities, or from other States? What departments do they chiefly seek? Does the work done by them in the courses they elect compare favorably in quality with that done by the regular students? The committee submits the following evidence bearing on these matters.

Reference to page 47 shows that 17 high schools in Nevada are accredited by the State university. There are 35 high schools altogether in Nevada, and 16 of these offer less than a four-year course.[2] The whole vast territory of the State is naturally not adequately

[1] The committee suggests the desirability of making a more accurate classification of the students in the university.

[2] Most of the 16 schools mentioned offer but one or two years of instruction beyond the grades and are not properly high schools at all.

served by this number of schools. Nevertheless, the secondary school facilities in existence are fairly well standardized and articulated with the university. If it should appear that a large number of special students come from places where there are no high schools, the natural conclusion would be that the university is making quite justifiable concessions to a group of persons that has been handicapped with respect to educational opportunities.

Of the 125 specials (accepting the university's classification), 89 are residents of Nevada, 19 are residents of California, and 17 come from other States and countries. Of the 89 Nevada specials, 69 reside in Reno, 10 come from Ely, Gardnerville, Sparks, or Tonopah (towns with good four-year high schools), one comes from a community having a two-year high school, and 9 come from places maintaining no high schools. It may be noted in passing that 10 regular students report residence in communities which have no high schools.

It would appear that the large group of special students does not consist primarily of citizens who have been deprived of opportunities for secondary education by accident of residence. The committee was informed, however, that the reported residence of these persons is in many cases misleading. Parents having children to educate are likely to move to one of the larger centers, especially to Reno, during the term of their children's attendance at secondary or higher institutions. Self-supporting young people from the educationally less-favored districts frequently transfer their residence to Reno in order to avail themselves of the advantages which the university offers under its rules for special students. These two classes of students are of course primarily the ones for whom the university should make concessions, if concessions are to be made at all. The university authorities have not, as far as the committee was informed, analyzed carefully the group of specials to determine how many of them properly belong in the two categories just indicated. Such inquiry as has been made leads to the conclusion that a considerable number of specials registered from Reno and other larger towns have been handicapped in their preliminary education through no fault of their own. The committee suggests the desirability of a thorough study of the educational history of the whole group of special students.

Evidently there are two general classes of special students at the University of Nevada, the one desirable, the other generally undesirable in a small State university which is short of equipment. These are: (1) Residents of the State, and particularly residents of the city in which the university is located, persons whose preparation or whose vocations prevent them from devoting full time to university work, but who can carry on with profit two or three courses; and (2) residents of other States. A large proportion of the total number of

specials, 28.8 per cent, come from outside the State. The University of Nevada is situated so close to the California border that the neighboring portion of that State may be regarded as its legitimate territory. But very few California specials come from this territory. The majority reside in remote parts of California. There are also numerous specials from other more distant States. The committee is of the opinion that university officers may and ought to discourage the presence of these students at the university.

The distribution of special students among the different departments is also of interest. The college of arts and sciences enrolls 54, or 23.2 per cent of its total enrollment (graduate students being excluded); the college of engineering enrolls 43, or 35.29 per cent of its total enrollment; and the college of agriculture, which includes the school of home economics, enrolls 29, or 38.6 per cent of its total enrollment.[1]

Of the 69 special students from Reno, 38 were registered in arts and sciences, 16 in some branch of engineering, 8 in home economics, and 7 in agriculture. Eighteen of the 69 were married women.

The relative scholastic standing of the special students and of certain other groups is indicated by the following averages for the year 1915–16:

	First semester.	Second semester.
Average of all students	78.4	78.2
Average of all special students	76.6	73.8
Average of all special students from California	74.8	72.6
Average of freshmen from California	77.7	78.4

In regulations applying to special students quoted above, it was stated that these students are not candidates for degrees, that they must be at least 20 years of age, and must register for at least 10 hours. The committee was unable in the time at its disposal to discover how large a proportion of those who enter as specials become after one or two years of residence candidates for degrees. It was informed by several officers of the university that a considerable number of specials are advanced to regular standing. There are, of course, many cases where such action is in accord with the most exemplary attitude toward university standards. No one would counsel the exclusion from the advantages of degree courses of all irregularly prepared students who as specials have demonstrated their capacity for college work and who subsequently, through examinations or otherwise, have absolved the regular requirements. But a university must allow transfers from special to regular standing with extreme caution; otherwise the special student category proves

[1] There are certain slight discrepancies between the percentages given here and those presented in the table on p. 78 and the figure on p. 76. The table and figure were prepared by the deans of the college of arts and science and the college of engineering on the basis of the final figures for the whole academic year. The percentages recorded above are derived from the summary of enrollment printed in the catalogue, April 1, 1916.

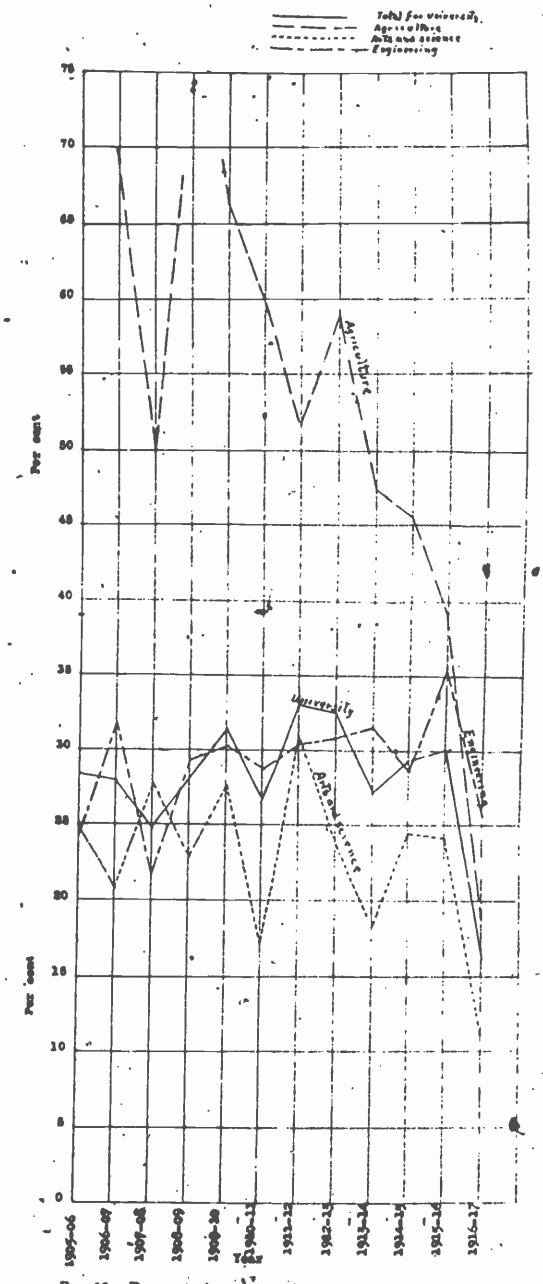


FIG. 10.—Per cent of special students enrolled, 1906 to 1916.

an easy back-door route to academic rank and degrees for students who have not met the preliminary requirements for these honors. Academic degrees soon cease to be honors for anyone if commonly attained in this way. The committee does not mean to imply that the University of Nevada has debased the value of its degrees by too much lenience in admitting special students to candidacy for them. It has secured, as has been stated, no definite evidence on this point. It merely calls the attention of the university authorities to the danger involved in a policy of easy transfer from one status to the other.

The committee finds the allegation that the university has of late lowered its standards, particularly through the admission of constantly larger numbers of special students, wholly unfounded. As further evidence it submits a table summarizing the university registration from 1905 to 1917, and a group of curves showing the percentages of special students during the same period in the three principal divisions of the university. It will be seen that the largest proportion of special students were registered in 1911–12; that 1915–16 was a year in which the registration of specials exceeded the mean; and that there has been a particularly sharp falling off in the percentage of specials in the first semester of the current academic year.

The committee has felt that the reduction in the number of special students attending the university is a consummation devoutly to be wished. The committee was at first disposed to suggest that the minimum age at which special students may be admitted to the university be raised to 21. This standard has been adopted by many of strongest universities of the country. It insures maturity and establishes a presumption of earnestness. Records show, however, that very few special students would be excluded from the University of Nevada by the imposition of such a requirement. Approximately three-fourths of the special students now registered are 21 or over. Moreover, many of those under this age have long been self-supporting, often, indeed, have occupied positions of authority and responsibility. They are mature beyond their years, and earnest. The university is the only institution in the State which they would consent to attend. It is, in fact, the only one equipped to meet their particular vocational needs. The establishment of an arbitrary age requirement would secure a slight reduction in numbers at a sacrifice of some of the most desirable students in the university.

The committee concludes that constant administrative pressure rather than fixed rules should be applied to the problem of special students. For example, the admission of specials by the committee on admissions instead of on the recommendations of individual instructors would undoubtedly tend to keep out the clearly undesirable specials. The reduction of candidates from other States who could

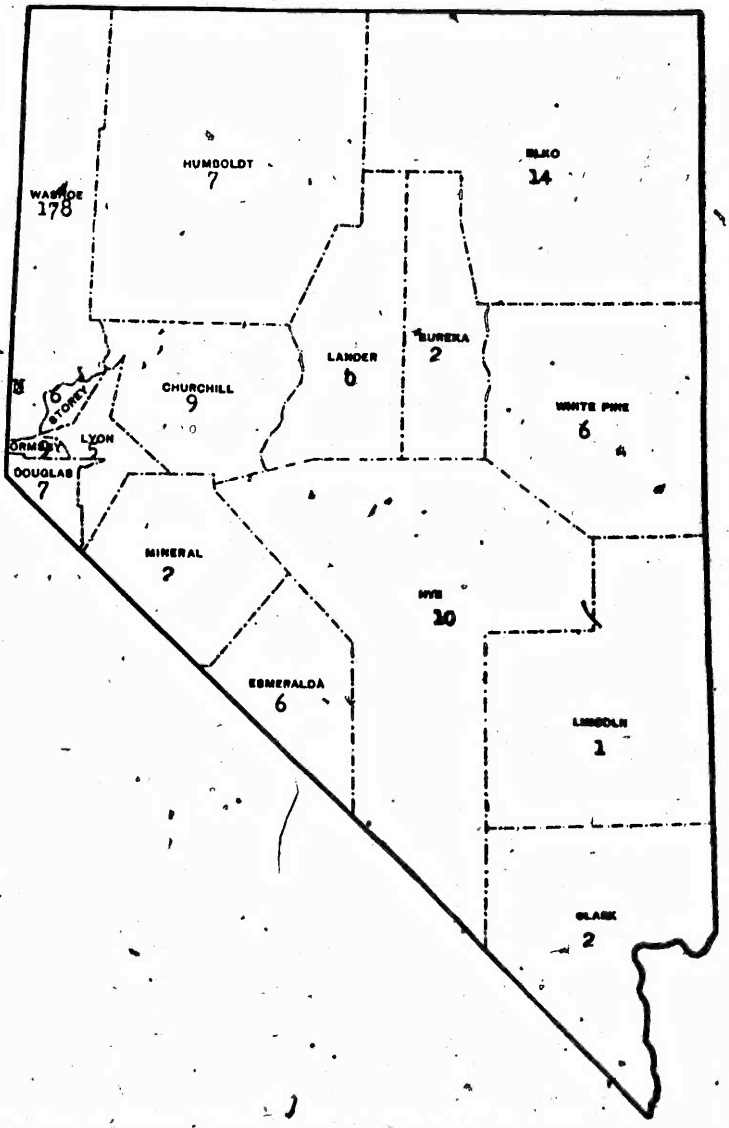
TABLE 12.—*University of Nevada registration, 1905–1917.*

(All graduate students, summer school students, short course students, and visitors omitted.)

Academic year.	Units required for admission.	College of arts and sciences, and normal school.			Mechanical engineering (including electrical engineering beginning 1912–13).			Civil engineering.			Mackay School of Mines.			College of engineering.			School of agriculture.			School of home economics.			College of agriculture.			Registration in all schools of university.		
		Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.	Total registration.	Specials.	Per cent of specials.
1905–6	12	85	21	24.7	30	5	16.7	8	2	25.0	53	15	28.3	91	22	24.2	1	0	00.0	10	10	100.0	11	10	90.9	187	53	28.3
1906–7	12	91	19	20.9	26	10	38.4	6	0	00.0	72	23	31.9	104	33	31.9	1	0	00.0	4	4	100.0	5	4	80.0	200	56	28.0
1907–8	12	90	25	27.8	28	6	21.4	10	2	20.0	60	13	21.7	98	21	21.4	1	0	00.0	1	1	100.0	2	1	50.0	190	47	24.7
1908–9	12	109	25	22.9	26	5	19.2	10	5	50.0	46	14	30.4	82	24	29.3	1	0	00.0	6	6	100.0	7	6	85.7	198	55	27.8
1909–10	14	112	31	27.7	29	8	29.6	16	4	25.0	44	15	34.1	89	27	30.3	7	2	28.6	8	8	100.0	15	10	66.7	216	68	31.5
1910–11	15	101	17	16.8	28	4	14.3	7	2	28.6	45	17	37.8	80	23	28.8	13	3	23.1	12	12	100.0	25	15	60.0	206	55	26.7
1911–12	15	158	49	31.0	37	6	16.2	13	6	46.1	42	13	40.6	82	25	30.5	23	8	34.9	8	8	100.0	31	16	51.6	271	90	32.2
1912–13	15	160	38	23.8	55	16	29.1	10	3	30.0	29	10	34.5	94	29	30.9	35	11	31.4	24	24	100.0	59	35	59.3	313	102	22.6
1913–14	15	154	29	18.3	60	21	35.0	10	2	20.0	28	8	28.6	98	31	31.6	29	7	24.1	15	14	93.3	44	21	47.7	296	81	27.4
1914–15	15	187	46	24.6	74	25	33.8	16	2	12.5	35	9	25.7	125	36	28.8	45	15	33.3	16	13	81.3	61	28	45.9	373	110	29.5
1915–16	15	222	54	[illegible]	64	24	37.5	13	3	23.1	40	15	37.5	117	42	35.9	58	19	32.8	17	10	58.8	75	29	38.7	414	125	30.2
1916–17[2]	15	225	24	[illegible]	67	19	28.4	11	3	27.3	35	7	20.0	113	29	25.7	39	7	17.9	9	2	22.2	48	9	18.8	386	62	16.1
1916–17[3]	15																									340	48	14.1

[1] Twelve in normal school. [2] First semester. [3] Second semester to Feb. 12.

not present a very convincing reason for choosing the University of Nevada in preference to home institutions might also quite easily be

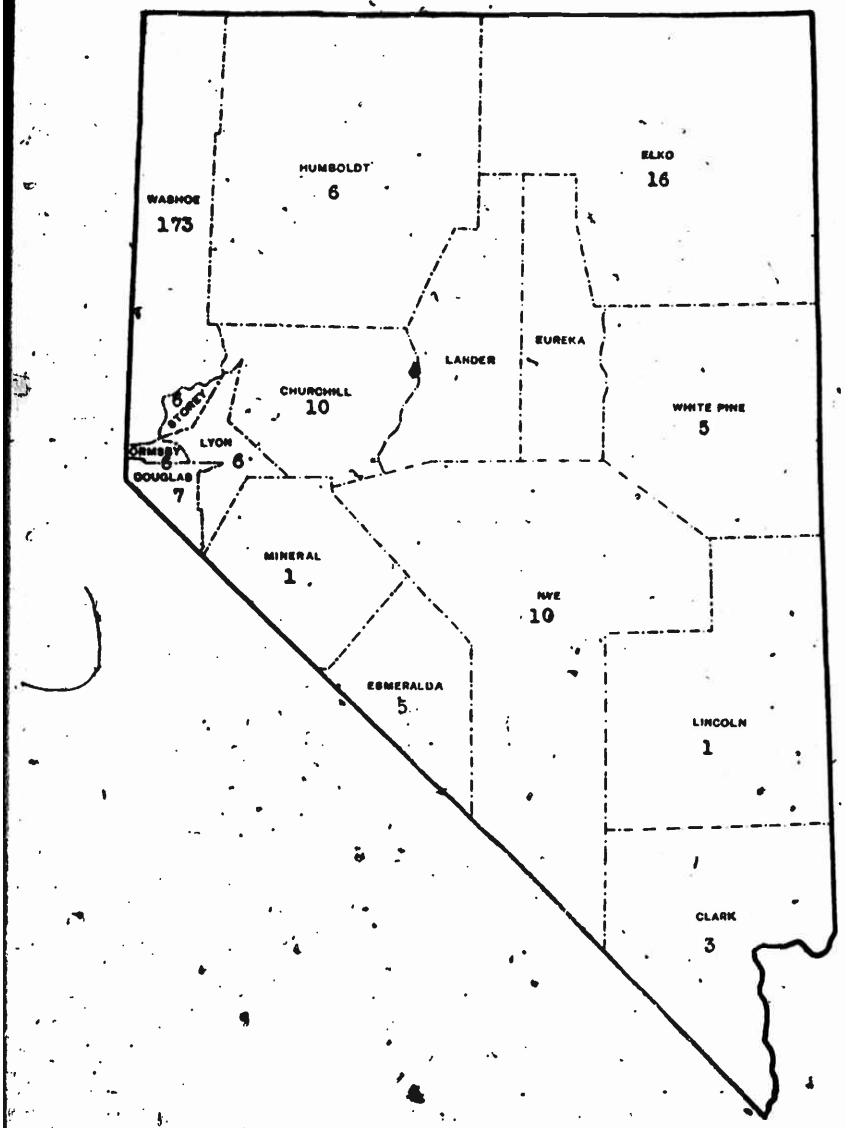


MAP 2.—Distribution of Nevada students at the State university by counties of residence for first semester, 1915–16.

accomplished by the administrative officers. At any rate, for the general welfare of the university, the reduction of this group should by one means or another proceed.

CONTINUANCE ON THE ROLLS OF THE UNIVERSITY.

The committee is of the opinion that the regulation with respect to the amount of work in which a student must pass in order to be con-



MAP 3.—Distribution of Nevada students by counties of residence for second semester, 1915–16.

tinued on the rolls of the university (quoted on p. 71) is too lenient. It seems to be strengthened by the following (see p. 83 of the catalogue of April, 1916):

For regular sophomore, junior, or senior standing, a student's deficiencies must not exceed six college units, and he must take the full number of hours prescribed by the course.

The majority of regular students are of course candidates for promotion to the next higher class and as such are interested to make

MAP 4.—Distribution of students at the University of Nevada from California by counties of residence for first semester, 1915-16.

the standing prescribed in the rule just cited, but the extreme latitude of the other regulation referred to can hardly fail to result in burdening the university with a few individuals at least who could not justly be rated as serious students. In support of this assumption

the committee offers this quotation from the report of the council of administration [1] to the senate February 3, 1916:

> Voted to apply the rules relating to deficient scholarship in the case of 11 students who did not pass in one-third of the work of the first semester, and to 14 others who passed in one-third of their work but in less than one-half. Voted later to permit 3 of the first 11 to register on probation.

DISTRIBUTION OF STUDENTS ACCORDING TO RESIDENCE.

The committee has believed that a somewhat more definite record of the areas from which the University of Nevada draws its students than has yet been included in this report is significant in the matter now under discussion and will be instructive to the citizens of the State. It has therefore had prepared various summaries and maps, which are submitted herewith.

Distribution of students at the University of Nevada.

	First semester.	Second semester.
Nevada	264	255
California	82	82
Other States and countries	42	26
Total	388	363

Map 2 shows the distribution by counties of residence of the students from Nevada enrolled during the first semester; Map 3 the distribution by counties of residence of the students from Nevada enrolled during the second semester; Map 4 the distribution by counties of residence of students from California enrolled during the first semester; and Map 5 the distribution by counties of residence of the students from California enrolled during the second semester. Other maps showing the counties in Nevada and California from which each of the principal colleges and schools of the university draws its students appear in the Appendix, pages 165 to 184.

Attention is especially called to four facts: First, the wide territorial distribution of the students from the home State; second, the preponderance in numbers of those residing in Washoe County; third, the large number coming from California; and, fourth, the surprisingly wide territorial distribution of these California students. It would be expected that the University of Nevada, being located close to the California line, would draw many students from adjacent portions of that State. The fact that so large a percentage of the California students comes from regions close to the large and excellent institutions situated near San Francisco prompts the deduction that the University of Nevada has in some cases served as a refuge for persons of indifferent scholarship. The averages of recently

[1] For a statement of the constitution and functions of this body, see p. 86.

admitted regular students from California, however, do not indicate that this group falls below the common standard of the institution. It was pointed out above that there are 19 special students from

MAP 5.—Distribution of students at the University of Nevada from California by counties of residence fo second semester, 1915-16.

California. Association of this fact with those presented in the tabulation on page 75 is instructive.

The committee may sum up its conclusions and recommendations relating to the standards of the University of Nevada in these terms: The university is apparently maintaining what amounts to a double standard of entrance. That applied to regular students is on a par

with the standards of other reputable universities, and it is enforced; that applied to special students is flexible, indefinite, and largely dependent on the judgment of individual instructors. The line dividing the two classes of students is, moreover, not so clearly marked and difficult to cross as the committee judges advisable. The committee fears that the standards of the University of Nevada will always be open to misunderstanding until the institution reduces the number of special students, particularly those from other States, and makes it harder for those admitted as specials to obtain regular standing. The easy requirements for continuance in the university (not for class promotion, however) tend to accentuate the danger to which the reputation of the institution is exposed. The committee thinks that these depressing influences have been to some degree counteracted by the conscientious attitude on the part of the majority of the faculty toward academic standards. It nevertheless recommends—

(*a*) That the officers scrutinize with care the qualification of candidates for admission as special students.

(*b*) That the number of special students be largely reduced.

(*c*) That the minimum standard of scholarship required for continuance on the rolls of the university be raised.

SUMMARY OF RECOMMENDATIONS.

1. The careful scrutiny of the qualifications of candidates for admission to special standing.
2. The reduction of the number of special students.
3. The raising of the minimum standard for continuance on the rolls of the university.

Chapter VI.

EDUCATIONAL ADMINISTRATION OF THE UNIVERSITY.

In a previous chapter the committee has commended the excellent arrangement whereby the initiative in educational policies and the educational control of the university are placed by the regents definitely in the hands of the president and faculty. This has permitted the establishment of an educational organization which is well adapted for the work it has to do. While various features of this organization doubtless represent the growth of a number of years, the definite formulation of a code has only been worked out during the present administration. This code is modern in its spirit and should contribute increasingly to efficiency in administration. The suggestions which are offered deal only with minor features and do not affect any vital underlying principle of the plan.

The university senate, as the central lawmaking body, is composed of the president, vice president, deans, and heads of the various departments of the rank of full professor. Such a body should be and evidently is a positive force in the formulation of sound educational policy and in the upbuilding and maintenance of true university standards. The action of the senate in dealing with the difficult problem of grades furnishes a good illustration of its appropriate function. A committee of the senate examined the grades which had been given in all departments for a period of three years, and after a careful analysis recommended the application of a system of corrective figures so that the marks earned in the various departments might have more equal merit. The unanimous adoption of the report of this committee was not only a credit to the committee but a high testimonial to the ability and serious purpose of the senate itself.

There are a number of other university officers not now members of the senate whose presence in that body should confer a distinct benefit upon it and upon the university because of their vital contact with matters of educational policy. The librarian is such an officer. In some universities the librarian is given the rank of professor, without the title, however, in order that the assistance of this most important university department may be had in the deliberations of the lawmaking body. Certain departments in the public-service division which touch closely the instructional work of the

university and which are under the direction of men of university training and sympathies might be represented for similar reasons. The inclusion also of the chief financial officer, the registrar, and the administrative secretary may be advantageous when such positions carry real responsibility and are held by university-minded people.

The council of administration is composed of the president, vice president, the dean of the college of arts and sciences, the dean of the college of engineering, the dean of the college of agriculture, and dean in education and the dean of women. This council is rightfully the clearing house for many administrative troubles. It represents the larger divisions and interests of the university.

The duties of a council of administration can not and should not be definitely fixed. From time to time matters of widely varying importance will be handled, but the tendency should be for it to deal more largely with the broader policies involved in the interrelation of schools and the responsibilities of the university to the public and not so much with minor matters of discipline and control. Matters of routine detail—such as admission or advanced standing—which can be handled individually by the deans or the other officers should rarely come to the council for decision; and when they do, it should be rather to correct or establish an administrative precedent than to settle the individual case. In this council the deans can informally discuss administrative questions and so arrive at policies which will become more and more uniformly applied in the various colleges.

The committee is especially pleased to note the recent creation of the office of dean of women and the inclusion of this officer in the council of administration. Official recognition is thus given to a most important phase of the work of the university, the oversight and adaptation of college life and college study to the needs of women.

The committee is aware that there has been some public criticism in the State of what has been called the "deanship system," i. e., the administration of the various divisions of the university by deans responsible to the president. It has been argued that in a small institution like the University of Nevada such officers are superfluous and that the functions now assigned to them may easily be performed by the president himself or by committees. The committee does not share this view. There are several reasons why an organization substantially like that now existing at the University of Nevada is desirable even in a small institution.

Foremost among these is the fact that the vocational colleges of the university are in the critical period of development. Although of relatively recent foundation, all have now attained sufficient enrollments to justify a certain measure of segregation. They constitute real, not factitious, units. Nevertheless, with possibly a single exception, they have not thus far succeeded in establishing a close

and sympathetic cooperation throughout the State with the members of those professions for which they train. Each of the vocational divisions of the university is under the immediate and pressing necessity of interpreting itself, not only to the young people who may be disposed to avail themselves of its offerings, but also to the leaders in the calling for which it prepares recruits and to which it contributes the results of its scientific study. Each of these divisions needs the services of a master in the profession, who will build a school, and build it into the life of the State. This task is properly a part of the dean's responsibility. The dean, if he be well chosen, is, indeed, the official best qualified to perform it.

The administration of a division of a university, even of a small university, involves many matters of discipline and academic routine. These may, of course, be handled by committees or by designated members of the faculty, but such disposition of them is likely to result in a wasteful diversion of the teaching energies of the institution. If referred to a single administrative officer, these matters are more easily and effectively disposed of.

In the minds of those who object to the system of administration by deans there seems to be some misapprehension also as to the duties of a State university president. The post demands of its incumbent what is probably the most varied assortment of activities in the whole field of administration of corporate undertakings. It presupposes a versatility not called for in any other public office. For example, the State university president is expected to be by turns a good institutional manager, an astute financial director, a superior public speaker, an expert on higher education, a diplomatic and persuasive interpreter of his institution to the State law-making body, a constructive leader of the educational forces of the State, a publicist to whom thoughtful citizens may look for counsel on questions of great State or National concern. Nor does this summary indicate the whole cycle of activities which he is required to perform. The people hold him to a strict standard of excellence in all. They are impatient and prone to criticize if he fails measurably in any. It is manifest, however, that a president the major part of whose time is devoted to the details of internal administration will be quite unable to fulfill the more public demands of his office. The committee is persuaded that certain of these public activities are of primary, not secondary, importance. The president *must* be an educational leader in the State. He ought if possible to be a true educational statesman (although the tribe is small). Especially in the newer States the services of a wise and intrepid leader in laying the foundations for sound educational development are greatly needed. At least he must be an authority on higher education, and he must keep

himself posted on the rapid and manifold developments in this field. It is of vital concern to the university also that he should represent it adequately and acceptably on various public occasions. The mere institutional manager, who performs the duties of minor administrative officials together with those of general director, has little time or strength for these more public activities. It is partly to release the university president for this large and exacting service that the system of internal administration, through deans and other officials has grown up. It now prevails in nearly all the best universities of the country. As in force at the University of Nevada, it has the committee's indorsement.

It is generally recognized that one of the first essentials to the development of vigorous university teaching and research is security of tenure, earned after a reasonable apprenticeship.[1] In administrative positions security of tenure is also desirable, but with this difference. Administration is by no means an exact science, and in the selection of officers of administration it must be recognized that the opportunity for error is large. The problem of selection is especially complicated when, as in the case of deans of colleges, teaching ability and leadership in a particular field of scholarship must also be taken into account. In the larger institutions a good teacher and an able scholar has often been sacrificed to make a poor dean. At the same time, there are probably as many cases where an indifferent scholar or teacher has been found to have the requisite tact, initiative, and leadership for administrative work. This prompts the suggestion that, as a policy, administrative work within a university should not be assigned, in the first instance at least, on an indefinite tenure basis. In the case of young men without administrative experience especially, the assignment might be to an acting deanship for a limited period of one or two years. This would give an opportunity, which is now too often lacking, for a determination of fitness.

One of the most important reasons for the creation of the office of dean is to release the professors from routine committee work—the most frequent reason given for the neglect of scholarship and the higher teaching functions. The fact was repeatedly brought to the committee's attention that the burden of committee duties had as yet scarcely been lightened by the appointment of the new administrative officers. The committee believes that, particularly in a small institution like the University of Nevada, the deans might well handle more of these matters directly than the present custom permits.

In the division of the teaching organization of the university into three colleges, (1) arts and science, (2) agriculture, and (3) engin-

[1] See Ch. II, p. 29.

eering, a logical plan has been followed. The committee believes, however, that the time has arrived when the establishment of the Nevada State Normal School and the Mackay School of Mines as equally distinct administrative units should be considered. The inclusion of the normal school in the college of arts and sciences and the Mackay School of Mines in the college of engineering seems to the committee unwise in the light of the demands of the State for practical results in these two important fields of training. These two functions of the university are treated more at length elsewhere in the report.[1] It is sufficient here to note that the change in the central organization would be but slight. The dean in education, who now occupies an anomalous position representing no responsible educational unit, would become the dean of the normal school and as such would retain his seat in the council of administration. The director of the Mackay School of Mines would become a member of the council of administration. No objection to either change could be raised on the ground of additional expense as both officers concerned are now receiving the maximum salaries.

The committee has noted a use of the term "school" in connection with the instructional divisions dealing with civil engineering and mechanical and electrical engineering which is not in conformity with the best practice. It is suggested that it be discontinued. These divisions are in reality departments of the college of engineering and should not be encouraged to develop school organizations. In university nomenclature[2] the word "school" is used to indicate a professional or technical division of a university which has as its minimum entrance requirement two years of college work. In this sense, it will be seen, that professional schools of a university represent a higher, instead of a lower, division than the college.[3] At present the designation of the Mackay School of Mines also is equally out of harmony with the accepted nomenclature. The committee is persuaded, however, that there is a real demand that the mining instruction of the University of Nevada should be organized as a "school." Evidence of this is seen in the equipment of the physical plant and the large endowment, as well as in the fact that mining is the leading industry of the State and justifies the strongest and best organization for its technical instruction. The word "school,"

[1] See pp. 123 and 128.

[2] Cf. Report of special committee on university nomenclature, Proc. Assoc. Amer. Universities, 1909.

[3] The term "normal school" stands outside this classification of the administrative divisions of a university. As a rule normal schools are not connected with collegiate institutions. Moreover, they are often on a different entrance basis, doing much work for which college credit could not properly be given. The committee has already expressed its approval of the consolidation of all higher educational agencies in Nevada in a single institution. In view, therefore, both of the common understanding of the term "normal school" and of the different status of the institutions designated by it in other States, there appears to be no necessity for changing the title of the division of the University of Nevada called by this name to conform to the nomenclature just mentioned.

while so far used in its more common sense of a teaching unit, should still be applicable in its more technical meaning as representing the ultimate aim of the Mackay School of Mines. Rather than change the name indicated by the founder, it would seem to be wiser to retain it and, as soon as conditions warrant, to make its university significance a reality.

No university organization is complete unless some provision is made for promoting helpful contacts with the public. This was evidently the purpose of the "Honorary board of visitors." As constituted this board can hardly be expected to render the most desirable service. The committee suggests that this board be supplanted by separate boards for the various divisions of the university, to be appointed by the regents upon recommendation of the head of the division concerned to the president. The number of such boards and the number of members on each are not as important as the idea of fostering a dignified medium of sympathetic contact with the public.

The character of the departmental organization will be of more vital concern in a few years than at present. The system in vogue at the University of Nevada is practically the same as that which prevails at other State universities. It is the result of inertia rather than of design. The oldest teacher of the highest rank is by virtue of this fact head of the department and responsible to the president for all matters in which his department has a duty to perform. This practice often results in many professors becoming heads of departments who have no administrative ability and sometimes are lacking as well in intellectual leadership. In small as well as large institutions there is a tendency to obviate difficulties of this kind once they become patent by dividing departments. The difficulties, however, are not removed by this method; in fact, they are only made for a time less obstructive. As an institutional policy the method is expensive. In place of team work, cooperative enthusiasm, and strongly planned courses, together with reasonably high standards, there are likely to be feverish individualism, little or no enthusiasm, poorly planned and badly coordinated courses, with widely varying standards. Constructive work is halted because of the atmosphere of antagonism and destructive criticism.

The university catalogue shows some 28 different departments, with a half of these manned by a single teacher. The library budget, submitted to the president on April 10, 1916, recognizes 28 distinct departments, apportioning the book, binding, and periodical fund among them in amounts ranging from $5 to $180. The committee is not in a position to criticize this apportionment, but merely mentions it to emphasize the impossibility of economical and prudent buying of books when such a large number of small units have to be taken into

consideration. Money for books, equipment, and teaching should be expended where it will give the largest returns to the students.

While the University of Nevada is not by any means alone among American universities in suffering from too great individualism, its effects are sufficiently serious to require remedial treatment. The committee would recommend that an attempt be made to work out what might be called a division system, which, for administrative purposes, shall take the place of many of the small departments. As far as possible, no division should be composed of less than four or five instructors. The division organization could be made most simple, the only officers necessary being a chairman and a secretary, or simply a chairman-secretary, elected from year to year. The plan would probably result in a grouping of departments somewhat as follows:

I. The Language Division: English, German, Greek, Latin, Romance languages.
II. The Physical Science Division: Mathematics, Physics, Chemistry.
III. The Biological Science Division: Biology, bacteriology, home economics.
IV. The Social Science Division: Accounting and law, economics and sociology, history and political science, philosophy.
V. The Fine Arts Division: Music, art, domestic art (home economics department).
VI. Physical and Citizenship Training Division: Physical training for women, physical training for men, military science, master of Lincoln Hall, matron of Manzanita Hall.
VII. The Mining Division: Mining, metallurgy, geology and mineralogy, with certain representatives from other courses taken by mining students.
VIII. The Engineering Division: Civil engineering, electrical engineering, mechanical engineering, with certain representatives from other courses taken by engineering students.
IX. The Agricultural Division: Agronomy, animal husbandry, dairying, agricultural chemistry, veterinary science, with certain representatives from other courses taken by agricultural students.
X. The Teacher Training Division: Education, psychology, practice teaching, instructors of special courses for teachers in other departments.

It is recognized that these groupings are necessarily more or less arbitrary. Nothing should prevent a member of the faculty from attending more than a single division meeting. In fact, any work to be done on study plans might well involve interdivisional conferences. The chief object to be gained is the opportunity for larger cooperation. It is conceivable, for instance, that a lump appropriation of $570 for library purposes would meet the actual needs of the language division during the year better than the same amount distributed in five small nontransferable budgets for the single departments. (See Table 13.) In all of the divisions there should be no difficulty in finding the required administrative ability for handling reports, records, etc., which are now a burden upon many able teachers whose time is too valuable for such minor, though necessary, services. The extent to which a division acting

as a unit should be consulted with reference to the appointment of an associate instructor would have to be worked out in practice. But it is evident that a division which really gives constructive suggestions will in time win recognition for its recommendations.

TABLE 13.—*Library budget—Apportionment made Apr. 5, 1916, by the library committee of the $3,050 allowed for 1916 for books, periodicals, and binding.*

Agronomy	$45	Library committee	$282
Animal husbandry	90	Mathematics	90
Art	25	Mechanical engineering	135
Biology	180	Military	20
Chemistry	180	Mining	135
Civil engineering	90	Music	15
Economics	90	Philosophy	45
Education	135	Philosophy added for 1916	30
English	180	Physical education, men	5
Geology	90	Physical education, women	20
German	65	Physics	90
Greek	65	Political science	90
History	180	President	25
Home economics	45	Romance	135
Latin	65	Romance, added for 1916, special for Spanish and Italian	60
Special for 1916 to be deducted from 1917	3		
Law	45		3,050
Librarian	300		

Chapter VII.

TRAINING AND EXPERIENCE OF THE FACULTY.

The committee has not visited classes and has made no attempt to estimate the quality of teaching done by members of the university faculty. There are three commonly accepted tests, however, which indicate in a general way whether or not a faculty group is likely to possess power of intellectual leadership. These are (1) academic training, (2) teaching experience in college work, and (3) current publishing record.

The tables submitted herewith are made up from the returns sent in by the members of the faculty on a specially prepared blank. The extent of the academic training is shown approximately by the degrees held by the various individuals.

The degree of doctor of philosophy is conferred by reputable institutions only upon those who have successfully completed the equivalent of three years' advanced work beyond the regular A. B. curriculum. Out of 48 members of the faculty on the instructional side of the university work, 14 have received this highest mark of scholastic training. None of the instructors, only two assistant professors, and one associate professor hold this degree. The doctor's degree is but rarely given in engineering. Four other members of the staff hold advanced engineering degrees which represent a somewhat comparable amount of professional training. The master's degree, which is usually granted for one year of postgraduate study, is the highest degree held by 11 persons.

TABLE 14.—*Training, experience, and publications of administrative officers and professors.*

Title.	Department.	Academic training.		College teaching.			Publications in past two years.	
		Highest degree.	Institution.	Years at University of Nevada.	Years elsewhere.	Total years in college teaching.	Research publications.	Other publications.
President	Executive	A. M.	Toronto	2				
Vice president	Accounting and law	None		26	0	26	0	0
Professor	Chemistry	Ph. D.	Chicago	10	3	13	3	0
Do	Economics and sociology	do	do	14	2	16	2	0
Do	Military science	None	West Point	4½	2	6½	0	0
Do	Civil engineering	C. E.	Wisconsin	9	0	9	0	2
Dean of women	History	Ph. D.	Cornell	1	5½	6½	1	2
Professor	Latin	do	Munich	23	1	24	15	0
Do	Biology	A. M.	Harvard	16	2	18	1	2
Do	Physics	Ph. D.	Pennsylvania	7	6½	13½	1	1
Do	Mathematics and mechanics.	do	Goettingen	7	3	10	0	0
Do	English	do	Chicago	9	7	16	0	1
Do	Agricultural chemistry	do	Johns Hopkins	7	0	7	10	0
Professor and dean	Education	do	Halle	1	18	19	0	0
Professor and curator	Geology and mineralogy	A. B.	Illinois	7	5	12	5	0
Professor and dean	Agronomy	B. S.	Wisconsin	7	2	9	0	2
Librarian	Library	B. L.	California		3	28	0	0
Professor	Romance languages	A. B.	Stanford	20	0	20	0	0
Professor and director	Mining	Ph. D.	Columbia	3	8	11	1	9
Professor	Bacteriology and veterinary medicine.	D. V. M.	Cornell	10	2	12	3	2
Professor and dean	Mechanical and electrical engineering.	M. E.	Kentucky	13	0	13	2	2
Professor	Philosophy	A. M.	Harvard	8	0	8	0	0
Professor and dean	Greek	Ph. D.	do	6	5	11	0	0
Professor	History	A. B.	Stanford	17	0	17	4	1
Do	Animal husbandry	M. S.	Illinois	2	9	11	0	1

Officers and professors:

Number of names	25
Number of doctor of philosophy degrees	11
Number of master degrees	4
Number of advanced engineering degrees	2
Number of bachelor degrees	5
Number of veterinary degrees	1
Number without degrees	2

TABLE 15.—*Training, experience, and publications of associate and assistant professors and of instructors.*

Title.	Department.	Academic training.		College teaching.			Publications in past two years.	
		Highest degree.	Institution.	Years at University of Nevada.	Years elsewhere.	Total years in college teaching.	Research publications.	Other publications.
Associate professor	Home economics	B. S.	Armour Institute.	15	0	15	0	2
Do	English	A. B.	Chicago	3	8	11	0	0
Do	Art	None	Corcoran Art School.	9	0	9	0	0
Do	History and political science.	A. M.	Stanford	1	2	3	0	0
Do	Education	Ph. D.	Chicago	1	1	2	0	0
Assistant professor	Greek and Latin	...do...	Michigan	1	7	8	2	1
Do	Romance languages	A. M.	Wisconsin	1	5	6	0	0
Do	Biology	Ph. D.	Illinois	2	5	7	0	2
Do	Mechanical engineering	M. S.	Brooklyn Polytechnic.	1	1	2	0	0
Do	Mining and metallurgy	E. M.	Columbia	6	0	6	0	0
Do	Mechanical engineering	None	Swarthmore	5	1	6	0	0
Do	Dairy husbandry	A. M.	Missouri	½	5	5½	0	0
Do	German	...do...	Columbia	3	0	3	0	0
Do	Physical education for women.	B. S.	.....do.....	4	0	4	0	0
Do	Public speaking	A. B.	Nebraska Wesleyan.	3	11	14	0	0
Instructor	Music	B. M.	Illinois	4	0	4	0	0
Do	Biology	A. M.	Columbia	3	0	3	0	0
Do	Home economics	B. S.	Cornell	2	0	2	0	0
Do	Chemistry	A. B.	Stanford	2	0	2	0	0
Do	Mathematics	B. S.	California	2	0	2	0	0
Do	Electrical engineering	M. E.	Cornell	1	0	1	0	0
Do	Education	A. B.	Beloit	2	0	2	0	0
Do	Physics	A. M.	Missouri	1	2	3	0	0

Associate professors:
- Number of individuals: 5
- Number of doctor of philosophy degrees: 1
- Number of master degrees: 1
- Number of bachelor degrees: 2
- Number without degree: 1

Assistant professors:
- Number of individuals: 10
- Number of doctor of philosophy degrees: 2
- Number of master degrees: 4
- Number of advanced engineering degrees: 1
- Number of bachelor degrees: 2
- Number without degree: 1

Instructors:
- Number of individuals: 8
- Number of doctor of philosophy degrees: 0
- Number of master degrees: 2
- Number of advanced engineering degrees: 1
- Number of bachelor degrees: 5

TABLE 16.—*Training, experience, and publications of members of faculty of public-service division.*

Title.	Department.	Highest degree.	Institution.	Years at University of Nevada.	Years elsewhere.	Total years in college teaching.	Research publications.	Other publications.
Home economics	Agriculture extension	B. S.	Wisconsin	2	1	3	0	7
Director	Food and drugs, weights and measures, and soils and waters.	...do...	Maine				0	0
Do	Agricultural experiment station.	M. A.	Nevada	18	0	18	2	2
Analyst	State mining laboratory	B. S.	...do...				0	0
Agricultural chemist	Agricultural experiment station.	Ph. D.	Johns Hopkins	7	0	7	10	0
Veterinarian	Agricultural extension	D. V. M.	Pennsylvania	2	8	10	0	1
Director	State veterinary service	...do...	Cornell	10	2	12	3	2
Assistant agronomy	Agricultural experiment station.	B. S.	Nevada	2	0	2	0	0
Director	State hygienic laboratory	M. S.	Minnesota				0	0
Do	Agricultural extension division.	B. A.	Nevada	2	0	2	0	6
Bacteriologist and veterinarian.	State veterinary service	D. V. M.	Pennsylvania	4	2	6	2	0
Dairy husbandman	Agricultural extension	B. S.	Wisconsin	4	0	4	0	4

Members of faculty:

Number of individuals	12
Number of doctor of philosophy degrees	1
Number of master degrees	2
Number of bachelor degrees	6
Number of veterinary degrees	3

TABLE 17.—*Summary of degrees and publications.*

Rank.	Highest degrees.							Publications of the faculty.		
	Ph. D.	Master.	Adv. Eng.	Bach.	Vet.	No degree.	Total.	Number reporting research publications.	Number reporting other publications.	Number not publishing
Professors	11	4	2	5	1	2	25	12	11	8
Associate professors	1	1	0	2	0	1	5	0	1	4
Assistant professors	2	4	1	2	0	1	10	1	1	8
Instructors	0	2	1	5	0	0	8	0	0	8
Total	14	11	4	14	1	4	48	13	13	28
PUBLIC SERVICE DIVISION.										
Directors	0	2	0	2	1	0	5	2	3	2
Specialists	1	0	0	4	2	0	7	2	3	2
Total	1	2	0	6	3	0	12	4	6	4
Grand total	15	13	4	20	4	4	60	17	19	32
Duplicates	1				1			2	1	0
Total individuals	14	13	4	20	3	4	58	15	18	32

The fact that 14 members of the faculty have received only the bachelor's degree indicates that a large proportion of the instructional work is being given by teachers whose academic training is but little better than that of some of the students in their classes. On further inspection of the individual cases of those possessing only the bachelor's degree it appears that of the nine members of the faculty of professorial rank three have been teaching in the university continuously for periods of 15, 17, and 20 years, respectively; one is engaged in library work; two have been at Nevada for seven years; one for four years; and the remaining two for three years. The two assistant professors are in lines of work for which training beyond the bachelor's or master's degree is rare. Of the five instructors, four have been in the university only two years, while the other has been there four years and is in a line of work for which a higher degree is seldom given.

Of those members of the faculty holding no academic degree, one is a graduate of West Point, another has studied at various art schools, a third was brought to the university for proficiency in practical shop management, and the fourth is the one who has been longest connected with the university, having seen 26 years of honorable service.

In the matter of previous collegiate teaching experience, 19 members of the faculty have had none before coming to the University of Nevada. Twelve of these, who now have professorial rank, have been at the University of Nevada for periods of 3, 4, 6, 7, 8, 9, 9, 13, 15, 17, 20, and 26 years respectively. Only 1 of the 12 holds the doctor's degree; 5 have a master's or an engineering degree; 4 possess the bachelor's degree, and 2 hold no degrees at all.

It seems, therefore, to have been the policy to bring teachers into the university with little or no experience and a minimum of academic training and to advance such persons to positions of professorial rank. That this policy is still in force is suggested by the fact that of the instructors none has the doctor's degree, while only one has had previous collegiate teaching experience. The committee recommends that in making future additions to the teaching staff the university demand that instructors shall either have had collegiate teaching experience or have done advanced graduate work, or both. It further recommends that an instructor be promoted to a permanent position in the university only when his interest in scholarship has been evidenced by the attainment of an advanced degree, by a worthy publication, or by exceptional success in teaching. Though the limitations of the doctor's degree are realized, it is as yet, except in technical lines, the only symbol which marks a man as dedicated to the ideals of the scholarly life.

In the accompanying tables a rough classification of publications which were reported by faculty members to the committee by title

has been attempted. Some 54 titles, classified under the head of research, were submitted by 13 different members of the instructional staff. Under the head of other publications 49 titles were submitted by 14 individuals. Twenty-eight faculty members reported no publications of any kind. Mention is not made of the publications of the members of the public service division in this connection, because the work of publication with them largely takes the place of the instructional work of the teacher.

No institution carrying the name of "university" has the right to disregard the obligations of leadership in the field of research. Wisely planned successful investigations vitalize all those who come in contact with them. The amount and quality of research done at the University of Nevada will be in almost direct proportion to the presence of men with scientific training, who are true to their scholarly obligations. This is more a matter of men than of libraries or equipment, although the advantages of laboratories and books can not be overlooked. The committee has already expressed the opinion that the research deliberately fostered by the university must for the present be adapted as far as possible to the needs and conditions of the State of Nevada. Nevertheless, it believes that in making new appointments in any department the university should take pains to select persons who show particular promise of creative ability and that it should reward with promotion those who have demonstrated productive power.

SUMMARY OF RECOMMENDATIONS.

1. The requirement of previous collegiate teaching experience or advanced graduate work as a condition to appointment on the university teaching staff except in the cases of assistants.

2. The requirement of an advanced degree, scholarly publication, or exceptionally successful teaching as a condition to promotion.

Chapter VIII.

WORK AND REMUNERATION OF THE TEACHING STAFF.

Central in any study of teaching and administrative efficiency is a consideration of the amount and character of work demanded of instructors and the salaries they receive for their services. In reports of recent surveys of State higher institutions in Iowa and Washington the Bureau of Education has suggested certain standards and methods of investigation relating to these matters which it is hoped may be generally useful to institutional officials. The application of the same standards and methods to a study of the work and remuneration of the teaching staff of the University of Nevada makes possible some interesting comparisons.

The standards bearing on the size of classes in which university and college teaching can be carried on with profit are as follows:

1. In a lecture a professor may meet effectively as many as can comfortably hear and see him.

2. In a recitation or quiz 30 in a section is probably the largest number that can be effectively handled, but the desirable maximum for classes of this type would be from 20 to 25.

3. In laboratory work it is commonly agreed that one instructor should be provided for every 15 or 16 students.

The number of lecture, laboratory, and quiz sections which one instructor can meet in a week will depend on the character of the work; whether it is elementary or advanced; whether it involves reading a large amount of written work; and whether it consists entirely of separate courses or includes two or three sections of the same course. It will also depend on the amount of outside reading, writing, and research which he is expected to do. In every case a certain variable amount of administrative and committee work will be carried by members of the faculty.

There are various ways of measuring the teaching loads borne by individual instructors; the commonest is probably in terms of the "teaching hour." A teaching hour is one hour a week spent in the classroom in the actual work of instruction. In reckoning the teaching hours of laboratory instructors many institutions divide the number of hours devoted to laboratory instruction by two or by three.

Students' programs of work are usually estimated in "credit hours" (or "semester hours" or "year hours"). A "credit hour" is one hour a week for a semester (semester hour) or a year (year hour) devoted to a classroom exercise, with its accompanying preparation. Usually, however, two or three hours of laboratory work are required as the equivalent of one hour of recitation or lecture in reckoning credit hours. This is on the assumption that every recitation or lecture hour presupposes two hours spent in preparation and that laboratory work demands little or no preparation on the part of the student.

It will be seen that the teaching hour as applied to the work of instructors is substantially the same as the credit hour by which the work of the student is measured. The teaching hour as a unit of measurement has a certain value. If it is the only unit applied, however, it fails to reveal the magnitude of the teaching burden borne by the departments and by individual instructors. For instance, an instructor in Greek may give four courses of three class hours a week each, with enrollments of 2, 4, 5, and 6 students, respectively. Such small classes in this subject in the smaller institutions are not at all uncommon. A colleague in English literature may give four courses of three class hours a week each, with enrollments of 15, 18, 25, and 50, respectively. If students do written work in connection with these courses—as would be the rule in both departments—it is clear that the teaching load of the instructor in English literature is many times heavier than that of the instructor in Greek. Even disregarding the review of the students' productions, the amount of energy required for the efficient conduct of classes enrolling from 15 to 50 is considerably greater than that demanded in classes numbering from 2 to 6. Yet the teaching hours of these two men are the same.

Probably no system can be devised which will measure accurately the work of college and university teachers; nor is one desirable. Such work involves many highly variable elements and depends for its success on imponderable personal talents and idiosyncrasies. On no account should it be mechanized or even subjected in any individual case to purely mechanical tests. Its very breath of life is freedom from these devices. Nevertheless, administrators of public institutions must to some extent apply quantitative measures to the work of the teaching staffs of the institutions under their charge, to prevent flagrant injustice to individuals or departments and to insure the efficient expenditure of the funds devoted to instruction.

In estimating the teaching loads borne by individual instructors the Bureau of Education has, therefore, made use of a relatively new unit as a cross-check on the teaching hour for purely administrative

purposes. This new unit is the "student clock hour." It may be defined thus: One student under instruction in lecture, quiz, or laboratory for at least 50 minutes net represents one student clock hour; for example, therefore, 20 students meeting four hours a week in recitation represent 80 student clock hours. It will be observed that the student clock hour does not discount laboratory hours, but reckons laboratory, lecture, and quiz exercises equally, hour for hour. For instance, a student taking a course in chemistry and spending one hour in lectures, one hour in quiz, and four hours in laboratory in a week can be counted as receiving six student clock hours of instruction.

The value of the student clock hour is that it serves as an index to the administration of the distribution of the teaching burden. Taken together with the teaching hours of instructors it may help in the adjustment of inequalities.

An examination of the teaching schedules of the members of any department indicates, of course, that no definite number of student clock hours can be fixed for each instructor. An average for a department which has a number of instructors may, however, safely be set up. The Bureau of Education has suggested that in an institution where research work is encouraged and expected it is reasonable to expect also a departmental average of 250 student clock hours per instructor per week. This, it is believed, might be a fair working average for the larger modern State universities. In a distinctively undergraduate college, on the other hand, where research is limited and where little or no graduate work is conducted, a departmental average of 300 student clock hours per instructor is regarded as a reasonable norm. In this connection it is worth while to note that usually an institution whose program is made up largely of laboratory work will generally record a larger number of student clock hours per instructor than an institution most of whose program consists of nonlaboratory courses.

The relation of the distribution of student clock hours to the salary paid in a given institution is close, and it is a matter of considerable importance to the teaching staff. For example, if the curriculum of an institution demands that each student shall be under instruction on the average 20 hours a week, then for every 500 students 10,000 student clock hours of instruction must be provided. If instructors carry an average of 300 student clock hours each, 33 or 34 instructors will be required to serve this student body of 500. Suppose the institution has $67,000 to spend annually on teachers' salaries, and employs 40 instead of 33 instructors; the average load of student clock hours will of course be reduced, but so will the average salary.

Attention is now called to the following summary tables, which show for the University of Nevada the departments represented, the total number of instructors in each department (part-time teachers being reduced to a full-time basis), the average salary for each department, the average number of student clock hours for each department during the last two academic years:[1]

TABLE 18.—*Instructors, salaries, student clock hours, in 1914–15.*

Departments.	Full-time instructors.	Total salary.	Average salary.	Average student clock hours taught by instructors in department.	
				First semester.	Second semester.
Accounting and law	1	[2] $3,000	$2,400	69	101
Agronomy	1½	[2] 2,750	1,833	142	100
Animal husbandry	1	2,400	2,400	156	120
Art	½	600	600	200	200
Biology	3	5,400	1,800	177	232
Chemistry	2	3,353	1,677	399	304
Civil engineering	1½	2,661	1,995	226	279
Dairying	½	900	900	73	.....
Economics and sociology	1	2,400	2,400	87	66
Education and psychology	2	3,500	1,750	274	275
English	3	6,000	2,000	231	219
Electrical and mechanical engineering and mechanic arts	4½	[1] 8,059	1,790	279	264
Geology and mineralogy	1	2,100	2,100	242	316
German language and literature	1	1,500	1,500	146	112
Greek language and literature	1½	[1] 3,600	2,400	30	27
History	2	3,900	1,950	154	137
Home economics	1	1,800	1,800	322	252
Latin language and literature	1½	3,000	2,400	106	114
Mathematics	2	3,461	1,730	274	241
Mining and metallurgy	1½	4,000	2,666	87	106
Music	1	1,500	1,500	156	134
Physics	1	2,400	2,400	391	248
Physical education for women	1	1,500	1,500	136	128
Romance language	1	2,400	2,400	259	224
Veterinary science	½	200	200	.....	104
Total	36½	72,384	.....	4,706	4,362
Average	.....	1,978	.....	.....	.....
Enrollment of collegiate students	.....	.....	.....	345	330
Average student hours per student	.....	.....	.....	13.6	13.2
Total student clock hours	.....	.....	.....	7,678	7,252.5
Average per instructor	.....	.....	.....	209	198

[1] Detail tables from which the summaries are derived appear in the Appendix, pp. 147–149.
[2] Note that $600, the additional salary for deans, is added here.

TABLE 19.—*Instructors, salaries, student clock hours, 1915–16.*

Departments.	Full-time instructors.	Salary.	Average salary.	Average student clock hours taught by instructors in department.	
				First semester.	Second semester.
Accounting and law	1	$3,000	$3,000	80	115
Agronomy	½	1,500	1,500	176	281½
Animal husbandry	1	2,500	2,500	247½	160
Art	½	900	900	260	330
Biology	3	5,600	1,866	326	259
Chemistry	2½	3,700	1,708	451	424
Civil engineering	1½	2,722	2,041	232	196
Dairying	½	775	775	.....	132
Economics and sociology	1	2,500	2,500	126	99
Education	3	4,000	1,333	189	247
Electrical and mechanical engineering and mechanic arts	4½	7,707	1,849	231	247
English	3	6,100	2,033	236	239
Geology and mineralogy	1	2,300	2,300	221½	202
German language and literature	1	1,500	1,500	169	116
Greek language and literature	½	2,600	2,400	36½	28½
History	2½	4,300	2,006	162	155
Home economics	2	3,000	1,500	158	209
Latin language and literature	1½	3,100	2,480	99	102
Mathematics	2	3,850	1,925	223	165
Mining and metallurgy	1½	4,000	2,666	127	105
Music	1	1,500	1,500	196	174
Philosophy	½	1,600	1,600	27	73
Physics	1	2,500	2,500	448½	391
Physical education for women	1	1,500	1,500	184	170
Romance languages	2	4,000	2,000	203	138
Total	38½	76,754	.....	4,809	4,767
Average	.....	2,002	.....	.....	.....
Enrollment of collegiate students	.....	.....	.....	388	363
Average student hours per student	.....	.....	.....	12.4	13
Total student clock hours	.....	.....	.....	8,496.5	8,357
Average per instructor	.....	.....	.....	221.6	218

From this table several interesting facts with reference to the work of instructors appear. The average number of student clock hours per instructor for the whole institution was in the first semester of the last academic year 221.6, and in the second semester 218. The range of departmental averages was from 27 to 451. The distribution of teaching loads among departments is very uneven. The departments most heavily loaded are biology, chemistry, physics, and art. The departments carrying the lightest loads (measured in student clock hours) are Greek, philosophy, accounting, Latin, and economics and sociology.

At the State University of Iowa the bureau found the average number of student clock hours per instructor for the year 1914–15 to be 252; at the Iowa State College of Agriculture and Mechanic Arts, 312; at the University of Washington, 333⅓; at the Washington State College, 214.4. The range of departmental averages was at the State University of Iowa from 71 in Greek to 501 in geology; at the University of Washington from 94 in mining engineering to 648.4 in zoology.

At first glance it would seem that the comparison is distinctly unfavorable to the University of Nevada. Several factors which are not revealed by the figures should be borne in mind, however. The first of these is the great disparity in size between the University of Nevada and the institutions cited above. The maintenance of a college of arts and sciences entails the provision of work in most, if not all, of the departments represented at the University of Nevada, even if some of the departments are patronized by very few students. Their establishment belongs to the necessary initial expense of a modern collegiate undertaking. With the growth of the institution more students enroll in the less frequented departments. The approximate equalization of the teaching loads, as measured in student clock hours, then becomes possible.[1] The presence in an institution of a number of departments which enroll very few students also lowers the institution's average of student clock hours. A small institution, therefore, which maintains a well-rounded college of arts and sciences may be expected to fall short of the standard proposed by the bureau for application to the larger State universities and colleges. It is perhaps worth noting that the classics and philosophy, which are among the departments showing the smallest number of student clock hours at the University of Nevada, commonly enroll in other institutions relatively small numbers of students.

The committee might summarize its views on the measurement of the work of instructors in terms of student clock hours thus. This method is valuable chiefly for three reasons: (1) Because it may reveal to the administration some of the inequalities in departmental teaching burdens, and so serve as contributory evidence in determining increases of departmental staffs; (2) because it indicates the relative expensiveness of various lines of work; and (3) because it furnishes an index of the institution's success in utilizing its teaching resources to their full capacity. An absolute equalization even of departmental teaching loads is of course out of the question in any institution, whatever its size and however carefully managed, but that many institutions may conform to the standards proposed above without overloading any teacher is believed to be possible. It may be of interest to the officers of the University of Nevada to note that a faculty of 38, if carrying an average load of 300 student clock hours a week, could have provided 11,400 student clock hours of instruction instead of the 8,496 actually given. This would have made possible an additional enrollment of 140 without additions to the staff.

[1] It should be emphasized again that the student clock hour represents only one method of measuring an instructor's burden. An instructor with small classes and a consequent low student clock-hour count may meet as many classes a week as a teacher whose total of student clock hours greatly exceeds the average.

SIZE OF CLASSES.

Classes of five students or less can rarely be justified, except in advanced work or in the graduate school or in courses which have just been established. Even courses enrolling 10 or less are expensive. Many small classes indicate in some cases the lack of adequate study of the curriculum or schedule by administrative officers, and in others an undue effort by departments to serve the whims or convenience of students in order to build up departmental enrollments. The number of small classes can often be reduced by alternation of courses. Large classes, on the other hand, unless they are lecture classes, usually entail inferior educational results. Classes of over 30 are at least open to question. Any considerable number of them generally shows a need for more instructors or a poor distribution of students or instructors. The committee presents below a tabulation of the classes by size at the University of Nevada during the year 1915–16.

TABLE 20.—*Size of classes, 1915–16.*

Students in classes.	Number of classes.	
	First semester.	Second semester.
1 to 5	67	73
6 to 10	53	56
11 to 20	34	40
21 to 30	24	19
31 to 40	10	8
41 to 50	6	8
51 to 60	3	2
61 to 70	1	1
Over 70	0	0
Total	198	207

It appears that over one-third of all the classes in the university are composed of from one to five students. The committee does not suggest that all of these small classes could be eliminated. It believes, however, that it should be possible to reduce the number of them by offering certain courses in alternate years and by withdrawing and combining others. It recommends that the administrative officers give this question of small classes careful consideration. The following table may assist the administration in making desired adjustments.

TABLE 21.—*Number of classes with an enrollment under six, 1915–16.*

Department.	First semester.						Second semester.					
	1	2	3	4	5	Per cent.	1	2	3	4	5	Per cent.
Accounting						[1] 0						[1] 0
Agronomy		1			1	53½				1		42
Animal husbandry			1			27		1		1	1	54
Art						[1] 0			1	2		50
Biology		2	1	2	1	57	1		1	3		50
Chemistry	1	2		1		36	6			3		57
Civil engineering	3		1	1	2	61	1	2	1	2		50
Economics						[1] 0				1		33⅓
Education	1					19						[1] 0
Electrical engineering						[1] 0					2	40
English	3			1		15	1	1	1	1		16⅔
French	3				1	40	3				1	45
German			1			12½		2		1		47
Greek	1	1	1	1		100		2	1			100
History	1	1	4	3	1	63		3	3	1	2	50
Home economics			1	1		28						[1] 0
Italian					1	100						[1] 0
Latin		1		2	2	54		1	1		2	45
Law				1		50				1		50
Mathematics		2				18	1				1	20
Mechanic arts						[1] 0				2	1	54
Mechanical engineering				1		10	1		1		5	26
Metallurgy	1	2				38			1			20
Mining	1	1		1	5	73	1	1	1	2	1	70
Mineralogy						[1] 0						[1] 0
Music			1			28		1			1	57
Philosophy												
Physics		1				7		2				15
Physical education					2	40		1			1	20
Spanish					1	22						
Geology							1			3	1	73
Total	15	14	11	15	17		16	16	12	24	19	

[1] No report.

An examination of this table shows that in the first semester 9 departments reported 15 classes in each of which there was but a single student; in the second semester 9 departments reported 16 classes of 1 student each. Ten departments reported 14 classes with but 2 students in each during the first semester. Further analysis of the figures may be made by the reader at his convenience. The percentage column at the right indicates the percentage of the teaching time (estimates in credit hours) of the department given to classes of from 1 to 5 students.

SALARIES.

The Bureau of Education is on record concerning the salaries which collegiate institutions, especially the stronger State institutions, should try to pay. It has declared that for the present an average salary of $2,000 for a department should be regarded as a reasonable minimum. (This does not apply to subcollegiate departments, where a lower average may properly prevail.) The practice of the stronger institutions throughout the country indicates that this average will be necessary to command men of the desired quality. In departments which expect to retain men of distinction a higher average salary must be paid.

The situation at the University of Nevada, however, is such that this proposed standard of the average departmental salary can

hardly in fairness be applied. As will be noted in the foregoing tables, there are 13 departments each of which has but a single instructor. The minimum average salary for a department suggested by the bureau was worked out from a study of institutions where the number of instructors in most departments ranged from 4 to 15. The average instructional salary at the University of Nevada, $2,002, is seen to be slightly higher than the proposed standard; but this very respectable average is due chiefly to the large percentage of full professors and heads of departments in the Nevada faculty, and the relatively small percentage of instructors on low salaries. This distribution of the teaching staff among the different academic ranks is another characteristic of the small institution. In justice to the instructing body at the University of Nevada the maximum salaries paid to the teachers of each rank should be compared with those paid by other institutions. For this purpose a table of the maximum and minimum salaries of State institutions is included in the Appendix, page 160. Certain comparisons with the State institutions in Iowa and Washington may be pertinent here. The average salary at the State University of Iowa was $1,790. The minimum salary paid departmental heads was $3,000 in 1914-15. In the same year the average salary at the University of Washington was $1,754, and the maximum salary of a full professor $3,000. The average salary at the Washington State College was $1,631.50; the maximum salary paid full professors was $3,000. In both States the bureau not only recommended the immediate increase of the average, but urged the payment of a higher maximum to men of professorial rank. Persons of the requisite training and ability to head university departments can not be secured or permanently retained for less than $3,000. Indeed, as will be seen by consulting the table referred to, many institutions are paying full professors a very much larger remuneration than this. If the bureau was willing to recommend a considerable increase in salaries in communities where living expenses are relatively low, it surely has no hesitation in urging the same action upon the legislature and the university authorities in Nevada. The cost of living and especially the high rents in Reno subject the faculty of the University of Nevada to peculiar financial pressure. The committee emphatically recommends, therefore, that the salaries paid teachers of professorial rank at the University of Nevada be raised and that the maximum salary of full professors be placed at $3,000.

SUMMARY OF RECOMMENDATIONS.

1. The serious consideration by the administrative officers of the large number of small classes.
2. Increase in salaries and the establishment of $3,000 as the maximum salary of full professors.

Chapter IX.

COSTS.

In the preceding chapter some of the most important questions involved in institutional expenditures were discussed. The analysis of costs attempted in this chapter is not the usual report of receipts and expenditures primarily by funds—State, Federal, local, private endowment, etc.—but rather a classification of expenditures with reference to their educational purposes. In a business concern this process is called cost accounting. Under Federal and State laws very little accounting of this kind has been required of institutions of higher education, although each year there have been more and more frequent calls for statements involving this element. As yet, however, the forms in which institutional expenditures are reported differ greatly.

The committee has had prepared and submits herewith an exhibit of the expenditures of the University of Nevada, arranged in a form identical with that used by the Bureau of Education to summarize the financial operations of the State institutions of Iowa and Washington in connection with the recent surveys of these institutions. Within this limited group of institutions, therefore, substantially accurate comparisons may be made. In order that the tabulation may be clear, the following explanation is offered:[1]

The total expenditures for the year are first divided into two main groups: *Educational expenditures* and *extension and service expenditures*. The educational expenditures are then divided into three separate categories: *Construction and land*, *special and rotating funds*, and *operating expenditures*.

The category construction and land includes expenditures for direct additions to the plant, to provide for growth in enrollment, together with outlays for ordinary furniture of new buildings. Special and rotating funds include expenditures from prize funds, boarding and rooming departments, and special funds available only for specific purposes apart from instruction. These two classes of expenditures are in a certain sense entirely independent of the cost of operation of the educational plant.

[1] The explanation of the form for the reporting of expenditures in this chapter is taken for the most part from the report of the survey of the State higher educational institutions of Iowa, Bulletin, 1916, No. 19.

The category operating expenditures includes all expenses for the annual maintenance of the institution aside from dormitories and boarding departments. It is further analyzed into *educational equipment and supplies*, *instruction*, and *general operating expenditures*. The latter may perhaps more aptly be termed *overhead expenses*. The following may make this clear:

- Total expenditures
  - Educational
    - Construction and land.
    - Special and rotating fund.
    - Operating expenditures
      - Educational equipment and supplies.
      - Instruction.
      - General operating expenses (overhead expense).
  - Extension and service.

Under operating expenditures the first subdivision, *educational equipment and supplies*, includes in addition to purely departmental supplies the expenditures for books and library supplies. The second subdivision, *instruction*, includes the salaries of the deans and faculty members, but not those of the president, other purely administrative officers, and librarians. The third, *general operating* or *overhead expense*, includes the salaries of administrative officers, janitors, etc., in addition to other expenditures essential to the maintenance of the work of the institution.

TABLE 22.—*University of Nevada—Summary of expenditures, 1914–15.*

- Total expenditures, $221,492.04.
  - Educational expenditures, exclusive of extension, $167,069.61.
    - Construction and land, $8,151.95.
    - Total operating expenses, $139,717.96.
      - Instruction, $78,391.87.
        - Arts and sciences, $53,815.81.
        - Engineering, $15,785.16.
        - Agriculture, $7,790.90.
        - Summer school, $1,000.
      - Educational equipment and supplies, $13,760.32.
      - General operating expenses, $47,565.77.
    - Special funds, $19,199.70.
  - Extension and industrial service work, $54,422.43.

TABLE 23.—*University of Nevada—Summary of expenditures, 1915–16.*

- Total expenditures, $284,838.80.
  - Educational expenditures, exclusive of extension, $205,089.24.
    - Construction and land, $2,204.21.
    - Total operating expenses, $174,157.56.
      - Instruction, $83,773.97.
        - Arts and sciences, $63,490.38.
        - Engineering, $13,031.26.
        - Agriculture, $5,349.
        - Summer school, $1,903.33.
      - Educational equipment and supplies, $28,277.45.
      - General operating expenses, $62,106.14.
    - Special funds, $28,727.47.
  - Extension and industrial service work, $79,749.56.

With the aid of one more factor in addition to those already exhibited in the tables described, certain fairly definite information concerning the average cost per student may be obtained. This factor is the average number of students in attendance. This is not the same as the catalogue enrollment. The usual catalogue statement of enrollment includes all students who have attended the institution during any part of the year of 12 months. Often the summer enrollment is large. As a rule the number of students in actual attendance rises from the opening of college in September for about two weeks to a maximum and then declines, because of withdrawals, until the close of the term. The second term usually opens

with increased numbers, again reaching a maximum shortly after the opening date and then gradually declining until the close of the year. An average of the two high tides in enrollment may under very liberal interpretation be regarded as the average attendance. The average attendance computed in the fashion described for the year 1914–15 at the University of Nevada was 313. The catalogue enrollment was 388. For the year 1915–16 the average enrollment was 329.5. The catalogue enrollment was 411.

To determine, then, the average cost per student the items listed in the first tabulations under the heading of *operating expenditures* (including the total *educational equipment and supplies*, the total *general operating expenses* and *cost of instruction*), less the expenditures for the summer term, are taken. The average attendance for the same year is then used as a divisor. The two following tables show the average cost per student for the years 1914–15 and 1915–16:

TABLE 24.—*Per capita cost per student based on the average enrollment.*

	1914–15	1915–16
High tide of enrollment for first semester	310	328
High tide of enrollment for second semester	316	331
Total	626	659
Average enrollment for the year	313	329.5
Total expense	$138,717.06	$172,254.23
Average expense per student	$443.18	$522.77

The average cost per student figured in the same way was, for the year 1914–15, $275.50 at the State University of Iowa; $271 at the Iowa State College of Agriculture and Mechanic Arts; $192.77 at the University of Washington; and $289.79 at the Washington State College.

For reasons suggested in the preceding chapter, it is to be expected that the per capita cost at the University of Nevada will be high as compared with universities of larger enrollment. The necessity of supporting almost as many departments as an institution of much more numerous enrollment entails a rather formidable unit expense. Moreover, in the smaller institutions there are fewer opportunities for departmental economies. Probably certain economies such as preventing the establishment of new departments, supplying (within limits) the need of new courses by utilizing men from allied departments, and encouraging the rotation of advanced courses may be practiced. But even so, the unit cost will still undoubtedly remain higher than that of universities of five or ten times the enrollment of the University of Nevada. The usefulness of calculating the cost per student is not so much for purposes of comparison with other institutions, although this has a certain value, as for the information of

the institution itself, in order that it may compare its expenditures from year to year. The object of efficient management should be to make a better university, not a cheaper one. If the university can be made better and the unit of expense at the same time reduced, the achievement will be worth while. No one who has the interests of the State and of higher education at heart, however, would advise the lowering of standards or a decrease of salaries for the sake of reducing expenses. Economies in university administration can be safely effected only by a university president who, as an expert in university education, can plan for the future, and upon whom rests the responsibility for resisting the innumerable pressures for expenditures for purposes unrelated to the larger policies of the institution.

TABLE 25.—*University of Nevada—Student clock-hour costs, 1915–16.*

Departments.	Salaries.	Departmental equipment.	Overhead expenses.	Total expenses.	Student clock hours.			Student clock-hour cost.
					First semester per week.	Second semester per week.	Total for year.	
Agronomy	$1,550.00	$713.45	$740.26	$3,003.71	176	281½	8,235	$0.3647
Animal husbandry	2,845.21	1,572.38	1,444.78	5,862.37	247½	169	7,497	.7819
Art	900.00	20.80	301.09	1,221.89	260	330	10,620	.1150
Biology and botany	5,793.28	2,321.11	2,654.81	10,772.20	326	239	10,530	1.0230
Chemistry	4,502.80	2,219.58	2,198.56	8,920.94	465	424	16,002	.5575
Commercial	1,800.00	745.88	832.62	3,378.50	80	115	3,510	.9625
Civil engineering	2,513.63	54.27	839.83	3,407.73	232	196	7,704	.4423
Dairying	900.00	1,011.94	625.31	2,537.25	.....	132	2,376	1.0679
Economics and sociology	2,649.96	.....	866.67	3,516.63	128	72	3,564	.9867
Education	7,450.00	217.85	2,507.79	10,175.64	189	247	7,848	1.2966
Electrical and mechanical engineering and mechanic arts	7,281.25	2,186.00	3,096.28	12,563.53	231	247	8,604	1.4602
English	6,321.51	.....	2,067.46	8,388.97	236	239	8,550	.9812
Geology and mineralogy	2,300.04	34.35	763.46	3,097.85	221½	202	7,623	.4064
Greek and Latin	4,999.96	3.80	1,636.48	6,640.24	127	124	4,518	1.4697
History	3,999.96	.....	1,308.19	5,308.15	162	155	5,706	.9303
Home economics	3,053.71	296.29	1,095.72	4,445.72	158	209	6,606	6.729
Mathematics	3,849.96	.....	1,259.13	5,109.09	223	165	6,984	.7315
Mining and metallurgy	3,236.38	979.16	1,378.69	5,594.23	127	105	4,176	1.3396
Modern languages	5,499.96	.....	1,798.76	7,298.72	372	254	11,268	.6475
Music	1,500.00	103.18	524.32	2,127.50	196	176	6,678	.3184
Philosophy	1,600.00	.....	523.28	2,123.28	27	75	1,836	1.1564
Physics	2,872.57	1,956.02	1,579.17	6,407.70	448½	301	15,111	.4240
Physical education (women)	1,631.00	52.30	550.53	2,233.83	184	170	6,372	.3506
Totals—Instructional departments	79,051.12	14,491.16	30,593.19	124,135.47	4,814½	4,736½	171,918	.7221
Library	.....	2,930.54	958.43	3,888.97	.....	.....	.....	.....
Military science	1,436.19	52.71	486.95	1,975.85	.....	.....	.....	.....
Physical education (men)	1,200.00	113.10	429.45	1,742.55	.....	.....	.....	.....
Training quarters	.....	162.15	53.03	215.18	.....	.....	.....	.....
Totals, including non-instructional	81,687.31	17,749.66	32,521.05	131,958.02	.....	.....	.....	.....
Extension and industrial service	79,749.56		26,082.01	105,831.57	.....	.....	.....	.....
Five-sixths university farm	.....	10,527.79	3,443.12	13,970.91	.....	.....	.....	.....
Veterinary science	183.33	.....	59.96	243.29	.....	.....	.....	.....
Grand totals	.....	.....	62,106.14	252,003.79	.....	.....	.....	.....

The actual cost of different departments the committee has found it exceedingly difficult, perhaps impossible, to determine. The nearest approach that could be made seemed to be to secure the cost

of a student clock hour in each department. This has been done and appears in the last column of Table 25. It was obtained by adding the total amount paid for salaries in each department and the amount spent for departmental equipment and supplies. The general operating expense or overhead expense was divided among the separate departments in accordance with the ratio which the salary budget for each department bore to the general salary budget. This amount, as its proportion of the overhead, was then added to the two departmental items already mentioned, and the total divided by the number of student clock hours for the department. The committee would like to add a word of caution against the drawing of too wide inference from this table. As contributory evidence it may have some value, however.

Reference has already been made to the separation of the office of the president of the University of Nevada from direct oversight and control of the finances of the institution and to the new system of financial management about to be installed, which is designed to center responsibility for these matters once more in the president. The committee was asked to give careful consideration to this new system, which was devised partly with a view to overcoming some of the local objections raised against the financial administration of the university. The report prepared by Mr. W. B. Castenholz, formerly comptroller of the University of Illinois, has been read and its recommendations with reference to the desirability of providing means for facilitating the preparation of cost reports have been considered.

The local criticisms of the old system were: (1) It did not provide any easy and accessible means by which the public could be informed regarding the use of university funds. (2) It did not provide for an accounting of departmental budgets. In support of this criticism the committee was informed that budget sums, though allowed, were found not to be available, the supposition being that other expenditures had been made which encroached on the departmental allowance. (3) It did not provide a classified report of expenditures upon which a satisfactory budget could be built. (This was given as the reason for the lack of budget control by heads of departments, noted above.) (4) The business office was separated from the president's office, making the educational authorization of expenditures difficult. (5) Frequent balances were not provided for.

In support of the old system, it was contended that, with a few supplementary changes, all the objections noted above might have been overcome. While this may be true, the fact remains that an expert in university accounting, after a careful examination of the system in force, recommended such a large number of changes that the system about to be installed is practically a new one. The com-

mittee believes that if the new system is installed and kept up with the cooperation of the educational and business offices, it should not only remove the local objections to the university's financial administration, but should also furnish a basis for future cost accounting which will be of great value to the university. Attention is called to the fact, however, that the installation of any special system of accounting is of far less importance than its faithful and businesslike administration.

With the cooperation, which is in any event essential, between the comptroller's office and the president's office, there seems to be little need for the other elaborate order and voucher record in the president's office which the new system provides. There should, of course, be no question of the president's responsibility or authority. Every officer of the University of Nevada, as of practically every other State university, is in effect using delegated authority from the regents, through the president. Such a relation grows out of the responsibilities of the educational trust which centers in the regents and which must find a unified agent for expression in the chief executive of the university. The business officer is of necessity the expression of the educational trust in business terms.

The installation of the new system in all its details will probably be found impracticable of introduction at one time, but the main features of the order system, budget and control accounts, and encumbrance ledger may be worked out from the start. The perpetual inventory should be begun. The creation of a general stores department, the changes in the registration system, the central stenographic bureau, and the other valuable minor recommendations of the report may well become parts of the task of the new comptroller as he gradually masters the details of his position. The committee congratulates the university upon having made this careful study of the functions of its business office.

BUILDING COSTS.

The committee has also undertaken a study of the square feet of floor space provided for each student and the cost thereof. It is hoped that the results of this study may help the authorities to estimate the extent of building operations which will be required to house adequately the educational work of the institution as the enrollments increase. The study is similar to one made in connection with State higher educational institutions of Iowa. In explanation of it the committee quotes in substance from the Iowa report as follows:

In listing buildings occupied for educational purposes an attempt has been made to classify the space which they comprise roughly under two headings: "Space used in common," as library, gymna-

sium, heating plant, auditorium; and "instructional space," i. e., space used for classrooms and laboratories. This division can, of course, be only approximate. The total floor area of each building has been taken, including corridors, closets, stairs, etc. Dormitories and residences have been omitted. Where dormitories are provided by a State, it is only reasonable that the income from them should fully cover all maintenance, cost, repairs, and renewal of equipment, and pay at least 3 per cent income on the investment. The erection of dormitories must be based on a desire to provide adequate living accommodations for students and is entirely separate and distinct from the provision of educational buildings.

In determining the square feet of floor space provided per student the estimated average attendance during the present college year, 1915–16, was taken. This average attendance has been calculated according to the method described earlier in this chapter. It will be apparent that, in considering building accommodations, we are only concerned with providing adequately for the average number actually on the campus at one time during the college year. Using these factors, the following summary tables have been compiled:[1]

TABLE 26.—*Cost of buildings per square foot.*

	Cost.	Square feet of floor.	Cost per square foot.
Space used in common	$41,102.16	18,181	$2.26
Class and laboratory space	188,589.09	56,847	3.31
Total	229,691.25	75,028	3.06
COST PER STUDENT.[1]			
Space used in common	124.55	55.1	2.26
Class and laboratory space	571.48	172.2	3.31
Total	696.03	227.3	3.06

[1] Average enrollment of students, 330.

Certain comparisons with the amount of space provided for each student and the cost of it at the Iowa State institutions are of interest. The State University of Iowa provides 237.7 square feet of floor space per student; the Iowa State College of Agriculture and Mechanic Arts, 248 square feet of floor space; and the Iowa State Teachers College, 242 square feet. Both the State University of Iowa and the Iowa State College of Agriculture and Mechanic Arts reported fewer square feet of space used in common (47.7 and 50.5 square feet, respectively) than the University of Nevada. Both institutions were found to stand in urgent need of library and auditorium accommodations, however. The average cost per square

[1] Detail tables appear in the Appendix, p. 163.

foot of floor space in six buildings recently erected at the Iowa institutions was $2.96. The highest average cost per square foot of floor space for the whole plant was $3.16, reported by the Iowa State College of Agriculture and Mechanic Arts.

Comparing these figures with those given in the preceding table, it appears that less space is provided for each student at the University of Nevada than at any of the Iowa institutions, and that relatively Nevada falls below, particularly in instructional space. (Allusion is made in Chapter X to some of the more urgent building needs.) The average cost per square foot of all buildings at the University of Nevada runs close to that reported for the Iowa institutional plants. The cost per square foot of two recent substantial buildings at the University of Nevada, as shown in the following summary, is considerably higher.

TABLE 27.—*Cost per square foot of floor space of the two newer buildings.*

	Square feet.	Cost.	Per square foot.
School of mines	11,568	$92,730	$8.01
Electrical building	7,158	40,000	5.58
Total	18,726	132,730	7.08

Chapter X.

ORGANIZATION AND NEEDS OF SEPARATE DIVISIONS OF THE UNIVERSITY.

The committee proposes to discuss in the present chapter the organization, equipment, and functions of the principal teaching divisions of the university, to point out the major needs of these divisions, and to offer recommendations bearing on their administration and support.

THE COLLEGE OF ARTS AND SCIENCES.

The college of arts and sciences is the core of the university and its oldest division. As has already been indicated, it is in more senses than one the heart of the university. To illustrate this statement further and to throw light on the general principle of collegiate organization, the committee quotes a portion of the report of the dean of the college of arts and sciences made to the president December, 1916:

> Under the plan of organization in force in this university, a department is classified for administrative purposes in the college to which its work primarily belongs. In case all of the courses it offers are open without restriction to all qualified students of the university, it is included in the college of arts and science. In case a department offers some courses open without restriction to all qualified students, and other courses of a technical character open only to restricted classes of students, it is included in the college of arts and science and in one or both of the other colleges, but is counted as belonging primarily to the college of arts and science. Such departments, specifically, are English, mathematics, chemistry, physics, geology and mineralogy, zoology, and botany. With these should be mentioned military science and physical education for women, which can hardly be said to belong primarily to any single college. In case a department offers only technical courses open to restricted classes of students, it is classified in either the college of agriculture or the college of engineering, or, if it is a requirement of students in both colleges, it is classified in both.
>
> Under this organization of the several colleges, each with its own curricula and degrees, a student is registered in that college where he elects most of his courses, or for the degrees of which he expects to become a candidate. The college of arts and science now contains somewhat more than one-half of the entire student body, its percentage of the students in 1915–16 being 56 per cent as compared with 27 per cent in engineering and 17 per cent in agriculture. Furthermore, its growth has been more rapid than the growth of the other two colleges. Nearly all of the instruction given arts and science students is provided by the departments belonging primarily to this college. The only important exception is the department of home economics, which is one of the two schools in the college of agriculture. Other departments classified

primarily in agriculture or engineering provide instruction for arts and science students only to a very limited extent.

On the contrary, arts and science departments provide a large part of the instruction given students registered in the other colleges. Excluding courses in applied mathematics and in applied sciences, and including only those recognized as primarily belonging to the college of arts and science, this college gives from 48 to 73 per cent of the instruction to students registered in the school of home economics, from 18 to 39 per cent to students in the school of agriculture, from 42 to 46 per cent to students in the Mackay school of mines, from 30 to 42 per cent to students in the school of mechanical and electrical engineering, and from 30 to 45 per cent to students in the school of civil engineering, the range in each of the schools depending upon the manner in which its students use their free electives. The minimum in each school represents the relative amount of arts and science work regarded as indispensable in the preparation of its students. All the arts and science courses so specified represent the indispensable part which a college of agriculture and mechanic arts would be compelled to provide for the students in addition to the technical courses.

By reason of these facts its laboratories are becoming overcrowded. Nearly all departments in the languages, the social sciences, and mathematics are seriously hampered for want of room. Some recitation rooms are used by several instructors, a condition which, in the want of offices for many of the instructors, makes it impossible for them to be available to students for conference.

The committee is recommending later the provision of separate buildings for agriculture and education. Should such buildings be provided, the congestion of which the dean speaks, the existence of which the committee verified by its own observations, would be largely remedied. Attention is called to it here partly to emphasize the handicap under which the college of arts and sciences labors and partly to reinforce the recommendations which the committee is about to make.

THE MACKAY SCHOOL OF MINES.

The committee has been impressed with the great development of mining in Nevada. It is, and so far as can be foreseen will continue to be, the principal industry of the State for many years to come. As the training agency for the leaders in this industry, the Mackay school of mines, now administered as one of the schools in the college of engineering, deserves first mention among the technical divisions of the university.[1] The committee is convinced that the Mackay school ought in time to be the equal of any school of mines in the United States. That it has thus far failed to attain the highest degree of efficiency does not appear to be the fault of any one person, but seems rather to have been caused by certain conditions which it is believed the recommendations contained in this report will help to remedy. The rapid development of newer competing lines of engineering work and a recent change in the directorship were undoubtedly factors in the decline in the enrollment of

[1] The rather loose use of the word "school" in connection with this and other administrative divisions of the university has been alluded to.

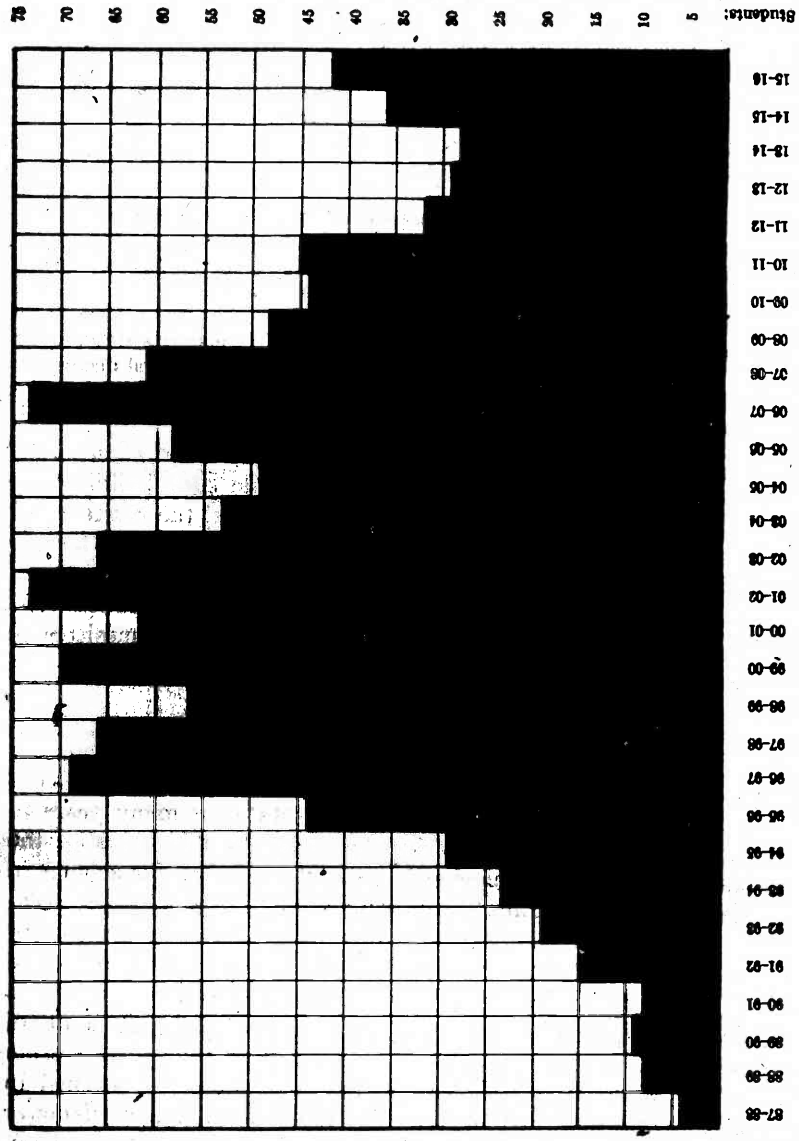


FIG. 11.—Growth of College of Mines, University of Nevada.

the school beginning in 1911–12 and continuing through 1913–14. The curriculum in mining has lately been reorganized on approved lines, with strong emphasis on a high standard of achievement in the practical mining subjects. Since the beginning of the year

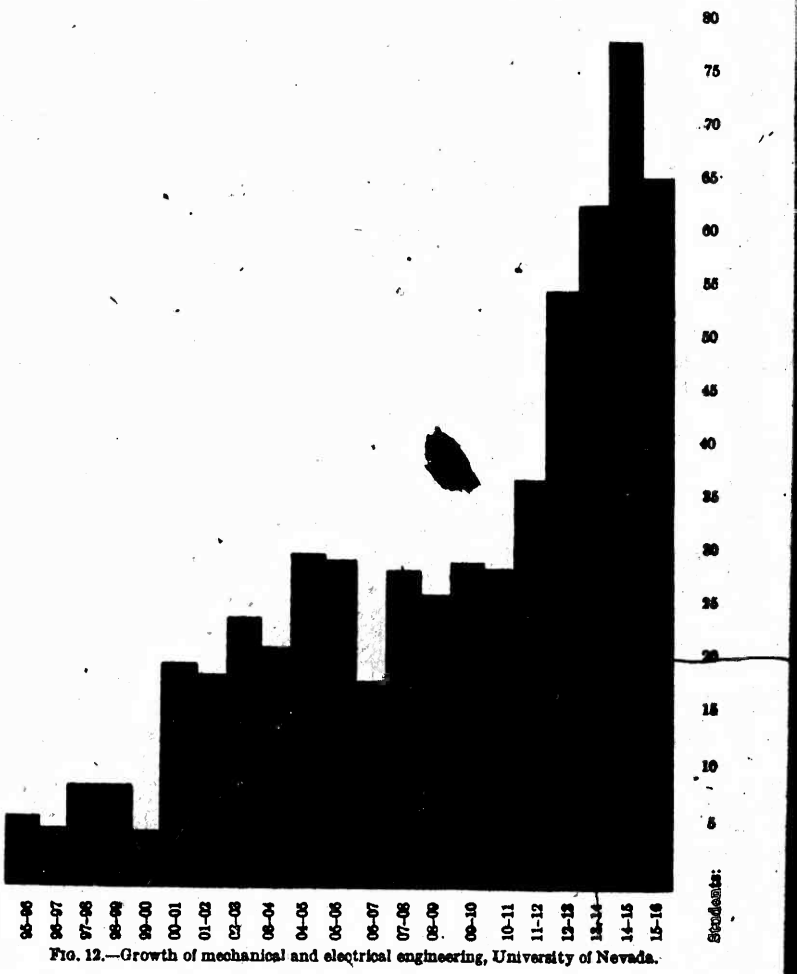


FIG. 12.—Growth of mechanical and electrical engineering, University of Nevada.

1914-15 the enrollment has been increasing. The enrollment of the school in comparison with that of the other divisions of the college of engineering and with that of the college of engineering as a whole is shown in the accompanying table and graphs.

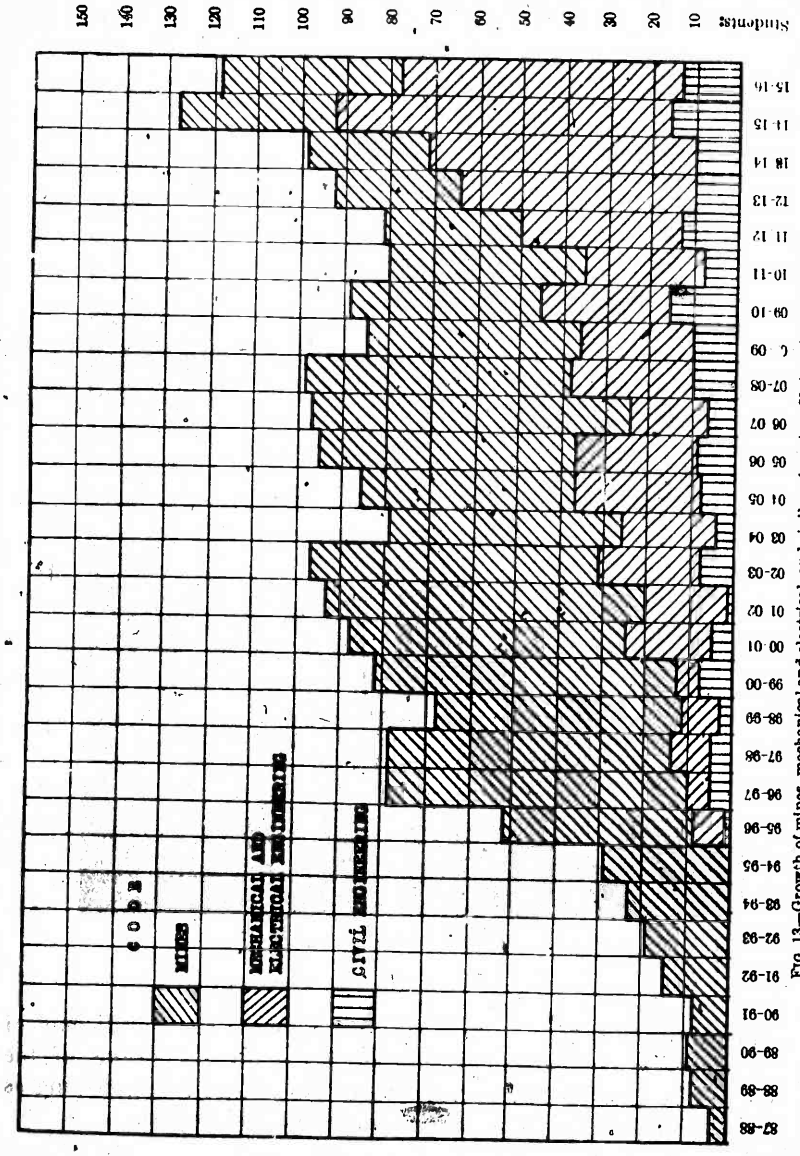


FIG. 13—Growth of mines, mechanical and electrical, and civil engineering, University of Nevada.

TABLE 28.—*Enrollment in mining and engineering, 1887–88 to 1915–16.*

Year.	Mines.	Mechanical and electrical engineering.	Civil engineering.	Total.
1887–88	4			4
1888–89	8			8
1889–90	9			9
Fall term of 1890	8			8
1891–92	15			15
1892–93	19			19
1893–94	23			23
1894–95	29			29
1895–96	44	6	2	52
September, 1896–December, 1897	69	5	5	79
1898	66	8	5	79
1899	57	8	3	68
1900	70	5	7	82
1901	62	20	5	87
1902	73	18	2	93
1903	66	24	7	97
1903–4	53	22	4	79
1904–5	49	30	7	86
1905–6	58	29	8	95
1906–7 (mining boom)	73	18	6	97
1907–8	61	28	10	99
1908–9 (Mackay building)	48	26	10	84
1909–10	44	29	16	89
1910–11	45	28	7	80
1911–12 (Electrical building)	32	37	13	82
1912–13	29	54	10	93
1913–14	28	61	10	99
1914–15	36	76	16	128
1915–16	42	64	13	119

For the Mackay school of mines to meet the most pressing demands of the State it will be necessary to increase the staff and to add a small amount of equipment. The committee recommends especially the appointment of an expert in mining prospects and the development of small properties. Such a man should spend a large part of his time in the field, making careful study of properties and giving assistance to those operators who for lack of technical direction may be wasting their own and other people's money. At the same time, he should be able, with the cooperation of the other members of the mining staff, to make and maintain an inventory or perpetual survey of the mining interests in Nevada. Such a survey would be of great benefit to the State in restoring confidence in the mining industry, confidence which is lacking among investors at the present time. While it may not be possible to eliminate the speculative element from the mining business, it should be the function of this public technical expert to reduce this element to a minimum. His work would not, it is believed, in any way interfere with the practice of private mining engineers. In fact, by constantly calling attention to the practical value of technical assistance, his activities ought actually to increase the professional opportunities of private practitioners. That the service that such an expert should render is needed is indicated by the correspondence records of the director of the Mackay school of mines, who during a single

year responded to 91 requests for specific information regarding the mining resources of the State. This service would be, indeed, but an extension of the work of the State mining laboratory, which was established at the university in 1895, and which provides for the ordinary analyses of ores free of charge for prospectors.[1]

The Mackay school of mines should maintain a keen interest in research. In fact, the committee recommends that definite provisions for graduate work in mining be made within a few years. The committee has already implied that it does not advise the general development of graduate work at the University of Nevada. Graduate instruction is exceedingly expensive. Only a very small percentage of the population can avail themselves of it. There are already several excellent graduate schools in the far West, which should be able to supply the needs of this section for some time to come. The committee is led to recommend the development of graduate courses in the Mackay school of mines, however, on three grounds: (1) Because of the close proximity of so many rich mines; (2) because the Mackay school is sufficiently endowed to warrant the State in contributing such funds as may be necessary to furnish advanced instruction of the highest grade; and (3) because of the stimulating effect which graduate work, even if carried on in only one department, has upon the scholarly interests and standards of the whole institution.

Of special importance is the relationship of the Mackay school of mines to the large interests which it serves. The committee suggests three methods of fostering this relationship: (1) There should be an advisory board of five or more mining men, appointed by the regents upon the recommendation of the director and with the approval of the president.[2] This board should have as its object the correlation of the instruction offered by the school with practical mining work. It should meet with the director once a year to consider changes and improvements in the courses in mining, and should at all times be alert to assist him in advancing the institution of which he is in charge. (2) Provision should be made for bringing to the university each year several lecturers on various practical phases of mining problems. (3) Some of the work in mining experimentation, which is being carried on in connection with the operation of the large mining companies, should be made available to university instructors and students. The practical means for the accomplishment of this end might well be one of the problems for the mining advisory board to consider.

[1] Compare, p. 67.

[2] The committee has already commented on the honorary board of visitors at present maintained, and has suggested that it be replaced by special boards for each of the separate divisions of the institution (see p. 90).

In Chapter VI the committee suggested certain changes in the organization of the school. It now submits two alternative proposals looking toward the enhancement of the school's efficiency and standing.

1. The Mackay school of mines might be given a definite and separate position in the university organization, the director becoming the real as well as the nominal head of the school. He should in that case be made a member of the council of administration and should be required to deal directly with the president of the university. Whether he received the title of dean or not is a matter of minor importance and one to be determined by expediency when the occasion arises. It has already been recommended that the school have a somewhat larger teaching and service staff assigned to it. But even if additions to the instructing body are not made, the director and his staff should have, in the event of the adoption of this proposal, administrative as well as educational control of the students in mining. The relation of the mining school to the college of engineering would then be through joint faculty meetings for the discussion of problems common to both school and college.

2. The Mackay school of mines might be given a more dominant place in the organization of the college of engineering, the other departments of the college being made subordinate and contributory to it. The college of engineering would then become in effect a school of mines and engineering, a type of organization which has been adopted in at least one other mining State. The paramount importance of the mining industry in Nevada would thus be recognized.

The committee is aware that either proposal would at the outset meet opposition. The principal objection to the first alternative—the plan which the committee on the whole prefers—is that if carried out at present it would create two very small administrative subdivisions of the university in the place of a single unit of respectable size. The trend of enrollments in both mines and engineering indicates, however, that this objection would apply only temporarily. Against the other alternative it may be urged that the college of engineering (excluding the school of mines) has proved itself one of the most progressive and vital divisions of the university and that an attempt to subordinate its work to that of any other technical interest would tend to diminish the enthusiasm of both students and teachers to the detriment of university spirit and the State's service. The committee concedes this and on that account favors the first plan. A readjustment substantially in line with one or the other of these proposals must inevitably be made if the mining school is to perform its proper function in relation to the State's principal industry and if it is to realize its almost unparalleled opportunity.

MINING SCHOOLS OF SECONDARY GRADE.

The determination of the people that the State's oldest and richest industry shall not lack educational support is shown by the readiness of the last legislature to undertake provision for elementary mining instruction at the more important mining camps. The Tonopah school and the school at Virginia City are testimony of the belief of the people in industrial education. The committee does not wish to dampen the enthusiasm of the supporters and champions of such schools, the establishment of which it heartily indorses; nevertheless it ventures to call attention to certain dangers which must be guarded against if these institutions are to render efficient and economical service.

The first danger is that such a school may lose its reason for existence by the failure of the camp in which it is located. It would be uneconomical to continue instruction of this character without a certain minimum number of students. The committee believes that, in view of the sudden fluctuations in population to which mining communities are subject, it would be good policy for the State to encourage joint support by State and local contribution of these industrial courses. Under this arrangement the local school authorities might, for instance, furnish the quarters needed and pay one-half of the salary of the special teacher of mining subjects, the State defraying the other half. Whenever the number of pupils fell off to the point where the local community judged that the school was no longer justified, the enterprise might be abandoned.

The second danger is that the work of such a school may lose its true vocational character unless it has the proper direction. If, for example, the attempt were made to introduce work of this nature into a public school system whose officers were unfriendly to its purposes, this danger might well exist. It may be guarded against by continuing to rely upon the director of the school of mines for assistance in the selection of a proper teacher and for advice and direction as to the course of study. The local school authorities, however, should be encouraged to handle this problem as soon as they are able to do so.

THE SCHOOL OF ELECTRICAL AND MECHANICAL ENGINEERING AND THE SCHOOL OF CIVIL ENGINEERING.

The two departments designated, respectively, the school of electrical and mechanical engineering and the school of civil engineering, comprise, together with the Mackay school of mines, the college of engineering as at present organized. The committee has already expressed its opinion that the Mackay school of mines should be detached from the college of engineering and given coordinate adminis-

trative rank with it. The schools of civil and electrical and mechanical engineering would then constitute the college of engineering.[1]

These two departments have been supported generously for a number of years. They occupy two buildings, well designed and amply supplied with shops, laboratories, and recitation rooms. The electrical building was built in 1911–12. Since that time the enrollment in the mechanical and electrical engineering curricula has been increasing rapidly. There has not been a corresponding increase in the number of students in the civil engineering department.[2]

An inspection of the attendance records shows a rather large number of special students in the mechanical and electrical engineering courses who are taken into the university from practical lines of work, in order that they may be given a certain amount of technical assistance. In 1014–15 there were 25 such students. In 1915–16 the number was 24, more than one-third of the total number enrolled in the school of electrical and mechanical engineering. Most of these appear not to have been special students in the sense that they were exceptional. They were largely men who had not completed the high-school course required for regular admission, but who were attempting to get as much as possible from the college subjects for which they were prepared. The presence of this large group of students suggests to the committee the possibility of a real demand for a practical mechanic arts course not leading to a degree. Persons wishing to enroll for such a course might be required to furnish evidence of practical experience in lieu of the usual academic requirements. Such courses are now conducted by several land-grant colleges.

The equipment in the forge, foundry, machine, and wood shops is sufficient and is well adapted to the practical shopwork instruction usually required in engineering schools. The work is so arranged as to approximate actual working conditions. The wisdom with which the fundamental courses have been planned and the care exercised in their oversight deserve commendation.

The committee doubts whether a small university with limited support should attempt to develop equally several different lines of technical instruction. The forms of technical training which can be utilized in the leading industries of the State should, of course, have first consideration. As has already been suggested, other technological curricula may to a certain extent be made contributory to these. Mining and agriculture are preeminent among the industries of Nevada. The recommendation has already been made that graduate work in mining be undertaken when the resources of the university permit. The committee is not of the opinion that grad-

[1] For comment on the use of the term "school" to designate such administrative divisions, see p. 89.
[2] For tabular and graphical representations of the enrollments, see pp. 119, 120, and 121.

uate instruction in agriculture will be justified in the near future, nor does it believe that the college of engineering should develop graduate courses. On the other hand, the possible further development of such cooperative contacts between the college of engineering and the mining and agricultural interests of the State as are represented by the work in engineering experimentation, mentioned in Chapter IV, appears to the committee to be worthy of study.

In general, the committee was much impressed with the equipment and atmosphere of the college of engineering and with the excellence of its work.

THE COLLEGE OF AGRICULTURE.

It has been pointed out that agriculture is one of the two major industries in Nevada, and that upon its extended development more than upon any other factor now foreseen the growth and permanent welfare of the State depend. Modern agriculture is both an industry and a science. To fulfill its function as the one organized training agency in agriculture, the university must not only seek to increase scientific knowledge in this field and give advanced scientific training to those who can avail themselves of it, but it must by extension courses, demonstrations, and short courses reach the much greater number of farmers who through lack of time or preliminary education are unable to pursue the regular courses in the college of agriculture. In Chapter IV the committee has briefly outlined and commended the work of the university in agricultural experimentation and extension, and has offered general suggestions as to its further development. Certain facts relating to the residence work of the college of agriculture are now submitted, with comment thereon.

The college of agriculture includes the school of agriculture and the school of home economics. The school of agriculture has had an astounding growth. In seven years its enrollment has increased from 1 to 64 students. The school of home economics enrolled seven in degree courses during the last academic year. It had 10 special students. In the same year both schools organized short courses open to young men and women who could not undertake full college work. These courses are given for 10 weeks in the winter. Each course is arranged to cover two winter periods. In 1915–16, the year of their establishment, these courses enrolled only eight students. Without doubt, however, a gradual increase in attendance may be expected as soon as the young people of the State realize the existence of these opportunities and their value. The Bureau of Education has repeatedly urged the extension in all colleges of agriculture of short courses practical in character, requiring little formal academic preparation, and given at a time when farmers are most likely to be free to attend. This service is an essential part of the function of an agricultural college.

The development of curricula in the school of agriculture has followed closely the agricultural needs of the State. The school now offers three courses leading to the degree of B. S. in agriculture, one in horticulture, one in dairying, and one in agricultural engineering. It plans, when its resources permit, to offer a fourth course in poultry husbandry, an industry fitted to local conditions. The school of home economics announced four groups of courses leading to the degree of B. S. in home economics, a household science group, a household arts group, an extension worker group, and a household administration group. This announcement appears, however, to represent rather the ultimate aim of the department than its current offerings. There was but one upper-class student in the last academic year, and there have been as yet no graduates from this school.

This thriving and important department of the university is more than any other (except possibly education) handicapped for lack of teaching and experimental space and equipment. It is housed in a small building erected for the dairy department, and containing only a single lecture room, and in portions of the already crowded basements of two other buildings. Even that indispensable instrument of a college of agriculture, a farm of such size and character that the typical agricultural operations of the section which the college serves can be carried on, has been secured only within the last two years, and then on tentative terms, largely through the generosity of private citizens. The committee recommends in passing that the legislature take the action needed to put the university in permanent possession of this property, which is essential to its work and of which it has already made such excellent use.

The imperative and now foremost need of the college of agriculture is a building large enough to contain the present departments and their equipment and to allow for a reasonable growth in students and in teaching materials. The committee is prepared to endorse the specific requests made by the dean of agriculture to the honorary board of visitors. He points out the immediate present need of a farm crops laboratory, a soils laboratory,[1] a farm machinery laboratory, an agricultural lecture room, and laboratories and lecture room for home economics. The committee recommends that an appropriation be made for the erection of a building (including this equipment) which shall be devoted primarily to the purposes of agriculture.

THE NEVADA STATE NORMAL SCHOOL AND THE DEPARTMENT OF EDUCATION.

The work of training teachers for elementary schools is performed by the Nevada State Normal School, which is under legal enactment established at the university and administered as one of its organic

[1] In view of the large number of samples of soil submitted to the university for analyses, it may also be necessary to employ another instructor in this department.

divisions. The committee was surprised to find that the Nevada State Normal School is now wholly merged in the college of arts and sciences. The routine administration of the school is handled by the dean of arts and sciences. Students entering it are registered as freshmen and included in the lists of freshmen in arts and sciences. In fact, there is no way of telling from the university's published records how many students are registered in the normal school, or even how many persons are expected to present themselves for teachers' certificates in any given year. The dean in education keeps a record of all persons taking courses in education, both the candidates for normal school diplomas and the candidates for the bachelor's degree in education. He also advises these students with regard to their programs. In respect to attendance and discipline the matriculants of the normal school and those specializing in the department of education are under the control of the dean of arts and sciences and the dean of women. The Nevada State Normal School has been for something over two years merely a paper institution.

Whether or not this is a wise policy may appear from the following facts. There were 576 elementary and high-school teachers in Nevada in 1914–15, of whom 476 were in the elementary schools. Short tenures are common for both classes. No comprehensive statistics appear to be available, yet the estimate of both the State department of education and the State high-school inspector is that about one-half were just beginning their teaching experience in the State. The extent of the annual importation of teachers is indicated in the summary below.

Certificates issued by the State superintendent of public instruction upon credentials from outside Nevada were as follows:

	Elementary.	High school.
1914–15	87	46
1915–16	98	50

During 1915–16 there were 101 temporary and special certificates issued.

The university graduated 15 persons with the normal-school diploma for elementary grades, and 14 persons with the diploma for high-school grades in 1915.[1] From 1889 to 1915 the number of graduates of baccalaureate or normal-school courses following the teaching profession was 108. Of these, 60 held normal-school diplomas and 30 the degree of A. B. in education; 18 had no professional training.[2] The dean in education estimates, however,

[1] A report from the State superintendent of public instruction, however, shows that certificates were issued in 1915–16 on credentials of the University of Nevada as follows: High-school grade, 15; first grade, 11; second grade, 12.

[2] Of the 108, 94 have taught, or are teaching, in Nevada.

on the basis of the present enrollment that the normal courses and the degree courses at the university may be counted on to supply about 45 teachers annually. About one-third of these will have taken the one-year course for a second-grade certificate; another third will have completed the two-year normal-school course: About 15 will be degree holders in education, qualified for high-school positions. In addition to these 45, the county normal schools, if continued as at present, will probably furnish another 15.[1] If this estimate is correct (and as far as the university is concerned it exceeds somewhat the actual output of preceding years), Nevada's teacher-training agencies will supply 60 out of a total of upward of 200 new teachers needed every year. At present only 13.3 per cent of the high-school teachers and less than 50 per cent of the elementary teachers [2] were trained at the university.

The committee regards the conditions revealed by these figures as singularly unfortunate. Nevada, like other far Western States, has proved alluring to vigorous, adventurous spirits in all occupations. The State has no doubt benefited in certain directions by the presence of teachers from the East and from other sections; but the conditions of rural living in Nevada are so unlike those of most other States, the problems to be faced by rural school-teachers are so peculiar, that the newcomer is much less effective in meeting them than the native son or daughter. The development of really vital schools in Nevada, especially in rural communities, will depend in large measure on the leadership furnished by the young people of the State. For this reason it is imperative that the State should take immediate steps to supply from its own training agencies the greater part of the teachers that it needs.

The committee believes that the State can best train its elementary teachers in an institution organized primarily for the purpose, polarized with reference to the problems of elementary teaching in the State, with courses of study planned specifically to meet the local exigencies; an institution which the public can see and in which students can take pride as a separate entity. The committee therefore recommends that the Nevada State Normal School be reconstituted and given a measure of administrative independence.

The task of training high-school teachers presents an equal obligation. Indeed, high-school teachers have been grouped with the elementary teachers in the foregoing discussion of State conditions. Prospective high-school teachers will naturally take most of their work in the college of arts and sciences. While it is not disposed to

[1] It should be noted, however, that in 1915–16 the superintendent of public instruction issued 33 second-grade certificates on credentials from county normal schools.

[2] Percentage estimated by the State high-school inspector.

recommend for the immediate future the transformation of the Nevada State Normal School into a college of education, the committee believes that the strictly professional work of prospective high-school teachers might, after the separate establishment of the normal school (as now) be under the direction of the dean of that school.

The county-normal schools recently established can hardly be regarded as anything more than makeshift institutions. At best the work offered in them must be inferior to that given in a thoroughly organized normal school, particularly one connected with a State university. The committee is credibly informed also that the expense of maintaining them is relatively great. It undoubtedly would be just as economical for the State to pay the traveling expenses to Reno of those now in attendance at them. Even if no money were saved, the superiority of the training which such students would receive at the Nevada State Normal School would be worth enough more to justify this procedure. The committee recommends that the legislature consider the advisability of abolishing county normal schools and of paying railroad fares to within 100 miles of the Nevada State Normal School of all qualified candidates who live more than 100 miles distant from Reno.

In general terms the committee's conception of the reconstituted State normal school might be summarized as follows: The institution should have a separate staff and a separate budget. The divorce of its budget from the general budget of the university would serve to call particular attention to its needs and its services. It should have adequate facilities for practice teaching. The committee is not prepared to indorse unreservedly any one of the plans for practice teaching presented for its consideration. It is disposed to favor control by the State normal school of a sufficient number of conveniently located rural schools to insure practice teaching under rural conditions. If economical and satisfactory arrangements can not be made with city school authorities for practice teaching of elementary and high-school grade in Reno, the committee believes that the establishment of a model school in connection with the university in which both elementary and high-school work are given would be justifiable. The normal school should have a special department of rural education. Together with the department of education in the university, it should have a building devoted primarily to its use.

The committee has not been asked to consider the question of the certification of teachers. In fact, this question lies in the province of the survey commission, to which this committee makes its report. It ventures to point out, however, that the requirements for holding teaching positions imposed by the State finally determine the quality of the State teaching body. In this connection it calls attention to

the substance of certain recommendations made by the Bureau of Education in a recent survey of educational institutions of the State of Washington:

1. The State should require certain definite academic and professional attainments of all teachers.
2. The ultimate standard of attainment for all persons teaching in the State should be graduation from an accredited high school and at least two years of professional preparation.
3. The process of elimination should be gradual, to permit teachers in service to meet the new requirements without undue hardship.
4. The normal school should offer differentiated courses of study representing two and three years of work above high-school graduation.
5. After the expiration of a reasonable time limit, the lowest grade of certificate to be issued by the normal school should represent two years of study above high-school graduation. The normal school diploma should be given only to those who have finished satisfactorily a full course of three years.
6. A permanent license to teach in the public schools of the State should be granted only to persons who have pursued for a period of from two to five years cultural and professional courses of study prepared by State educational officials, and have passed satisfactory examinations on these courses.

THE SUMMER SESSION.

During the progress of the investigation it was suggested to the committee that the summer session possibly represented an unwise expense. In view of the economical plans upon which university summer sessions are usually operated, it did not seem possible that such a charge could have foundation. The university plant which would otherwise be idle, and the university and normal instructors who have free time are taken advantage of. University summer schools furnish instructional opportunities of a high order to teachers and certain others who are unable to attend during the regular session. They also enable regular students to make up deficiencies and so to continue their college work without undue loss of time.

Inasmuch as the expense of the summer session of 1916 does not come within the fiscal year 1915–16, which is dealt with earlier in this report, the facts are given here.

The enrollment of the summer school of 1916 comprised 14 men and 109 women, or a total of 123. Estimating each class as meeting on the average five hours a week, the total number of student clock hours for the summer session amounted to 10,950. The pay roll of the summer session, plus the compensation of the director ($600), was $2,503.33, representing a cost of 22.86 cents per clock hour. This does not include an overhead charge which for cost accounting purposes should be added. The average overhead per clock hour for the regular term was 17.79 cents. If this were added, the cost per clock hour of instruction would be 40.65 cents, which is still a reasonable clock hour figure as compared with the cost of the regular

work. Equipment cost, as distinguished from overhead, is practically negligible in the summer session. The decreased cost in supervision and in heating would probably offset such expense.

The committee believes there is a real need of a summer session. The work should be developed along the present lines to include especially the instruction which will be most inspiring and useful to the teachers of Nevada.

The following tables give the classes with the enrollment in each, and the summer session pay roll, to which has been added the proportion of the salary of the dean in education which the committee was told was chargeable to this service.

TABLE 29.—*Classes in summer school, 1916.*

Classes.	Men.	Women.	Total.
Physical education	0	20	20
Spanish 2	1	2	3
Spanish 1	2	21	23
History of education	0	7	7
School supervision	3	5	8
Manual arts	0	7	7
Art 5	0	3	3
Art 1	0	20	20
Nature study	0	5	5
Botany	2	3	5
Physiology and hygiene	4	6	10
English literature	0	6	6
Primary reading	0	18	18
Grammar	0	21	21
American history	1	10	11
Geography	0	17	17
Arithmetic	0	20	20
Advanced algebra	2	2	4
Physics	0	5	5
Plane geometry	3	5	8
Solid geometry	3	0	3
Manual training	3	7	10
Penmanship	0	11	11
Bookkeeping	0	12	12
Psychology	2	10	12
Principles of education	0	22	22
School management	2	10	12
Expression	1	8	9
Modern English literature	0	8	8
Composition and rhetoric	2	1	3
Music	0	11	11
Modern history	3	5	8
Civics	0	17	17
Ancient and medieval history	0	6	6
Total	34	331	365
Enrollment, excluding duplicates	14	109	123

TABLE 30.—*Summer school pay roll, 1916.*

Lecturer	$100	Commercial	$60
Physical education	100	Psychology	150
French-Spanish	125	English	133
Art	100	Music	100
Botany	125	History	150
English	200	Physical education (piano)	25
Manzanita Hall	125	Total	1,903
History	200	Director and education	600
Mathematics	150	Grand total	2,503
Manual training	60		

SUMMARY OF RECOMMENDATIONS.

1. Increase of staff and equipment of the Mackay school of mines, especially the provision of an expert in small mining properties.

2. The gradual development, as resources permit, of graduate work by the Mackay school of mines.

3. Alternative proposals for increasing the influence and service of the Mackay school of mines, as follows:

(*a*) The elevation of the school of mines to coordinate rank with other administrative divisions of the university.

(*b*) The assignment to the school of mines of a dominant position in the college of engineering, other engineering departments being made contributory to it.

4. The erection of a building for the college of agriculture adequate to its present needs and large enough to allow for a reasonable growth in students and teaching materials.

5. The reconstitution of the Nevada State Normal School on an administrative basis coordinate with that of other organic divisions of the university.

6. The consideration by the legislature of the advisability of abolishing county normal schools and of paying railroad fares, to within 100 miles of the Nevada State Normal School, of all qualified candidates who live more than 100 miles distant from Reno.

7. The provision of a building for the Nevada State Normal School.

Chapter XI.

CONCLUSION AND GENERAL SUMMARY. RECOMMENDATIONS.

By way of conclusion the committee sums up its findings as follows: It has found the university involved to some extent in politics, misunderstood by a portion of the people, suffering from the lack of a sentiment of unity both among the students and the members of the faculty. In comparison with higher educational institutions in other States and in comparison to the State's wealth, it is only fairly well supported. Its officers have evidently been eager for large numbers. As a result it is educating many outsiders and many special students. It grants the latter too great concessions, while enforcing orthodox requirements on regular students. It is well organized on the administrative side. For the most part it confines itself to work demanded by the social and industrial conditions of the State. It is already entering the broader field of general public service. Its faculty is of uneven scholarly preparation, but includes some teachers of training and distinction. It pays salaries for the most part not high enough to enable it to compete for instructors with other State universities, and it overloads with teaching hours a considerable proportion of its staff. Nevertheless, on account of its small numbers, it exhibits higher unit costs and higher costs per student than most other State institutions which the Bureau of Education has studied. It is in the act of installing an admirable system of accounts. Already it has a complete and well-kept system of educational records. It is badly handicapped for lack of buildings and equipment, especially for its work in agriculture, in education, and arts and sciences.

In spite of these hindrances it displays an impressive vitality. The committee judges that it is actually close to the hearts of the people and an object of pride with them. Their very proneness to chasten it evidences their affection. It supplies the needs of a body of young people who are the product of an environment peculiarly adapted to develop a strong and virile race. It possesses, indeed, in the vigor and enthusiasm of its students an asset which few institutions have. It is energized, moreover, by the electric current that is in the air of a young, growing, rich, and confident community. It has prospects for high service and sound reputation unsurpassed by those of any of the smaller State institutions.

The committee believes that its most urgent needs are: (1) That it clear itself through a change of the system of control from entangling political alliances; (2) that it interpret itself to the people and thereby regain their confidence; (3) that it secure support to enable it to pay higher salaries and to build; (4) that it reduce the number of special students and of nonresidents; and (5) that the various groups of its constituents come together in a common loyalty.

If the committee were to formulate its ideal for a university in a State of the character of Nevada, it would be in terms somewhat as follows: In view of a small population and insistent local needs, the institution would devote itself solely to the education and service of the citizens of its own State. It would consist of but few colleges and departments. Exclusive of a college of arts and sciences designed to give facilities for liberal culture and pure scholarship to those who can take advantage of them (and the number should increase as fast as possible), it would offer technical and professional courses only in lines contributory to the major vocations of the State. It would recognize a special obligation to provide enough trained teachers to insure to the State an evenly served and effective public school system. With respect to the number of students in residence, it would be a small institution. It would, indeed, regard its small size as a peculiar privilege, enabling it to give to those who frequent it a more intimate oversight, a more intensive training than are commonly afforded in very large institutions. It would seek a national reputation for the highest excellence in those few departments which the special needs of its constituency have called into being. It would press for means to secure men and equipment to win such a reputation. It would convince the State of the essential soundness of this program, of the bigness of the opportunity thus presented. It would reinforce its appeal by making itself the State's center of inquiry and distribution for all forms of knowledge bearing on the health, the material interests, the intellectual and social welfare of the citizens.

The foundations for such an institution in Nevada are already laid. Compared with those of many other States, the problems involved in the development of higher education here are singularly simple of solution. This ideal, if it should commend itself to the people of the State, the University of Nevada can easily and presently attain.

GENERAL SUMMARY OF RECOMMENDATIONS.

1. The change of the system governing the selection of the board of regents and the creation of a board of seven members, to be appointed by the governor and confirmed by the senate, for terms of eight years.

2. In case the system is changed as indicated, the abolition of the prescription requiring the person appointed as president of the Uni-

versity of Nevada to be indorsed by the president and faculty of the three collegiate institutions.

3. The rejection of proposals to separate the college of agriculture (and possibly other departments) from the university and to maintain it at another place.

4. The inadvisability of attempting to increase largely the university enrollment.

5. Restriction of the scope of the university for the present to the liberal and technical divisions already established.

6. The careful scrutiny of the qualifications of candidates for admission to special standing.

7. The large reduction of the number of special students.

8. The raising of the minimum standard for continuance on the rolls of the university.

9. The requirement of previous collegiate teaching experience or advanced graduate work as a condition to appointment on the university staff.

10. The requirement of an advanced degree, scholarly publication, or exceptionally successful teaching as a condition to promotion.

11. The serious consideration by the administrative officers of the arge number of small classes.

12. An increase in salaries and the establishment of $3,000 as the maximum salary of full professors.

13. Increase of staff and equipment of the Mackay school of mines, especially the provision of an expert in small mining properties.

14. The gradual development, as resources permit, of graduate work by the Mackay school of mines.

15. Alternative proposals for increasing the influence and service of the Mackay school of mines, as follows:

(*a*) The elevation of the school of mines to coordinate rank with other administrative divisions of the university.

(*b*) The assignment to the school of mines of a dominant position in the college of engineering, other engineering departments being made contributory to it.

16. The erection of a building for the college of agriculture adequate to its present needs and large enough to allow for a reasonable growth in students and teaching materials.

17. The reconstitution of the Nevada State Normal School on an administrative basis coordinate with that of other organic divisions of the university.

18. The consideration by the legislature of the advisability of abolishing county normal schools and of paying railroad fares to within 100 miles of the Nevada State Normal School of all qualified candidates who live more than 100 miles distant from Reno.

19. The provision of a building for the Nevada State Normal School.

APPENDIX.

A. QUESTIONS ASKED THE BOARD OF REGENTS BY THE COMMITTEE AT THE CONFERENCE OF SEPTEMBER 29.

1. What has been the practice and what is the opinion of the board with reference to the proper division of power and initiative between the board on one side and the faculty and president on the other—

(*a*) On educational matters?

(*b*) On financial matters?

2. What is the policy of the regents with reference to the furnishing of information to the public from records by officers of the university?

QUERY: Why did you reply as you did to the request of Mr. Kilborn?

3. Do the regents desire that the standards of the University of Nevada shall be equal to those of other first-class State universities?

4. Have the provisions of the law with reference to the appointment of the president been complied with?

5. What is the policy of the regents with reference to the participation of officers of the university in public questions, such as the café, gambling, or divorce question?

B. INQUIRY BY THE NEVADA STATE JOURNAL CONCERNING UNIVERSITY FINANCES AND THE BOARD'S REJOINDER.

(See Chapter II.)

RENO, NEV., *February 26, 1916.*

THE BOARD OF REGENTS,
University of Nevada.

GENTLEMEN: The Journal is desirous of obtaining information on a number of matters affecting the University of Nevada and respectfully requests the Board of Regents to supply data on the following subjects:

Annual salaries of former President Stubbs and President A. W. Hendrick.

The expense of the university banquet for the last legislature.

The expense account of President Hendrick for entertaining during 1914–15.

The amount paid for rental for president's residence in 1914–15.

The cost of reconstruction, repairs, and refurnishing the president's home on the campus.

Initial cost and upkeep of Ford and Dodge automobiles in 1915.

Month by month, what salary did Prof. Ordahl receive after June, 1914, and when did his salary cease? Please give each month's payment for salary separate.

The salary list for the university for June, 1914, and for some recent month, preferably toward the close of 1915, or for January, 1916.

The list of professors and teachers and the amount of their individual salaries in 1914; also for 1915 and at the beginning of 1916.

How much money does the university receive from the Federal Government annually? Do the receipts and expenditures appear in the report of the general receipts and expenditures of the university, or are they kept in a separate account?

Please name the professors and the teachers who are paid from other than State funds and the amount of their salaries.

What were the total expenses of university administration in 1914?

What were the total expenses of university administration in 1915?

What was the student enrollment at the beginning of February, 1914? Of February, 1915? Of February, 1916?

Please give us the total traveling expenses—railroad transportation, Pullman car, dining car, hotel bills, automobile service, and other traveling expenses of President Hendrick, of Dr. James, and of all others connected with the university whose traveling expenses have been paid or are to be paid out of the funds of the university—State, Federal, or special funds—since President Hendrick became president.

Please give us the number of days President Hendrick has been absent from the University of Nevada since he became president of it, together with the cost of his absence. Is the nature of the business sufficiently important to justify the expense attached to the trips frequently made outside of the State?

Please give us the number of days Dr. James has been absent since he became a member of the university faculty. Is the nature of the business sufficiently important to justify the expense attached to the trips frequently made outside of the State?

Please give us the total salary paid to Vice President Lewers and to Dr. James.

Are all the expenses of the university accounts itemized? If so, from whom can they be obtained?

By giving the above information you, as regents of the university, will greatly oblige us.

Yours truly,

NEVADA STATE JOURNAL.
George B. Kilborn.

UNIVERSITY OF NEVADA, OFFICE OF BOARD OF REGENTS,
Reno, Nev., April 12, 1916.

NEVADA STATE JOURNAL,
Reno, Nev.

GENTLEMEN: As you are probably aware, there has been no meeting of the Board of Regents since the date of your esteemed favor of February 25, 1916, so that the same could not be considered until the meeting held upon this date.

Your letter has been given careful consideration by the board, and it is the opinion of the board that no particular purpose could be served by answering the same in detail, in so far as it refers to financial matters.

Every cent expended by this board must be accounted for by a voucher from the claimant, then passed by us, and finally approved by the State board of examiners, after which the same is filed in the office of the State comptroller, where it is subject to the scrutiny and criticism of any citizen. As you have at your disposal the resources of a daily newspaper, you can without doubt secure all of the information you desire at the place herein indicated and without any particular expense or inconvenience to you.

Relative to your inquiry as to the number of days that the president of the university or other heads of departments have been absent from the campus, we must say that we do not feel impelled to answer the same categorically. We will say, however, that all such absences have been with the knowledge and approval of this board, and that such absences have been upon business of the university, in its interests and in the furtherance of its work.

It must not be forgotten that all of the work of the university can not be transacted upon the campus; but that many of its most important interests must receive attention at various places within the State, at Washington, and other points outside of the State. It has never been contemplated that the activities of the president of a college should be entirely confined to the daily detail and routine work of the campus. There are

separate heads of departments, professors, and instructors who give their entire time and attention to such matters. Again, it is not always wise to give publicity to formative plans of administration. But it is most certainly true that at the proper time and before the State is committed to any policy a record of the same must be made, which is always available to public inspection.

We believe that the history of the university in the past fully justifies that course of action, and we feel as confident for the future.

As a matter of principle, we do not believe that we should answer your inquiries other than as we have here so done. The law provides the manner and the kind of reports this board must make; when and to whom. These reports have always been made and they will be made hereafter. Were we to attempt to answer officially all such inquiries as yours which might be addressed to us by any taxpayer and citizen, no matter how praiseworthy the motive might be which inspired them, we would be assuming a burden never intended.

Our office imposes upon us certain grave responsibilities. We take it that our election to it vested in us certain confidences of the people of this State. In the exercise of our official duties we have always been conscious and mindful of the responsibility. We trust that in the last analysis the confidence will not be found to have been misplaced.

Very respectfully yours.

CHARLES B. HENDERSON,
Chairman Board of Regents.

By order of Board of Regents.

REPLIES TO QUESTIONS RAISED BY NEVADA STATE JOURNAL.

Prepared by order of board of regents but not sent.

1. President Stubbs received $5,900 per year.
   President Hendrick receives $6,000 per year.
2. University banquet to the legislature given at the university dining hall cost $235.30.
3. President Hendrick has done no entertaining at university expense.
4. The rental on the president's residence was $87.50 per month from September, 1914, to and including August, 1915.
5. Reconstruction and repairs and refurnishing president's residence was as follows:

Plumbing	$303.35
Furniture and fixtures	1,930.46
Plastering	195.00
Wiring	167.26
Painting and papering	352.50
General repairs	554.35
Total	3,502.92

6. Initial cost of Ford and Dodge automobiles and upkeep to Apr. 1, 1916, as follows:

Ford, purchased Apr. 6, 1915, original cost	$582.50	
Gas, oil, etc., to Oct. 3, 1915	77.65	
		$660.15
Rebate from Ford Company	50.00	
Sold Oct. 3, 1915, sale price	461.00	
		511.00
Net cost		149.15
Dodge, Oct 3, 1915, cost	750.00	
Gas, oil, etc., to Apr. 1, 1916	106.37	
		856.37

7. Dr. George Ordahl received $200 per month from July, 1914, to October, 1914, inclusive, and $100 per month for November and December, 1914.

Dr. Ordahl was granted leave of absence on half time from October, 1914. He was paid $700 on the January pay roll as the amount due him on his contract to July 21, 1914, at $100 per month. When Dr. Ordahl received this money he advised that under his agreement with the university he was to have pay until September 1, and, upon investigation, this being found to be correct, the remaining $100 was paid him. Dr. Ordahl, for the year in question, received $1,400. His regular salary was $2,400 per year.

8. Salary list of the university for June, 1914, July, 1914, June, 1915, and February, 1916, inclosed herewith. The July, 1914, pay roll is inclosed to show the salary increase over the June, 1914, pay roll before the appointment of A. W. Hendrick as president.

9. The salary lists inclosed herewith give this information.

10(a). The university receives from the Federal Government the following sums annually:

Agricultural and mechanical fund	$50,000
Hatch fund	15,000
Adams fund	15,000
Smith-Lever fund	10,000
Additional sum apportionate to population, which for the year ending June 30, 1916, was	834
Total	90,834

10(b). All Federal funds are accounted for separately, as each fund has its special rules and regulations as to purposes for which expenditures may be made. They are also included in the general expenditure of the university.

11. Administration expense, 1914 and 1915:

	Year 1914.	Year 1915.
J. E. Stubbs, president	$3,708.32	
A. W. Hendrick	1,873.30	$6,000.00
Vice president	1,150.00	600.00
Secretary, regents	300.00	300.00
Registrar	1,200.00	1,200.00
Business office	2,482.50	2,844.30
Stenographers	1,307.60	1,953.33
Deans	300.00	1,350.00
	12,225.72	14,247.63

	Students.
Enrollment for the year 1913–14	307
Enrollment for the year 1914–15	388
Enrollment for the year 1915–16	441

Traveling expenses—Engineering experiment station.

	Railroad.	Pullman.	Hotel.
J. G. Scrugham	$44.20	$68.25	$198.45
C. P. Campbell	11.60		52.24
H. P. Boardman	37.60	1.60	50.00
R. A. Allen	16.75	.90	10.20
R. H. Sheehy	14.45		.75
Total ($506.99)	124.60	70.75	311.64

Traveling expenses—Food and drug control.

	Railroad.	Pullman.	Hotel, etc.
S. C. Dinsmore	$85.10	$21.40	$113.65
H. P. Bulmer	35.10		85.10
Total	120.20	21.40	198.75

General traveling expenses.

	Railroad.	Pullman.	Meals and hotel.
F. Lincoln	$1.50	$0.60	$34.20
M. Adams	2.95		
P. Frandsen	27.46	4.00	25.75
P. A. Lehenbauer	15.70	1.50	8.80
Laura De Laguna	13.50	1.50	.41
Kate Bardenwerper	13.50	1.50	
Charles Haseman	13.40	2.50	
Geo. F. James	99.32	17.75	140.94
Elsie Sameth		12.80	1.40
J. G. Scrugham	19.40	20.80	27.05
R. C. Thompson	72.60	6.30	67.95
L. F. Brown	1.00		2.40

Traveling expenses, President Hendrick, on file April 28, 1916.

Local (State and California):			
1914. Transportation		$131.60	
1915 and 1916.	Meals	67.15	
	Hotel	61.40	
	Telegraph and telephone	5.88	
			$266.03
Eastern, Nov. 1-17, 1914:			
Transportation		123.70	
Hotel		83.78	
Meals		78.65	
Telegraph and telephone		35.39	
Stenographer		18.00	
			339.52
Eastern, June 7-July 11, 1915:			
Transportation		177.59	
Meals		128.35	
Hotel		113.36	
Telegraph and telephone		45.08	
Stenographer		22.35	
Incidental		2.90	
			489.63
Eastern, Feb. 23-Mar. 30, 1916:			
Transportation		156.66	
Meals		90.60	
Hotel		86.38	
Telephone and telegraph		25.79	
			359.43
Total			1,454.61
All trips:			
Total transportation		$589.55	
Meals		364.75	
Hotel		344.92	
Telegraph and telephone		112.14	
Stenographer and incidental		43.25	
Total			1,454.61

The total salary of Vice President Lewers is $3,000 per annum.

The total salary of Dean G. F. James is $3,000 per annum and $600 for summer school.

The expenses of the university accounts are itemized.

C. COMPARATIVE TABLES.

(See Chapter III.)

(a) *Percentage of change in population, school population, and secondary enrollment in certain States from 1895 to 1914.*

[Figures in italics indicate percentage of loss; other figures, percentage of gain.]

Years.	Iowa.			Georgia.			North Carolina.			Tennessee.			Illinois.		
	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.
1895–1900	8.1	6.4	34.7	13.4	13.4	7.8	10.2	10.2	12.0	8.8	10.7	8.5	9.9	9.9	31.2
1900–1905	7.2	2.8	11.1	8.6	2.0	9.3	7.3	1.0	5.6	6.3	.7	*15.6*	10.3	6.8	19.8
1905–1910	*7.0*	*7.0*	17.0	8.5	3.4	35.2	8.6	2.1	54.6	1.8	1.5	51.6	6.0	3.2	32.7
1910–1914	*.1*	*7.9*	12.3	6.4	6.8	29.3	6.0	10.4	35.7	3.2	*2.9*	22.1	6.2	4.5	17.6

Years.	Minnesota.			Michigan.			Washington.			California.			Utah.		
	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.
1895–1900	7.7	7.7	33.9	6.4	7.4	27.3	9.1	0.8	65.1	6.8	6.9	32.4	4.5	4.5	33.3
1900–1905	12.6	14.3	41.3	7.3	4.5	16.1	15.5	39.3	97.4	9.2	5.1	65.8	11.9	12.4	32.4
1905–1910	5.3	5.3	45.0	9.9	9.7	20.1	90.8	70.5	111.7	46.7	45.9	46.0	20.5	20.6	39.9
1910–1914	6.7	*1.8*	32.2	5.9	*5.5*	25.5	23.3	19.5	36.0	16.0	*.73*	47.4	11.0	*1.1*	34.7

Years.	Massachusetts.			New York.			Ohio.			Connecticut.			Pennsylvania.		
	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.	Population.	School population.	Secondary enrollment.
1895–1900	13.4	13.4	26.7	13.7	13.8	62.4	9.8	9.8	33.5	13.3	13.6	26.2	8.2	8.2	33.4
1900–1905	10.2	7.0	24.9	8.7	5.8	21.7	5.8	*1.3*	16.9	8.9	6.1	14.7	8.3	3.0	28.2
1905–1910	9.0	6.0	18.3	15.3	9.4	30.4	8.3	*7.0*	6.6	12.7	12.5	31.8	11.0	4.5	31.2
1910–1914	7.1	10.6	24.1	8.6	8.9	24.2	5.5	10.5	16.1	7.9	8.1	38.4	7.6	8.6	33.8

TABLES BEARING ON SUPPORT OF PUBLIC EDUCATION.

(b) *Value of property, by States, for each child 5 to 18 years of age (1913).*

1. Nevada	$38,400
2. California	15,500
3. Iowa	12,700
4. Montana	12,300
5. Colorado	11,100
6. Oregon	11,100
7. North Dakota	10,900
8. Nebraska	10,700
9. Washington	10,400
10. Wyoming	10,200
11. Illinois	10,000
12. New York	9,900
13. Vermont	9,500
14. Kansas	9,400
15. Minnesota	8,900
16. Arizona	8,600
17. New Jersey	8,100
18. Connecticut	7,900
19. South Dakota	7,500
20. Massachusetts	7,300
21. Ohio	7,300
22. Oklahoma	7,300
23. Indiana	7,200
24. Michigan	7,100
25. Pennsylvania	6,900
26. Rhode Island	6,600
27. Wisconsin	6,400
28. New Hampshire	6,300
29. Missouri	6,300
30. Utah	6,300
31. Idaho	5,900
32. Maine	5,900
33. West Virginia	5,800
34. Delaware	5,700
35. Maryland	5,700
36. Texas	5,000
37. New Mexico	4,700
38. Florida	4,300
39. Louisiana	3,800
40. Arkansas	3,400
41. Virginia	3,400
42. Kentucky	3,100
43. Alabama	2,900
44. Tennessee	2,700
45. Georgia	2,600
46. South Carolina	2,500
47. North Carolina	2,200
48. Mississippi	2,100

(c) *Number of men 21 years of age and over, by States, for each 100 children 5 to 18 years of age (1910).*

1. Nevada	180
2. Wyoming	179
3. California	169
4. Montana	165
5. Washington	151
6. Oregon	148
7. Arizona	129
8. Colorado	125
9. New Hampshire	123
10. Maine	120
11. Vermont	119
12. New York	117
13. Massachusetts	116
14. Connecticut	115
15. Idaho	113
16. Ohio	113
17. Rhode Island	111
18. New Jersey	110
19. Michigan	109
20. Illinois	108
21. Delaware	107
22. Indiana	106
23. Pennsylvania	105
24. Minnesota	99
25. Iowa	98
26. Kansas	98
27. Missouri	98
28. South Dakota	96
29. Nebraska	95
30. Maryland	94
31. North Dakota	93
32. Wisconsin	93
33. New Mexico	88
34. Florida	87
35. Utah	85
36. West Virginia	84
37. Kentucky	79
38. Oklahoma	78
39. Tennessee	74
40. Virginia	74
41. Texas	72
42. Arkansas	70
43. Louisiana	70
44. Alabama	67
45. Georgia	66
46. Mississippi	65
47. North Carolina	63
48. South Carolina	58

(d) *Amount expended for public schools (1912–13), by States, for each adult male (1910).*

1. Utah	$38.67
2. North Dakota	33.52
3. Idaho	32.55
4. New Jersey	29.36
5. Washington	28.54
6. Montana	28.50
7. California	27.76
8. Nebraska	26.07
9. Minnesota	24.54
10. Colorado	24.02
11. Iowa	23.57
12. Oregon	23.50
13. Arizona	23.34
14. South Dakota	23.28
15. Indiana	23.15
16. Massachusetts	22 96
17. Kansas	22.23
18. New York	21.87
19. Illinois	21.82
20. Michigan	21.56
21. Ohio	21.11
22. Pennsylvania	20.17
23. Connecticut	19.66
24. Wisconsin	18.56
25. Oklahoma	17.99
26. Vermont	17.10
27. Rhode Island	16.95
28. Wyoming	16.72
29. Missouri	15.96
30. Nevada	15.62
31. Maine	15.27
32. West Virginia	14.99
33. Texas	14.44
34. Maryland	13.55
35. New Hampshire	13.55
36. Florida	12.29
37. New Mexico	11.79
38. Kentucky	11.77
39. Louisiana	11.76
40. Arkansas	10.81
41. Tennessee	10.61
42. Virginia	10.47
43. Delaware	9.85
44. Georgia	8.70
45. North Carolina	8.03
46. Alabama	7.94
47. South Carolina	7.68
48. Mississippi	6.57

(e) *Amount expended on public schools, by States, for each child 5 to 18 years of age (1913–14).*

1. California	$49.58
2. Montana	41.48
3. Nevada	40.72
4. Washington	40.57
5. Arizona	37.15
6. Utah	34.68
7. Oregon	34.63
8. New Jersey	34.47
9. North Dakota	34.17
10. Idaho	33.71
11. Wyoming	33.13
12. Massachusetts	31.68
13. Colorado	31.02
14. Minnesota	30.78
15. Nebraska	29.86
16. Ohio	29.60
17. Connecticut	29.39
18. New York	29.29
19. Indiana	28.73
20. Iowa	28.17
21. Illinois	26.48
22. Kansas	25.87
23. Michigan	25.66
24. Pennsylvania	25.57
25. South Dakota	24.77
26. Maine	23.68
27. Vermont	23.36
28. New Hampshire	21.59
29. Rhode Island	20.97
30. Wisconsin	20.59
31. Missouri	19.88
32. Maryland	15.70
33. West Virginia	14.00
34. Oklahoma	12.65
35. New Mexico	12.02
36. Florida	11.81
37. Delaware	11.76
38. Texas	10.86
39. Kentucky	9.76
40. Louisiana	8.69
41. Tennessee	8.67
42. Virginia	8.54
43. Arkansas	8.24
44. North Carolina	6.64
45. Alabama	6.22
46. Georgia	6.21
47. South Carolina	5.60
48. Mississippi	4.53

(f) *Receipts of higher educational institutions, including normal schools, per capita of population (1913–14).*

1. Delaware	$5.65
2. Arizona	2.94
3. New Hampshire	2.62
4. Nevada	2.53
5. Massachusetts	2.51
6. Connecticut	2.43
7. Wisconsin	2.33
8. California	2.30
9. North Dakota	2.17
10. Minnesota	1.99
11. Oregon	1.83
12. New York	1.77
13. Illinois	1.768
14. Iowa	1.714
15. Washington	1.711
16. South Dakota	1.64
17. Nebraska	1.54
18. Maryland	1.46
19. Virginia	1.45
20. Montana	1.44
21. Colorado	1.43
22. Kansas	1.38
23. Utah	1.38
24. Vermont	1.35
25. Michigan	$1.35
26. Wyoming	1.32
27. Idaho	1.279
28. Maine	1.277
29. South Carolina	1.04
30. Ohio	1.01
31. Pennsylvania	1.00
32. Rhode Island	.93
33. New Mexico	.92
34. Texas	.83
35. New Jersey	.81
36. Indiana	.77
37. North Carolina	.75
38. West Virginia	.71
39. Missouri	.70
40. Louisiana	.68
41. Tennessee	.67
42. Mississippi	.63
43. Florida	.60
44. Alabama	.57
45. Georgia	.54
46. Oklahoma	.51
47. Kentucky	.47
48. Arkansas	.33

(f) *Receipts of higher educational institutions, including normal schools, per capita of population (1913–14)*—Con.

(g) *Vocations of graduates of classes, 1906–1916.*

Vocations.	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	Total.
Education:												
Superintendents and principals	1	1				1	2					5
College instructors					1					1		2
Teachers	3	3	3	3	4	3	6	7	3	12	9	56
Music teacher	1											1
Students							1	1	2	3	6	8
Public service, medicine, journalism, etc.:												
Government [1]			1		1	2						4
State	1				1							2
City	2											2
In Army	1		1									2
Medicine			1									1
Journalism										1		1
Y. M. C. A. work									1			1
Y. W. C. A. work					1							1
Business:												
Merchant and store	1		1					1	1			4
Salesman, electrical supplies			2									2
Funeral director				1								1
Architect		1										1
Land agent and salesman						1		1				2
Printing				1								1
Demonstrator, farm implements		1										1

[1] Director of extension division, University of Nevada.
U. S. Land Service, Manila.
U. S. Department of Agriculture.

(g) *Vocations of graduates of classes, 1906–1916*—Continued.

Vocations.	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	Total.
Engineering,[1] chemists, insurance, etc.:												
Engineering	3	2	2	2	4	3	3	3	2	6	6	36
Mining	1	4	1	1	4	3	5	2	2	.....	2	25
Mine superintendent	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	2
Railroad work	.....	.....	1	1	.....	.....	.....	.....	1	.....	.....	3
Automobile	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	2
Chemists	.....	.....	.....	.....	.....	1	.....	1	.....	1	1	4
Assayer (State laboratory)	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Insurance	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Agronomist (experiment station)	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Clerk (Wells Fargo)	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Agriculture:												
Stockmen	2	.....	1	.....	.....	.....	.....	.....	.....	1	.....	4
Dairy and creamery	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Testing	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	2
Farming	.....	1	1	.....	.....	.....	1	1	2	2	4	12
Married women[2]	8	3	1	3	4	3	4	5	5	5	4	45
(Of this number the following were teachers)	4	2	1	3	3	3	4	3	5	5	.....	33
Miscellaneous and unknown	1	3	1	3	3	1	.....	.....	.....	3	.....	15
Total	25	29	18	15	24	18	23	25	22	26	27	254

[1] Includes civil, electrical, and mechanical engineering. [2] Counted only as married women in totals.

D. SPECIAL STUDENTS.

(See Chapter V.)

At a meeting of the university senate held February 3, 1916, the council of administration reported in substance its action for the portion of the then current academic year which had elapsed. Its report contained the following statements:

In the first semester, voted to permit 12 students to register with fewer than 10 hours; voted to refuse this permission to 3 students.

Voted to permit 19 students to register for the second semester in fewer than 10 hours.

In addition to these votes of the council of administration the committee has the report of the registrar, as follows: Special students who took less than 10 hours, first semester, 17; second semester, 17.

Accepting the registrar's figures as representing the actual condition during the last academic year (the council's votes were merely permissive and related apparently only to the cases brought to its attention), it appears that the university made exceptions of its own rule on this matter in 13.6 per cent of the cases. There may be excellent reasons why special students should be allowed to pursue courses amounting to less than 10 hours a week, but the committee thinks the university had better change the regulation than except so high a percentage of candidates from its application.

The committee would also point out that a large number of special students must almost inevitably exercise a depressing effect on the general standards of the university, even if no unusual concessions are made in their behalf. Wherever any considerable group of unprepared students is congregated in a single class, the progress of that class is necessarily impeded. The pace of a class is more likely to be set by those at the bottom than by those at the top. The only safeguard against this result is a system of ruthless elimination of the laggards. Instructors at the University of Nevada are, under the rule quoted below (see p. 84 of the catalogue of April, 1916), allowed to make necessary eliminations:

At any time an instructor may drop from the class a student who is seriously neglecting his work. Notice of such action must be reported by the instructor to the registrar and to the chairman of the delinquent scholarship committee.

Nevertheless, anyone familiar with American higher institutions knows that instructors are, as a rule, extremely reluctant to make exclusions on these terms. The committee is convinced that a more effective means of maintaining a desired standard is for the university to accept only such students as are likely to meet all the requirements of the courses which they elect to follow. That special students tend to rank lower than regulars at the University of Nevada (as elsewhere) appears to be demonstrated by the tabulation of averages for the year 1915–16, on page 75.

E. SALARIES, COURSES, AND TEACHING FORCE.

(See Chapter VIII.)

(a) *Instructors and salaries.*

Courses and instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
IN THE YEAR 1914–15.			
Accounting and law: Professor	$2,400	69	101
Agronomy:			
Professor (½ time)	350	.....	38
Assistant professor	1,800	162	76
Total (1½)	2,150	162	114
Average	1,883	142	100
Animal husbandry: Professor	2,400	156	120
Art: Associate professor (½ time)	600	290	360
Biology:			
Professor	2,400	316	220½
Assistant professor	1,500	25	247
Instructor	1,500	190	220
Total (3)	5,400	531	686½
Average	1,800	177	232
Chemistry:			
Professor 1	2,400	316½	368
Instructor (½ time)	353	481	.....
Instructor (½ time)	600	.....	341
Total (2)	3,353	797½	659
Average	1,677	399	304
Civil engineering:			
Professor	2,400	221	334
Assistant (½ time)	261	80	47½
Total (1½)	2,661	301	371½
Average	1,995	226	278
Dairying: Assistant professor (½ time)	900	72	.....
Economics and sociology: Professor	2,400	87	66
Education and psychology:			
Assistant professor	1,500	408	391
Assistant professor	2,000	140	160
Total (2)	3,500	548	551
Average	1,750	274	275
English:			
Professor	2,400	160	139
Assistant professor	2,000	286	257
Instructor	1,600	236	269
Total (3)	6,000	694	659
Average	2,000	231	219
Electrical and mechanical engineering and mechanic arts:			
Professor	2,400	268½	170
Assistant professor (½ time)	725	.....	160½
Instructor (½ time)	125	.....	33
Assistant professor	1,800	455	643½
Assistant (½ time)	247	.....	96
Associate professor (½ time)	1,200	347½	35
Assistant professor (½ time)	917	189½	.....
Assistant	45	.....	.....
Total (4½)	7,459	1,160	1,096
Average	1,790	279	264

1 Gave assistance during the illness of an instructor.

(a) *Instructors and salaries*—Continued.

Courses and instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
IN THE YEAR 1914–15—continued.			
Geology and mineralogy: Professor	$2,100	242	316
German language and literature: Instructor	1,500	146	112
Greek language and literature:			
Professor Latin (⅓ time)	1,200	9	12
Professor Greek (⅔ time)	1,800	29	22
Total (1½)	3,000	38	34
Average	2,400	30	27
History:			
Professor	2,400	206	185
Instructor	1,500	103	88
Total (2)	3,900	309	273
Average	1,950	154	137
Home economics: Associate professor	1,800	322	252
Latin language and literature:			
Professor (⅓ time)	1,200	35	37
Professor (⅔ time)	1,200	74	81
Professor of Greek (⅓ time)	600	24	24
Total (1½)	3,000	133	142
Average	2,400	106	114
Mathematics:			
Professor	2,400	455	286
Assistant (⅓ time)	301	93	33
Instructor (⅓ time)	600	.....	113
Instructor (⅓ time)	160	.....	51
Total (2)	3,461	548	483
Average	1,730	274	241
Mining and metallurgy:			
Professor	3,000	74	80
Assistant professor (⅓ time)	1,000	55½	78½
Total (1½)	4,000	129½	158½
Average	2,666	87	105
Music: Instructor	1,500	156	134
Physics: Professor	2,400	391	248
Physical education for women: Instructor	1,500	136	128
Romance languages: Professor	2,400	259	224
Veterinary science: Professor (⅓ time)	200	.....	104
IN THE YEAR 1915–16.			
Accounting and law: Professor	2,500	80	115
Agronomy: Professor (⅓ time)	1,000	176	281½
Animal husbandry: Professor	2,500	247½	169
Art: Associate professor (⅓ time)	900	260	330
Biology:			
Professor	2,500	505½	211
Assistant professor	1,600	63	313½
Instructor	1,500	410½	255
Total (3)	5,600	979	779½
Average	1,867	326	259
Chemistry:			
Professor	2,500	420	390½
Professor (⅓ time)	.....	20	8
Instructor	1,200	533	520
Total (2½)	3,700	973	918½
Average	1,708	451	424
Civil engineering:			
Professor	2,500	245½	229½
Assistant (⅓ time)	222	65	32½
Total (1⅓ time)	2,722	310½	262
Average	2,041	232	196
Dairying: Assistant professor (⅓ time)	775	.....	132
Economics and sociology: Professor	2,500	126	99
Education:			
Professor	3,000	86	60
Associate professor	2,200	172	225
Instructor	1,500	308	455
Total (3)	4,000	566	740
Average	1,333	189	247

(a) *Instructors and salaries*—Continued.

Courses and instructors.	Salary.	Student clock hours.	
		First semester.	Second semester.
IN THE YEAR 1914–15.			
English:			
Professor	$2,500	192	147
Assistant professor	2,000	282	270
Instructor	1,600	235	302
Total (3)	6,100	709	719
Average	2,033	236	239
Electrical and mechanical engineering and mechanic arts:			
Professor	2,500	123	156
Instructor	1,437	254	217½
Assistant professor	1,800	239½	244½
Associate professor (½ time)	900	165	165
Assistant (½ time)	270	120	247½
Assistant professor (½ time)	300		
Total (4½)	7,207	901½	1,030½
Average	1,849	231	247
Geology and mineralogy: Professor	2,300	222½	202
German language and literature: Instructor	1,500	169	116
Greek language and literature:			
Professor (⅓ time)	1,800	23	19
Professor of philosophy (⅛ time)	300	9	6
Total (⅓)	2,100	32	25
Average	2,400	36½	28½
History:			
Professor	2,500	240	228
Instructor	1,500	93	97
Assistant professor (½ time)	300	15	8
Total (2½)	4,300	348	333
Average	2,006	162	155
Home economics:			
Associate professor	2,000	252	303
Instructor	1,000	64	115
Total (2)	3,000	316	418
Average	1,500	158	209
Latin language and literature:			
Professor (⅓ time)	1,900	75	82
Professor of Greek (⅓)	700	24	21
Professor of philosophy (⅛)	500	25	25
Total (1⅓)	3,100	124	128
Average	2,480	99	102
Mathematics:			
Professor	2,500	206	125
Instructor	1,350	240	205
Total (2)	3,850	446	330
Average	1,925	223	165
Mining and metallurgy:			
Professor	3,000	93	51
Assistant professor (½ time)	1,000	97	106
Total (1½)	4,000	190	157
Average	2,666	127	105
Music: Instructor	1,500	196	174
Philosophy: Professor (⅓ time)	1,600	27	73
Physical education for women: Assistant professor	1,500	184	170
Physics: Professor	2,500	448½	391
Romance languages:			
Professor	2,500	129	105
Instructor	1,500	276	172
Total (2)	4,000	405	277
Average	2,000	203	138

(b) *Courses given during first semester, 1915–16.*

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Accounting:							
21	Advanced accounting	2	0	2	5	4	9
22	Cost accounting	1	0	1	12	0	12
Agriculture (teaching)	Teaching agriculture	3	3	0	5	0	5
Agriculture	Practicums				18	0	18
Agronomy:							
1	Elementary	3	3	0	23	0	23
23	Cereals	4	4	0	7	0	7
27	Farm management	5	5	0	2	0	2
Animal husbandry:							
3	Dairying	4	2	2	15	0	15
4	Stock judging	4	2	2	19	0	19
26	Advanced stock judging	3	0	3	3	0	3
Art:							
1	Elementary art	1	0	1	3	45	48
2	Elementary art	1	0	1	0	14	14
5	Teachers' course	2	0	2	0	20	20
21	Advanced art	3	0	3	0	6	6
22	Advanced art	3	0	3	0	6	6
Arts, manual 5	Woodwork	2	0	2	1	6	7
Biology:							
Botany—							
2	Elementary botany	3	2	1	3	2	5
21	Taxonomy	3	2	1	4	0	4
22	Plant physics	3	2	1	2	0	2
Hygiene—							
1	Human anatomy	3	2	1	6	31	37
23	Rural hygiene	4	4	0	2	0	2
2	Physiology and hygiene	3	3	0	0	28	28
Nature study	General nature study	2	1	1	0	4	4
Zoology—							
1	General zoology	4	2	2	30	5	35
6	Comparative anatomy	5	3	2	4	3	7
25	Histology	5	3	2	2	1	3
Chemistry:							
1	Elementary	3	3	0	36	3	39
2	Elementary laboratory	3	0	3	28	3	31
3	General chemistry	2	2	0	55	4	59
4	Qualitative analysis	2	0	2	50	7	57
5	Quantitative analysis	3	0	3	12	0	12
6	Volumetric analysis	3	0	3	1	1	2
10	Agricultural chemistry	2	2	0	8	2	10
11	Agricultural laboratory	2	0	2	10	0	10
24	Industrial chemistry	2	0	2	3	1	4
25	Technical analysis	2	0	2	1	1	2
31	Special analysis	3	0	3	1	0	1
Civil engineering:							
21	Surveying	4	2	2	20	0	20
22	Highway engineering	2	2	0	6	0	6
23	Structural analysis	4	4	0	3	0	3
24	Structural design	1	1	0	1	0	1
25	Railroad engineering	5	3	2	5	0	5
28	Hydraulics	3	3	0	14	0	14
1	Map drawing	1	0	1	1	0	1
33	Reinforced concrete	3	2	1	1	0	1
36	Current engineering literature.	1	1	0	4	0	4
28a	Hydraulics	2	2	0	5	0	5
29	Graphic statics	2	0	2	13	0	13
Development of thought.		1	1	0	0	13	13
Economics:							
1a	Principles of economy	3	3	0	19	3	22
24	Public control of industry	3	3	0	6	0	6
31	Introduction to study of sociology.	3	3	0	3	5	8
Education:							
22	History of education	2	2	0	0	28	28
24	High-school organization	3	3	0	0	10	10
2b	Methods in language	3	3	0	2	41	43
2c	Methods in geography	2	2	0	2	39	41
3	Child literature	1	1	0	0	8	8
4	Elementary practice teaching	5	5	0	0	8	8
1a	Principles of teaching	2	2	0	2	32	34
5	Elementary psychology	3	3	0	3	28	31
26	Advanced practice teaching	5	0	5	0	1	1

(b) *Courses given during first semester, 1915 16*—Continued.

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Electrical engineering:							
23	Advanced alternating currents.	3	2	1	6	0	6
25	Electric current, Engineering laboratory.	2	0	2	10	0	10
26	Electric current, Engineering laboratory.	2	0	2	6	0	6
21	Direct currents	3	3	0	8	0	8
English zero	Composition and rhetoric	0	3	0	8	0	8
1a	Composition and rhetoric	3	3	0	15	14	29
1b	Composition and rhetoric	3	3	0	16	12	28
1c	Composition and rhetoric	3	3	0	11	17	28
1d	Composition and rhetoric	3	3	0	22	6	28
2a	Advance composition	3	3	0	13	3	16
3	Argumentation	2	2	0	12	0	12
4	History of English literature	3	3	0	2	18	20
6	Public speaking	2	2	0	23	8	31
7	Expression	1	1	0	1	19	20
8	Advanced public speaking	1	1	0	2	2	4
9	Advance expression	1	1	0	1	9	10
10	Advanced public speaking	1	1	0	0	1	1
11	Advanced expression	1	1	0	0	1	1
27	Chaucer	3	3	0	0	15	15
28	Shakespeare	3	3	0	0	9	9
29	Old English	3	3	0	0	1	1
31	Modern drama	3	3	0	1	8	9
French:							
2	Second year French	3	3	0	1	17	18
24	French poetry	2	2	0	0	8	8
26	Advanced prose composition	1	1	0	0	9	9
30	French dramatists	2	2	0	1	8	9
32	Teachers' course	2	2	0	1	4	5
41	Old French	3	3	0	1	0	1
42	Chateaubriand	2	2	0	1	0	1
40	Thesis	1	1	0	1	0	1
1	Elementary French	4	4	0	4	10	14
Geology:							
5	Elementary	3	3	0	10	0	10
21	General geology	3	3	0	15	0	15
22	Economic geology	3	3	0	6	0	6
German:							
1	Elementary German	5	5	0	7	8	15
2	Intermediate German	3	3	0	4	8	12
3	Introduction to classics	2	2	0	0	11	11
3a	Prose composition	1	1	0	0	12	12
23	History of German literature	3	3	0	0	6	6
30	Middle high German	2	2	0	1	2	3
Greek:							
1	Elementary Greek	5	5	0	2	0	2
1b	Anabasis	3	3	0	4	0	4
3	Prose composition	1	1	0	1	0	1
25	Plato's Republic	3	3	0	1	2	3
History:							
1	Beginnings of western civilization.	3	3	0	8	38	46
2	Modern Europe	3	3	0	3	7	10
3	Womans' history	1	1	0	0	14	14
4	American history	3	3	0	3	0	3
21	Teachers' course	1	1	0	0	5	5
25	Constitutional history of the United States.	3	3	0	4	0	4
26	Westward expansion	2	2	0	3	10	13
28	Nevada research	1	1	0	0	1	1
30	Pacific slope	2	2	0	1	3	4
31	Principles and practice of politics.	2	2	0	1	2	3
32	Colonization	2	2	0	0	4	4
34	Economic and political problems.	2	2	0	5	5	10
40	Thesis	1	1	0	1	2	3
41	Graduate thesis	1	1	0	0	2	2
42	Comparative Federal institutions.	3	3	0	1	2	3
Home economics:							
1	Elementary	3	2	1	0	17	17
3	Food preparation	3	2	1	0	14	14
5	Dietetics	2	1	1	0	10	10
9	Household administration	2	2	0	0	9	9

(b) *Courses given during first semester, 1915–16*—Continued.

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Home economics—Con.							
12	Elementary sewing	3	1	2	0	4	4
14	Dressmaking	3	0	3	0	7	7
20	Special problems	2	0	2	0	3	3
Italian:							
1	Reading and grammar	3	3	0	2	3	5
Latin:							
C	Beginning Latin	5	5	0	2	2	4
D	Vergil's Æneid	3	3	0	3	2	5
6	Advanced prose composition	1	1	0	4	0	4
9	Sight translation	1	1	0	0	2	2
24	Modern art	2	2	0	1	5	6
25	Greek and Roman art	2	2	0	0	5	5
30	Ancient classical myths	1	1	0	0	9	9
1	Cicero and Horace	3	3	0	1	5	6
3	Prose composition	1	1	0	2	5	7
4	Livy	3	3	0	3	5	8
Law:							
21	Elementary law	3	3	0	7	1	8
23	Advanced law	3	3	0	2	2	4
Mathematics:							
7	Analytic geometry	3	3	0	31	2	33
8	Trigonometry	3	3	0	1	1	2
20	Analytic mechanics	3	3	0	14	0	14
23	Solid analytical geometry	2	2	0	2	0	2
1	Advanced algebra	3	3	0	16	4	20
2	Solid geometry	2	2	0	11	0	11
7	Analytic geometry	5	5	0	3	4	7
8	Differential calculus	5	5	0	23	0	23
21	Mechanics of materials	2	2	0	14	0	14
Mechanic arts:							
1	Woodshop	2	0	2	26	0	26
2	Forge	2	0	2	21	0	21
3	Machine shop	2	0	2	26	0	26
Mechanical engineering:							
7	Gas engines	2	2	0	22	0	22
23	Machine design	3	0	3	10	0	10
25	Thermodynamics	3	3	0	10	0	10
28	Valve gears	2	2	0	8	0	8
30	Experimental engineering	2	0	2	4	0	4
2	Mechanical drawing	1	0	1	14	1	15
3	Free-hand drawing	2	0	2	15	1	16
1	Power and power transmission.	2	2	0	20	0	20
27	Industrial organization	2	2	0	6	0	6
Metallurgy:							
24	Copper, lead, and zinc	3	3	0	8	0	8
21	Assaying	2	0	2	9	0	9
25	Ore dressing	3	2	1	6	0	6
40	Research	2	0	2	2	0	2
41	Advanced assaying	1	0	1	1	0	1
42	Wet assaying method	2	0	2	2	0	2
Military:							
1	Drill	½	0	2	69	0	69
3	Drill	½	0	2	44	0	44
23	Minor tactics	1	1	0	14	0	14
24	Duties of commissioned officers.	1	1	0	10	0	10
Mining:							
21	Elements of mining	3	3	0	6	0	6
23	Lode mining	3	3	0	5	0	5
25	Mining design	2	2	0	2	0	2
26	Seminar	1	1	0	4	0	4
40	Research	2	2	0	1	0	1
Mineralogy:							
1	Determinative mineralogy	2	1	1	21	0	21
21	Optical properties	1	1	0	7	0	7
22	Optical properties (laboratory).	1	0	1	7	0	7
Music:							
1	Elements of music	1	2	0	2	37	39
5	Methods	1	2	0	0	24	24
24	Chorus	1	2	0	0	23	23
21	Elementary harmony	2	2	0	0	7	7
22	Advanced harmony	2	2	0	0	3	3
Philosophy 21	Ethics	3	3	0	2	7	9

(b) *Courses given during first semester, 1915–16*—Continued.

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Physics:							
1	Electric heat and light	4	3	1	22	1	23
2	Electric heat and light	5	5	0	29	0	29
3	Electric heat (laboratory)	2	0	2	33	0	33
21	Electrical measurements	1	0	1	2	0	2
Physical education	Freshmen	1	0	1	0	44	44
2	Sophomores	1	0	1	0	33	33
11	Advanced work	1	0	1	0	5	5
12	Material course	1	0	1	0	8	8
21	History of physical education	1	1	0	0	5	5
32	Theory and practice	1	0	1			
Spanish:							
1	Elementary Spanish	3	3	0	6	15	21
2	Reading and composition	2	2	0	3	5	8
3	Conversation	2	2	0	28	1	29
23	Reading and composition	2	2	0	2	3	5

(c) *List of courses given during second semester, 1915–16.*

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Accounting:							
21	General accounting	1	0	1	6	2	8
22	Cost accounting	1	0	1	12	0	12
Agronomy:							
4	Forage crops	4	4	0	24	0	24
6	Farm mechanics	3	3	0	17	0	17
28	Irrigation	5	5	0	4	0	4
Animal husbandry:							
2	Poultry husbandry	3	3	0	15	0	15
1	Breeds of live stock	3	3	0	25	0	25
22	Genetics	3	3	0	2	0	2
23	Live-stock feeding	3	0	3	14	0	14
25	Live-stock registration	1	1	0	4	0	4
28	Live-stock management	3	3	0	5	0	5
Art:							
1	Elementary art	1	0	1	1	51	52
2	Intermediate art	1	0	1	3	12	15
5	Teachers' course	1	0	1	1	17	18
21	Advanced art	1	0	1	0	4	4
22	Advanced art	1	0	1	0	4	4
Arts, manual 5	Woodwork	2	0	2	1	2	3
Biology:							
Bacteriology 24	General bacteriology	5	3	2	3	1	4
Botany—							
1	Elementary botany	4	2	2	23	6	29
24	Cryptogamic botany	4	2	2	7	0	7
25	Plant pathology	3	2	1	2	1	3
Hygiene 1	Human anatomy	3	2	1	5	24	29
Horticulture 1	Elementary horticulture	3	2	1	4	0	4
Nature study 1	General nature study	2	1	1	0	4	4
Zoology—							
10	Economic zoology	3	2	1	7	0	7
26	Experimental physiology	1	0	1	1	0	1
Chemistry:							
1	Elementary chemistry	3	3	0	32	3	35
3	General chemistry	2	2	0	39	6	45
4	Qualitative analysis	2	0	2	4	0	4
4a	Qualitative analysis	3	0	3	29	4	33
6	Volumetric analysis	3	1	2	11	0	11
14	Agricultural chemistry	2	2	0	4	0	4
15	Agricultural analysis	2	2	0	7	0	7
16	Household chemistry	2	2	0	0	1	1
17	Household chemistry (laboratory).	2	0	2	0	1	1
21	Soils	2	0	2	6	0	6
22	Soil analysis	2	2	0	4	0	4
31	Advanced analysis	3	0	3	1	0	1
40	Undergraduate thesis	2	2	0	1	0	1
47	Advanced organic chemistry	2	2	0	1	0	1
60	Graduate thesis	3	3	0	1	0	1

(c) *List of courses given during second semester, 1915–16*—Continued.

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Civil engineering:							
1	Map drawing	1	0	1	3	0	3
21	Surveying	4	2	2	12	0	12
26	Sewerage	3	3	0	6	0	6
27	Masonry construction	3	3	0	11	0	11
24	Structural design	3	1	2	2	0	2
29a	Advanced graphic statics	3	0	3	2	0	2
32	Seminar	0			1	0	1
33	Reinforced concrete	3	1	2	1	0	1
34	Water-power engineering	3	3	0	6	0	6
36	Engineering literature	1	1	0	4	0	4
29	Graphic statics	2	0	2	4	0	4
Dairying 5	Principles of dairying	3	1	2	15	0	15
Development of thought		1	1	0	0	8	8
Economics:							
1b	Principles of economics	3	3	0	11	3	14
23	International trade	3	3	0	4	0	4
32	Social betterment	3	3	0	1	5	6
Education:							
22	History of education	2	2	0	0	30	30
2a	Methods in arithmetic	3	3	0	1	44	45
2d	Methods in history	2	2	0	1	47	48
3	Child literature	1	1	0	0	12	12
4a	Practice teaching	5	0	5	1	16	17
1b	School law and management	2	2	0	1	36	37
6	Child study	3	3	0	0	11	11
23	Principles of education	3	3	0	3	20	23
26	High-school practice teaching	5	0	5	3	8	11
Electrical engineering:							
24	Electric railways	3	3	0	5	0	5
25	Electrical engineering	2	0	2	7	0	7
26	do	2	0	2	6	0	6
28	Electrical design	2	2	0	8	0	8
1	Elements electrical engineering.	2	2	0	23	0	23
22	Alternating currents	3	3	0	5	0	5
27	Power plants	1	1	0	11	0	11
English:							
1a	Composition and rhetoric	3	3	0	16	15	31
1b	do	3	3	0	7	12	19
1c	do	3	3	0	7	19	26
1d	do	3	3	0	20	9	29
3	Argumentation	2	2	0	12	0	12
4	History of English literature	3	3	0	0	18	18
6	Public speaking	2	2	0	17	4	21
7	Expression	1	1	0	0	21	21
8	Advanced public speaking	1	1	0	2	1	3
9	Advanced expression	1	1	0	0	8	8
10	Advanced public speaking	1	1	0	0	2	2
11	Advanced expression	1	1	0	0	1	1
26	Shakespeare	3	3	0	0	8	8
28	Milton	3	3	0	0	16	16
35	Modern English grammar	3	3	0	0	4	4
21	Short story	3	3	0	4	5	9
French:							
1	Beginning French	4	4	0	2	11	13
2	Second-year French	3	3	0	1	15	16
24	French poetry	2	2	0	0	6	6
26	Advanced prose composition	1	1	0	0	9	9
31	Modern drama	2	2	0	1	9	10
32	Teachers' course	2	2	0	1	4	5
41	Old French	3	3	0	1	0	1
42	Romantic school	2	2	0	1	0	1
60	Thesis	3	3	0	1	0	1
Geology:							
22	Historical geology	2	2	0	13	0	13
23	Petrography	2	2	0	4	0	4
24a	Petrography (laboratory)	1	0	1	5	0	5
24b	do	1	0	1	4	0	4
26	Economic geology	3	3	0	4	0	4
27	Field geology	1	0	1	6	0	6
40	Research geology	1	0	1	1	0	1
German:							
1	Beginning German	5	5	0	1	3	4
2	Intermediate	3	3	0	1	8	9
3	Introduction to classics	2	2	0	0	10	10
3a	Advanced composition	1	1	0	0	11	11
23	History of German literature	3	3	0	0	6	6
28	Teachers' course	2	2	0	0	2	2
30	Middle German	1	1	0	0	2	2

(c) *List of courses given during second semester, 1915–16*—Continued.

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Greek:							
1	Anabasis	5	5	0	1	1	2
1b	do	3	3	0	3	0	3
26	Demosthenes and Plato	3	3	0	1	1	2
History:							
1	Beginning western civilization.	3	3	0	7	33	40
2	Modern Europe	3	3	0	3	7	10
3	Woman in history	1	1	0	0	15	15
4	American history	3	3	0	1	2	3
21	Teachers' course	1	1	0	0	2	2
25	Constitutional history of the United States.	3	3	0	4	0	4
26	Westward expansion	2	2	0	4	11	15
History:							
31	Principles and practice of politics.	2	2	0	3	0	3
34	Economic and political problems.	3	3	0	2	6	8
32	Colonial government	2	2	0	1	4	5
30	Pacific slope	2	2	0	2	3	5
40	Thesis	1	1	0	0	2	2
40	Thesis, graduate	3	3	0	0	2	2
41	Federal institutions	3	3	0	1	2	3
Home economics:							
2	Elements of home economics.	3	1	2	0	22	22
4	Food preparation	3	1	2	0	17	17
5	Dietetics	3	1	2	0	8	8
10	Household administration	2	2	0	0	10	10
13	Elementary sewing	3	1	2	0	11	11
15	Dressmaking	3	1	2	0	12	12
Italian 1	Beginning Italian	3	3	0	2	4	6
Latin:							
C	Beginning Latin	5	5	0	5	0	5
D	Vergil's Æneid	3	3	0	1	4	5
2	Horace and Seneca	3	3	0	1	5	6
3	Prose composition	1	1	0	2	5	7
5	Plautus and Terence	3	3	0	2	5	7
6	Advanced prose composition	1	1	0	3	0	3
9	Sight translation	1	1	0	0	2	2
24a	Tacitus, Agricola	2	2	0	2	4	6
25a	Modern arts	2	2	0	0	8	8
30	Ancient mythology	1	1	0	0	9	9
Law:							
21	Elementary law	3	3	0	15	7	22
23	Advanced law	3	3	0	4	0	4
Mathematics zero	Elementary algebra	0	3	0	8	1	9
7	Analytical geometry	3	3	0	16	2	18
20	Analytic mechanics	3	3	0	12	0	12
8	Trigonometry	3	3	0	24	3	27
9	Differential calculus	5	5	0	12	3	15
45	Integral calculus	3	3	0	18	0	18
21	Vector analysis	3	3	0	1	0	1
28	Mechanics of materials	2	2	0	5	0	5
B	Theory of equations	2	2	0	4	2	6
Mechanic arts:	Plane geometry	0	3	0	7	1	8
1	Wood shop	2	0	2	5	0	5
2	Forge	2	0	2	16	0	16
3	Machine shop	3	0	3	19	0	19
4	Foundry	2	0	2	4	0	4
5	Shop management	2	0	2	4	0	4
Mechanical engineering:							
4	Mechanical drafting	2	0	2	21	0	21
5	Kinematics	2	0	2	10	0	10
25	Thermodynamics	3	3	0	8	0	8
29	Pumping machinery	2	2	0	6	0	6
30	Experimental engineering	2	2	0	5	0	5
2	Mechanical drawing	1	0	1	0	1	1
3	Free-hand drawing	2	0	2	2	1	3
6	Descriptive geometry	2	0	2	22	0	22
24	Steam boilers	3	3	0	9	0	9
Military:							
1	Infantry drill	½	0	2	46	0	46
2	Regular and guard manual	1	1	0	43	0	43
3	Advanced infantry drill	½	0	2	49	0	49
4	Regular and minor tactics	1	1	0	35	0	35
23	Minor tactics	1	1	0	18	0	18
24	Duties commissioned officers	1	0	2	7	0	7

(c) *List of courses given during second semester, 1915–16*—Continued.

Courses.	Title of course.	Hours credit.	Hours per week.				
			Lectures.	Laboratory.	Men.	Women.	Total.
Mineralogy:							
2	Blowpipe analysis	2	0	2	12	0	12
3	Descriptive mineralogy	2	2	0	8	0	8
Mining:							
22	Placer mining	3	3	0	9	0	9
24	Economics of mining	3	3	0	4	0	4
26	Seminar 1	1	1	0	1	0	1
27	Seminar 2	1	1	0	5	0	5
28	Mining law	1	1	0	4	0	4
29	First aid	1	1	0	3	0	3
30	Mining trip	0			8	0	8
42	Tin mining	1	1	0	2	0	2
Metallurgy:							
22	Assaying	3	0	3	7	0	7
23	General metallurgy	2	0	2	3	0	3
26	Gold and silver	5	3	2	6	0	6
Music:							
1	Elementary music	1	2	0	1	35	36
5	Methods	1	2	0	0	24	24
21	Harmony	2	2	0	0	5	5
22	Advanced harmony	2	2	0	0	2	2
24	Chorus	1	2	0	0	20	20
Philosophy:							
2	Elementary logic	3	3	0	8	11	19
21	Ethics	3	3	0	1	5	6
Physics:							
1	Electricity, light, and sound	4	3	1	13	1	14
2	Electricity, light, and sound	5	5	0	30	0	30
3	Electricity, light, and sound	2	0	2	31	0	31
21	Electrical measurements	1	0	1	2	0	2
27	Electric lighting	2	1	1	2	0	2
Physical education:							
1		1	0	2	0	41	41
2		1	0	2	0	25	25
12	Material course	1	0	2	0	8	8
21	History of physical education	1	1	0	0	5	5
32	Theory and practice	1	0	1	0	6	6
Spanish:							
1	Beginning Spanish	3	3	0	3	14	17
2	Second year	2	2	0	2	5	7
3	Conversation	2	2	0	9	1	10
28	Classics	2	2	0	1	5	6

(d) *Annual salaries of employees, arranged according to amount.*

	1914–15	1915–16
President	$6,000	$6,000
Professor of accounting and law, vice president	3,000	3,000
Dean in education		3,000
Professor of agronomy, dean of college of agriculture	3,000	3,000
Professor of electrical and mechanical engineering, dean of college of engineering	3,000	3,000
Professor of Greek language and literature, dean of college of arts and sciences	3,000	3,000
Professor of mining and metallurgy, director of Mackay school of mines	3,000	3,000
Director of Nevada agricultural experiment station, entomologist	3,000	3,000
Director of State hygienic laboratory, bacteriologist		3,000
Director of Smith-Lever agricultural extension and boys' club leader	3,000	3,000
Director of State veterinary control service, bacteriologist and veterinarian	2,600	3,000
Professor of animal husbandry	2,500	2,500
Comptroller	2,400	3,000
Professor of chemistry	2,400	2,500
Professor of sociology and economics	2,400	2,500
Professor of civil engineering	2,400	2,500
Professor of Latin language and literature	2,400	2,500
Professor of Romance language and literature	2,400	2,500
Professor of biology	2,400	2,500
Professor of physics	2,400	2,500
Professor of mathematics	2,400	2,500
Professor of English language and literature	2,400	2,500
Professor of history and political science	2,400	2,500
Commissioner pure food and drug control and weights and measures laboratory	2,400	2,500
In charge range improvement agricultural experiment station		2,500

(d) *Annual salaries of employees, arranged according to amount*—Continued.

	1914–15	1915–16
Chemist, Nevada agricultural experiment station	$2,400	$2,500
Meteorologist, agricultural experiment station	2,400	2,500
Librarian	2,400	2,400
Professor of philosophy	2,400	2,400
Director of State hygienic laboratory	2,400	.....
Dean of women	.....	2,200
Associate professor of education	2,200	2,200
Professor of geology and mineralogy	2,100	2,300
Assistant bacteriologist and veterinarian, Nevada agricultural experiment station	2,000	2,200
Veterinarian, Smith-Lever agricultural extension	2,000	2,200
Associate professor of English language and literature	2,000	2,000
Assistant professor of mining and metallurgy	2,000	2,000
Associate professor of home economics	1,800	2,000
Associate professor of art and drawing	1,800	1,800
Assistant professor of agronomy	1,800	.....
Assistant professor of electrical and mechanical engineering	1,800	.....
Farm foreman	1,800	.....
Superintendent of buildings and grounds	1,800	1,800
Assistant professor of education	1,800	.....
Assistant professor of English language and literature	1,600	1,600
Assistant professor of education	.....	1,500
Instructor of history and political science	1,500	1,500
Instructor of music	1,500	1,500
Assistant professor of electrical and mechanical engineering	.....	1,800
Assistant professor of dairying	.....	1,800
Home economics, Smith-Lever agricultural extension	1,500	1,600
Assistant professor of botany and horticulture	1,500	1,600
Instructor of biology	1,500	1,500
Assistant professor of German language and literature (April, 1916)	1,500	1,500
Director, physical education for men	1,200	1,200
Assistant professor of physical education for women	1,500	1,500
Master of Lincoln Hall	1,500	.....
Assistant professor of Romance languages and literature	.....	1,500
Instructor, electrical and mechanical engineering	.....	1,500
Matron of Manzanita Hall	1,272	.....
Instructor of mathematics	1,200	1,500
Analyst, State mining laboratory	.....	1,500
Assistant comptroller	.....	1,500
Secretary to president	1,200	1,200
Registrar	1,200	1,200
Clerk	1,200	.....
Assistant entomologist, Nevada agricultural experiment station	1,200	1,200
Assistant chemist, Nevada agricultural experiment station	1,200	.....
Instructor of chemistry	1,200	1,200
Head janitor	1,200	1,200
Inspector, pure food and drug control and weights and measures laboratory	1,200	1,200
Emeritus	1,200	1,200
Emeritus	1,200	1,200
Assistant, agronomist, Nevada agricultural experiment station	1,080	1,200
Farm foreman	.....	1,200
Plumber, buildings and grounds	1,080	1,080
Fireman, heating plant	1,000	1,000
Fireman, heating plant	.....	1,080
Assistant professor electrical and mechanical engineering	2,000	.....
Observer, Nevada agricultural experiment station	1,000	900
Carpenter, buildings and grounds	900	900
Greenhouse man	900	900
Night watchman	900	900
Chemist, pure food and drug control and weights and measures laboratory	900	.....
Veterinarian, State veterinary control service	.....	1,600
Bandmaster, military science and tactics	696	696
Commandant, military science and tactics	500	500
Matron of hospital	450	450
Secretary to board of regents	300	300
Librarian, Nevada agricultural experiment station	300	300
Stenographer, Nevada agricultural experiment station	400	400
Dairy husbandman, Smith-Lever agricultural extension	1,800	1,800
Principal, Tonopah school of mines	2,250	2,250
Professor of education	2,400	.....
Chemist, pure food and drug control and weights and measures laboratory	.....	900
Instructor, home economics	.....	1,000

(e) *Annual salaries of employees, by departments.*

		1914–15	1915–16
Administration	President	$6,000	$6,000
	Secretary board of regents	300	300
	Secretary to president	1,200	1,200
	Registrar	1,200	1,200
	Comptroller	2,400	3,000
	Clerk	1,200	.....
	Assistant comptroller	.....	1,500
Accounting and law	Professor and vice president	3,000	3,000
Agronomy	Professor and dean of college of agriculture	3,000	3,000
	Assistant professor	1,800	.....
Animal husbandry	Professor	2,500	2,500
Art and drawing	Associate professor	1,800	1,800
Biology	Professor	2,400	2,500
	Assistant professor botany and horticulture	1,800	1,600
	Instructor	1,500	1,500
Chemistry	Professor	2,400	2,500
	Instructor	1,200	1,200
Civil engineering	Professor	2,400	2,500
Dairying	Assistant professor	.....	1,800
Economics and sociology	Professor	2,400	2,500
Education	Professor	2,400	.....
	Associate professor	2,200	.....
	Assistant professor	1,800	.....
	Dean in education	.....	3,000
	Associate professor	.....	2,200
	Instructor	.....	1,500
Electrical and mechanical engineering	Professor and dean college of engineering	3,000	3,000
	Assistant professor	1,800	.....
	Assistant professor	2,000	.....
	Assistant professor	.....	1,800
	Instructor	.....	1,500
English language and literature	Professor	2,400	2,500
	Assistant professor	2,000	2,000
	Instructor	1,600	1,600
Geology and mineralogy	Professor	2,100	2,300
German language and literature	Instructor	1,500	1,500
Greek language and literature	Professor and dean college of arts and science.	3,000	3,000
History and political science	Professor	2,400	2,500
	Instructor	1,500	1,500
Home economics	Assistant professor	1,800	2,000
	Instructor	.....	1,000
Latin language and literature	Professor	2,400	2,500
Mathematics	Professor	2,400	2,500
	Instructor	1,200	1,500
Mining and metallurgy	Professor and director Mackay school of mines.	3,000	3,000
	Assistant professor	2,000	2,000
Military science and tactics	Commandant	500	500
	Bandmaster	696	696
Music	Instructor	1,500	1,500
Philosophy	Professor	2,400	2,400
Physical education for women	Assistant professor	1,500	1,500
Physical education for men	Director	1,200	1,200
Physics	Professor	2,400	2,500
Romance languages and literature	Professor	2,400	2,500
	Assistant professor	.....	1,500
Dean of women	Dean	.....	2,200
University residences	Matron—Mansanita	1,272	.....
	Master—Lincoln	1,500	.....
Library	Librarian	2,400	2,400
University hospital	Matron	450	450
Buildings and grounds	Superintendent	1,800	1,800
	Head janitor	1,200	1,250
	Plumber	1,080	1,080
	Carpenter	900	900
	Fireman, heating plant	1,000	1,000
	Fireman, heating plant	.....	1,080
	Greenhouse man	900	900
	Night watchman	900	900
University farms	Foreman	1,800	.....
	Foreman	.....	1,200
Emeritus		1,200	1,200
Do		1,200	1,200

(e) *Annual salaries of employees, by departments*—Continued.

		1914–15	1915–16
PUBLIC SERVICE DIVISION.			
Nevada agricultural experiment station.	Director and entomologist	$3,000	$3,000
	Bacteriologist and veterinarian	2,000	2,400
	Assistant chemist	1,200	.....
	Chemist	2,400	2,500
	Meteorologist	2,400	2,500
	Agronomist	.....	.....
	Assistant bacteriologist and veterinarian	2,000	2,200
	Observer	1,000	900
	Officer in charge of range improvement, Agricultural experiment station.	.....	2,500
	Assistant agronomist	1,080	1,200
	Librarian	300	300
	Stenographer	400	400
	Assistant entomologist	1,200	1,200
Smith-Lever agricultural extension	Director and boys' club leader	3,000	3,000
	Dairy husbandman	1,800	1,800
	Veterinarian	2,000	2,200
	Home economics	1,500	1,600
State veterinary control service	Director	600	600
	Veterinarian	.....	1,600
State hygienic laboratory	Director, bacteriologist	.....	3,000
	Director	2,400	.....
Pure food and drug control and weights and measures laboratory.	Commissioner	2,400	2,500
	Inspector	1,200	1,200
	Chemist	.....	900
	Chemist	900	.....
State mining laboratory	Director	.....	.....
	Analyst	.....	.....
	Analyst	.....	1,500
Tonopah school of mines	Principal	2,250	2,250
Engineering experimentation	Director	.....	.....

(f) *The teaching force in State universities and State colleges, in 1915–16.*

Names of institutions.	Professors and instructors.			President's salary.	Maximum and minimum salaries.														House in addition to salary.	
					Deans.		Professors.		Associate professors.		Assistant professors.		Adjunct professors.		Instructors.		Assistants.		Tutors and others.			
	Men.	Women.	Total.		Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	President.	Professors.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Alabama Polytechnic Institute	75	0	75	$5,000	$2,900	.....	$2,400	$1,800	$1,800	$1,500	$1,800	$1,500	.....	.....	$1,400	$700	$600	$250	.....	.....	No.	0
University of Alabama	65	0	65	6,500	3,200	$2,400	2,500	1,800	1,800	.....	1,000	.....	$1,600	.....	.....	.....	.....	.....	.....	.....	Yes.	0
University of Arizona	51	11	62	5,000	3,600	.....	2,500	2,000	2,000	1,800	1,800	1,600	.....	.....	1,600	1,400	.....	.....	.....	.....	Yes.	0
University of Arkansas	88	23	111	4,000	3,000	2,500	2,300	1,700	1,600	1,200	1,500	1,400	1,200	$1,000	1,400	500	1,200	900	$200	$200	Yes.	0
University of California	598	82	680	12,000	8,000	5,000	8,000	2,200	3,000	1,800	2,500	1,500	.....	.....	2,000	600	1,600	500	.....	.....	Yes.	0
University of Colorado	204	37	241	6,000	4,000	.....	3,000	1,800	.....	.....	1,800	1,400	.....	.....	.....	600	.....	.....	.....	.....	Yes.	0
Colorado State Agricultural College	65	25	90	5,000	3,000	.....	3,000	2,000	1,800	1,600	1,500	1,300	.....	.....	1,200	1,000	900	.....	.....	.....	No.	0
Colorado School of Mines	25	0	25	5,000	.....	.....	3,500	1,500	2,500	1,500	.....	.....	.....	.....	1,500	1,200	.....	.....	.....	.....	Yes.	0
State Teachers College of Colorado	35	19	54	5,000	3,000	1,600	2,200	1,400	.....	.....	1,400	1,200	.....	.....	1,200	900	900	480	.....	.....	Yes.	0
Connecticut Agricultural College	28	6	34	4,500	.....	.....	2,500	1,800	.....	.....	.....	.....	.....	.....	2,000	600	.....	.....	450	.....	No.	0
Delaware College	34	7	41	5,000	4,000	2,000	3,000	1,800	.....	.....	1,750	1,500	.....	.....	1,500	1,000	1,000	1,000	.....	.....	No.	0
University of Florida	43	0	43	4,200	2,400	2,100	2,200	1,800	.....	.....	1,700	1,300	.....	.....	1,600	720	300	140	.....	.....	No.	0
Florida State College for Women	13	15	28	4,000	2,200	.....	2,000	1,800	.....	.....	1,600	1,100	.....	.....	1,000	600	.....	.....	.....	.....	No.	0
University of Georgia	75	0	75	6,000	.....	.....	3,200	2,000	1,800	1,800	.....	.....	1,500	1,500	1,200	1,000	.....	.....	600	100	Yes.	4
Georgia School of Technology	72	0	72	6,500	2,700	2,100	3,000	2,100	1,900	1,900	1,500	1,200	.....	.....	1,100	850	.....	.....	480	75	Yes.	6
North Georgia Agricultural College	13	1	14	2,500	.....	.....	1,800	1,500	1,200	.....	.....	.....	.....	.....	1,000	.....	.....	.....	.....	.....	No.	0
College of Hawaii	18	7	25	5,000	.....	.....	3,500	2,000	.....	.....	1,800	1,800	.....	.....	1,800	450	480	480	.....	.....	No.	0
University of Idaho	67	12	79	6,000	2,900	1,800	2,500	2,000	2,000	1,800	1,800	1,500	.....	.....	1,500	1,000	1,000	400	.....	.....	No.	0
University of Illinois	590	52	642	12,000	7,000	5,500	5,500	.....	3,000	.....	3,250	.....	.....	.....	2,200	1,000	2,750	.....	.....	.....	Yes.	0
Indiana University	220	33	253	7,500	5,000	3,300	3,400	2,200	2,300	1,800	1,900	1,200	.....	.....	1,300	700	800	50	900	200	No.	1
Purdue University (Ind.)	203	13	216	6,000	4,000	.....	3,600	.....	2,500	.....	2,000	.....	.....	.....	1,800	.....	900	.....	.....	.....	No.	1
Iowa State College of Agriculture and Mechanic Arts.	284	68	352	7,000	4,800	2,750	3,500	2,250	2,500	1,400	2,700	1,300	.....	.....	1,500	800	900	700	.....	.....	Yes.	7
Iowa State Teachers College	44	54	98	6,000	.....	.....	2,400	1,300	.....	.....	1,400	1,000	.....	.....	1,400	800	450	.....	.....	.....	Yes.	0
State University of Iowa	180	22	202	7,500	5,000	1,100	4,600	300	2,600	1,250	2,500	800	.....	.....	2,300	500	960	50	.....	.....	Yes.	0
University of Kansas	176	39	215	6,000	4,000	3,500	3,500	2,200	2,200	1,700	1,700	1,200	.....	.....	1,200	900	700	300	.....	.....	Yes.	0
Kansas State Agricultural College	216	42	258	6,500	4,000	2,750	3,600	1,850	2,400	1,400	2,500	1,200	.....	.....	1,700	900	2,200	800	2,600	1,000	No.	0
State University of Kentucky	91	9	100	5,500	4,000	2,000	2,250	1,800	1,800	1,500	1,500	1,000	.....	.....	1,000	350	1,000	350	.....	.....	No.	0
Louisiana State University and Agricultural and Mechanical College.	97	24	121	5,000	4,000	2,200	2,500	1,600	1,900	.....	2,000	1,200	.....	.....	1,200	600	300	300	108	108	Yes.	1

University of Maine	130	9	139	6,000	2,900	2,900	2,400	1,650	1,650	1,500	1,350	1,200			1,400	800	500	400			Yes.	0
Maryland State College of Agriculture.	35	0	35	1,400	1,800		1,800	1,700	1,500						1,200	720	540				No.	0
Massachusetts Agricultural College	71	1	72	5,000	4,200	2,850	3,000	2,500	2,600	2,000	2,000	1,400			1,500	1,100	1,080	840			Yes.	0
Massachusetts Institute of Technology.	267	2	269																			
University of Michigan	481	22	503	10,000	5,000	2,500	4,000	2,000	3,000	2,000	2,000	1,700			1,600	900	900				No.	0
Michigan Agricultural College	135	22	157	6,500	3,800	2,500	3,000	1,500	2,800	2,000	2,000	1,250			1,800	350	400	200	850	500	No.	8
Michigan College of Mines	23	0	23	5,000			3,000	2,250	2,100		1,700	1,500			1,500	900					No.	0
University of Minnesota	442	64	506	10,000	7,500	2,800	6,000	2,100	3,000	1,000	2,500	1,000			1,750	600					No.	
Mississippi Agricultural and Mechanical College.	83	1	84	3,500	2,500	2,000	2,500	2,000	1,500	1,500	1,200	1,200			1,000	600	240	90	600	90	Yes.	
Mississippi Industrial Institute and College.	7	55	62	3,500			1,800	720			1,000	600									Yes.	0
University of Mississippi	35	6	41	3,500	2,750	2,000	2,000	1,680	2,000	1,100	1,500	1,000			1,000	1,000	300	100			Yes.	12
University of Missouri	212	14	226	9,000	4,500	3,600	3,600	2,400	2,400	1,800	2,200	1,500			1,600	900	1,200	200	200	100	Yes.	2
Montana College of Agriculture and Mechanic Arts.	51	15	66	4,500	6,200		3,000	2,000			2,000	1,500			1,500	1,000	750	500			No.	0
Montana State School of Mines	8	0	8	4,000			3,00	2,000			2,000										No.	0
University of Montana	49	11	60	3,750	3,000	1,200	2,800	1,800			2,200	1,600			1,250	1,000	900	500			No.	0
University of Nebraska	205	62	267	6,000	3,500	2,200	3,100	1,500	2,000	1,200	1,800	800			1,200	600	1,200	250	400	50	No.	0
University of Nevada	25	8	33	6,000	3,000	3,000	2,500	2,500	2,200	2,000	1,800	1,800			1,500	1,200	600	100	300	50	Yes.	0
New Hampshire College of Agriculture and Mechanic Arts.	50	3	53	5,000	2,500	2,000	2,500	1,800	1,800	1,800	1,700	1,400			1,500	900	1,000	600			Yes.	0
Rutgers College (N. J.)	70	8	78	6,000			3,600	2,000	2,000	1,800	1,800	1,500			1,500	1,200	1,000	600			Yes.	0
University of New Mexico	16	5	21	4,500	2,100		2,100	1,600	1,700	1,400	900								200		No.	0
New Mexico School of Mines	6	0	6	3,000			1,800	1,100							250	190					No.	0
New Mexico College of Agriculture and Mechanic Arts.	39	6	45	4,500	2,500	2,200	2,100	1,200	1,600								1,200	600			No.	0
New York State College for Teachers.	53	20	73	5,000	3,500	1,400	3,500	2,500			2,400	1,800			1,700	1,200	1,100	800			Yes.	0
Cornell University (N. Y.)	782	38	820	10,000	8,000	3,500	6,000	2,500			2,500	2,000			1,200	800	1,200	50			Yes.	2
New York State College of Forestry (at Syracuse University).	21	0	21	5,000			3,000	2,000			2,000	1,600			1,600	1,000	750	300			No.	0
University of North Carolina	76	0	76	4,000	2,500	2,500	2,500	2,000	2,000	1,600	1,350	1,250			1,200	600	400	50			Yes.	0
North Carolina College of Agriculture and Mechanic Arts.	59	1	60	4,500	2,750		2,800	1,950	1,800	1,700	1,400	1,200			1,800	500					No.	1
North Dakota Agricultural College	52	21	73	6,000	3,700	3,000	3,000	1,800	1,900		2,100	1,400			1,500	1,000	550	150			No.	0
University of North Dakota	58	15	73	6,000	3,200	3,000	3,000	2,000	2,200	2,000	2,000	1,400			1,700	800	1,260	100	700	120	Yes.	0
Ohio University	52	36	88	6,000	3,000	3,000	2,100	1,600	1,800	1,500	1,550	1,300			4,100	500	650	200	1,300	700	Yes.	0
Ohio State University	438	43	481	7,000	5,000	3,000	3,750	1,800	1,925	1,700	2,500	1,300			1,800	1,000	1,000	700	500	250	Yes.	0
Miami University (Ohio)	44	11	55	5,000	3,000	2,000	2,500	2,000	2,000	1,500	1,500	1,000			1,200	1,000			600	400	Yes.	0
Oklahoma College for Women [1]																						
University of Oklahoma	130	12	142	7,500	4,000	2,100	2,500	1,800	2,100	1,800	1,700	1,400			1,300	1,000	900	700			Yes.	0
Oklahoma Agricultural and Mechanical College.	78	20	98	5,000	2,800	2,400	2,500	2,000	2,000	1,600	1,700	1,400	1,700	1,400	1,300	1,000	900	700	600	360	No.	0
Oklahoma State School of Mines and Metallurgy.	6	0	6	2,700			1,600	1,400	1,400	1,200											Yes.	0
Oregon State Agricultural College	124	38	162	7,000	3,100	2,400	3,000	1,700	2,500	1,500	2,000	1,100			1,600	600	500	450			No.	1
University of Oregon	99	13	112	5,000	3,000	2,500	2,500	1,600	1,600	1,200					1,200	100	1,200	100			Yes.	0
Pennsylvania State College	251	28	279	9,000	5,000	1,500	2,750	1,800	2,350	1,200	2,500	1,200			1,800	850	1,200	600			Yes.	5

[1] No report.

(b) *The teaching force in State universities and State colleges*—Continued.

Names of institutions.	Professors and instructors.			President's salary.	Maximum and minimum salaries.																House in addition to salary.	
					Deans.		Professors.		Associate professors.		Assistant professors.		Adjunct professors.		Instructors.		Assistants.		Tutors and others.			
	Men.	Women.	Total.		Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	President.	Professors.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
University of Porto Rico	37	30	67		$3,000	$3,000	$2,000	$1,800			$1,700	$1,500			$1,400	$450	$360	$360			No.	2
Rhode Island State College	28	6	34	$4,500	2,400		2,400	1,800			1,600	1,600			1,500	800	400				No.	2
The Citadel, the Military College of South Carolina.	14	0	14	3,000			2,000	1,700			1,200										Yes.	2
Clemson Agricultural College (S. C.)	71	0	71	4,500	3,000	2,500	2,500	1,900	$1,700	$1,700	1,500	1,500			1,200	900	1,200	900				
University of South Carolina	36	3	39	5,000	2,500	2,000	2,000	2,000	1,500	1,500			$1,200	$1,200	800	500	400	300			Yes.	19
South Dakota State College of Agriculture and Mechanic Arts.	63	9	72	3,500	3,000		3,000	1,200	2,100	1,600	1,600	800			1,500	700	1,500	500			Yes.	0
South Dakota State School of Mines	12	1	13	2,800			1,900	1,550														
University of South Dakota	38	14	52	5,000	2,750	2,250	2,350	1,600			1,550	1,250			1,000	600	450	150			No.	0
University of Tennessee	178	12	190	5,200	2,800	1,600	2,200	1,800	1,800	1,600	1,600	1,200			1,300	400	600	25			Yes.	1
University of Texas	169	27	196	6,000	4,000	3,250	3,250	2,500	2,500	2,000			2,200	1,700	1,800	900	400	120	$1,000	$450	No.	0
Agricultural and Mechanical College of Texas.	102	0	102	6,000	3,300	3,000	3,000	1,800	2,000	1,650	1,700	1,200			1,500	1,000	1,000	200			Yes.	
College of Industrial Arts (Tex.)	10	46	56	4,500	2,400	1,800	2,000	1,600							1,500	1,000	100	100			Yes.	0
Agricultural College of Utah	67	19	86	5,500	3,600	2,000	2,500	1,800			1,800	1,200			1,400	800	600	200			Yes.	2
University of Utah	87	21	108	5,000	4,000	2,500	2,500	1,800	2,100	1,750	1,700	1,200			1,250						No.	0
University of Vermont and State Agricultural College.	104	2	106	7,000	3,000	1,700	3,000	1,200	1,600		2,000	500			1,500	250			650	100	Yes.	0
Virginia Polytechnic Institute	55	0	55	5,000	2,600	2,200	2,000	1,800	1,800	1,200					1,700	600	500	250	250	150	Yes.	24
University of Virginia	122	0	122	8,000			3,600		2,500				2,500		1,000		900		500		Yes.	
Virginia Military Institute	25	0	25	4,500			2,500	2,300			1,000	500	1,200	1,200	800						Yes.	9
College of William and Mary (Va.)	18	0	18	2,700	2,000		1,800						1,200				1,000	135			Yes.	9
State College of Washington	115	19	134	6,000	3,000	2,000	3,000	1,800	2,000	1,500	1,600	1,400			1,500	1,000	900	700			Yes.	0
University of Washington	184	33	217	10,000	3,000	2,400	3,000	2,100	2,700	2,000	2,000	1,350			1,800	1,000	1,000	300	450	120	Yes.	0
West Virginia University	99	9	108	4,800	3,600	2,700	3,000	2,200	2,000	1,800	1,800	1,500			1,200	900	1,000	500	800	50	Yes.	0
University of Wisconsin	431	64	495	7,000	5,000	3,250	4,500	2,850	3,000	2,250	2,600	1,750			2,000	1,000	600	400	400	200	Yes.	4
University of Wyoming	36	16	52	5,000	3,000		2,400	2,000	2,000	1,800	1,600	1,400			1,300	500	960	500	600	100	Yes.	0

F. ANALYSIS OF COSTS.

(See Ch. IX.)

(a) *1914–15.*

1914–15. UNIVERSITY OF NEVADA, TOTAL EXPENDITURES, $221,492.04.

- State university, exclusive of extension, $167,069.61.
  - Total operating expenses, $139,717.96.
    - Construction and land, $8,151.95...
      - Dairy building..... $58.00
      - Evans tract..... 7,837.50
      - Experiment station.... 256.45
      - 8,151.95
    - Special funds, $19,199.70.....
      - Dining hall..... 14,425.40
      - Lincoln Hall..... 2,385.05
      - Manzanita Hall..... 1,789.25
      - Emeritus..... 600.00
      - 19,199.70
    - General operating expenses, $47,565.77.
      - Educational equipment and supplies.
        - Library books and supplies.. $564.94
        - College of arts and sciences... 4,494.91
        - College of engineering..... 2,569.65
        - College of agriculture..... 6,131.72
        - 13,760.32
      - Instruction, $78,391.87.....
        - College of arts and sciences... 53,815.81
        - College of engineering..... 15,785.16
        - College of agriculture..... 7,790.90
        - Summer school..... 1,000.00
        - 78,391.87
      - Labor, equipment, and supplies.

	Salaries.	Labor, equipment, and supplies.
Administration	$12,497.78	
Library	3,287.91	
Buildings and grounds	2,565.00	
Greenhouse	450.00	
Hospital	348.00	
Traveling expense		$787.00
Printing and stationery		1,152.91
Telephone, telegraph, and postage		1,128.71
Advertising		275.00
Janitor		13,953.25
Repairs		1,152.19
Furniture and fixtures		423.70
Power, light, and water		1,229.18
Supplies		1,071.97
Fuel		5,098.45
Insurance		296.00
Miscellaneous		1,849.72
	19,148.69	28,417.08

- Extension and industrial service, $54,422.43.
  - Food and drug control.. $3,623.98
  - State analytical laboratory..... 2,094.56
  - State hygienic laboratory..... 5,121.21
  - Veterinary control service..... 214.52
  - Weights and measures.. 2,444.53
  - Engineering experimentation..... 1,322.63
  - Tonopah school of mines 451.25
  - Agricultural experiment station..... 31,656.35
  - Extension (agricultural)..... 7,493.40
  - 54,422.43

(b) *1915–16.*

1915–16. UNIVERSITY OF NEVADA, TOTAL EXPENDITURES, $284,833.80.

- State university, exclusive of extension, $205,089.24.
  - Construction and land, $2,204.21.
    - Dining hall additions... $1,914.91
    - Dairy barns... 289.30
    - = 2,204.21
  - Special funds, $28,727.47.
    - Emeritus... $2,400.00
    - Lincoln Hall... 1,535.51
    - Manzanita Hall... 3,867.32
    - Dining hall... 20,924.64
    - = 28,727.47
  - Total operating expenses, $174,157.56.
    - Educational equipment and supplies, $28,277.45.
      - Library books and supplies... $2,930.54
      - College of arts and sciences... 8,301.92
      - College of engineering... 3,219.43
      - College of agriculture... 13,825.56
      - = 28,277.45
    - Instruction, $83,773.97.
      - College of arts and sciences... $63,490.38
      - College of engineering... 13,031.26
      - College of agriculture... 5,349.00
      - Summer school, salaries... 1,903.33
      - = 83,773.97
    - General operating expenses, $62,106.14.

	Salaries.	Labor, equipment, and supplies.
Administration	$15,950.82	
Buildings and grounds	1,800.00	
Greenhouse	900.00	
Hospital	360.00	
Library	3,022.65	
Traveling expense		$1,401.52
Printing and stationery		2,306.98
Telephone, telegraph, and postage		207.04
Commencement		251.25
Advertising		616.64
Janitors and labor		14,604.55
Repairs		4,413.84
Furniture and fixtures		3,459.78
Power, light, and water		3,703.96
Supplies		1,811.17
Fuel		5,164.56
Miscellaneous		2,131.38
	22,033.47	40,072.67

- Extension and industrial service work, $79,749.56.
  - Food and drug control... $6,477.79
  - State analytical laboratory... 2,995.68
  - State hygienic laboratory... 5,685.51
  - Veterinary control... 1,604.11
  - Engineering experimentation... 3,099.77
  - Live stock commission... 12,809.74
  - Tonopah school of mines... 2,542.98
  - Educational survey... 749.45
  - Agricultural experiment station... 31,920.65
  - Agricultural extension... 11,863.88
  - = 79,749.56

(c) *Building costs.*

SPACE USED IN COMMON.

Buildings.	Square feet.	Cost.	Cost per square foot.
Museum (in Mackay school of mines)	2,810	$22,255.00	
Library	4,938	10,000.00	
Ladies' rest room	610	1,017.50	
Men's rest room	152	347.46	
Administration	2,336	5,482.20	
Gymnasium	7,335	2,000.00	
Total	18,181	41,102.16	$2.26

INSTRUCTIONAL SPACE.

Mining (Mackay school)	8,758	$70,474.00	
Electrical engineering	7,158	40,000.00	
Mechanical engineering	8,661	11,498.00	
Physics	6,837	7,000.00	
Chemistry	6,323	12,000.00	
Stewart Hall	10,302	17,482.50	
Morrill Hall	7,405	17,334.59	
Dairy	5,098	4,800.00	
Hatch	605	8,000.00	
Total	56,847	188,589.09	$3.31
Grand total	75,028	229,691.25	3.06

G. PHYSICAL EDUCATION.

The committee has been impressed with the need of additional attention to the whole problem of health and body training. At present the university has a compulsory course in physical training for women and in military training for men. Both of these departments are well conducted, considering the equipment available. The military department will receive an additional Federal officer and much new equipment under the provision of the new national defense laws. Military drill is a valuable form of mental and physical education. When the revised course is organized the department will be even better equipped to offer such training. Even with the best system of military training, however, the committee believes that the men should have further physical training and instruction in hygiene. At present military drill is required four times a week. As soon as it is possible to establish a department of physical education for men the number of drill periods may be reduced to three per week and two hours' additional work may be required in hygiene, corrective gymnastics, and recreational games. Arrangements should be made for conducting adequate physical examinations, and full authority should be granted the examining officers to exclude from the university physically unfit persons, especially those suffering from communicable diseases.

Additional facilities should be provided for recreational sports, such as tennis, handball, swimming, baseball, hockey, etc. Shower baths and sanitary lockers should be installed.

Habits of outdoor exercise and care of the health are among the most valuable lessons which can be learned by college men; too many students fail to obtain these benefits. The increased use of bleachers, and the corresponding decrease in participation in recreational sports among the student body at large, is a matter which has engaged the serious consideration of all university authorities. The conditions at the University of Nevada are not especially bad, but the great need here, as elsewhere, is for more educational supervision. To this end a larger portion of the

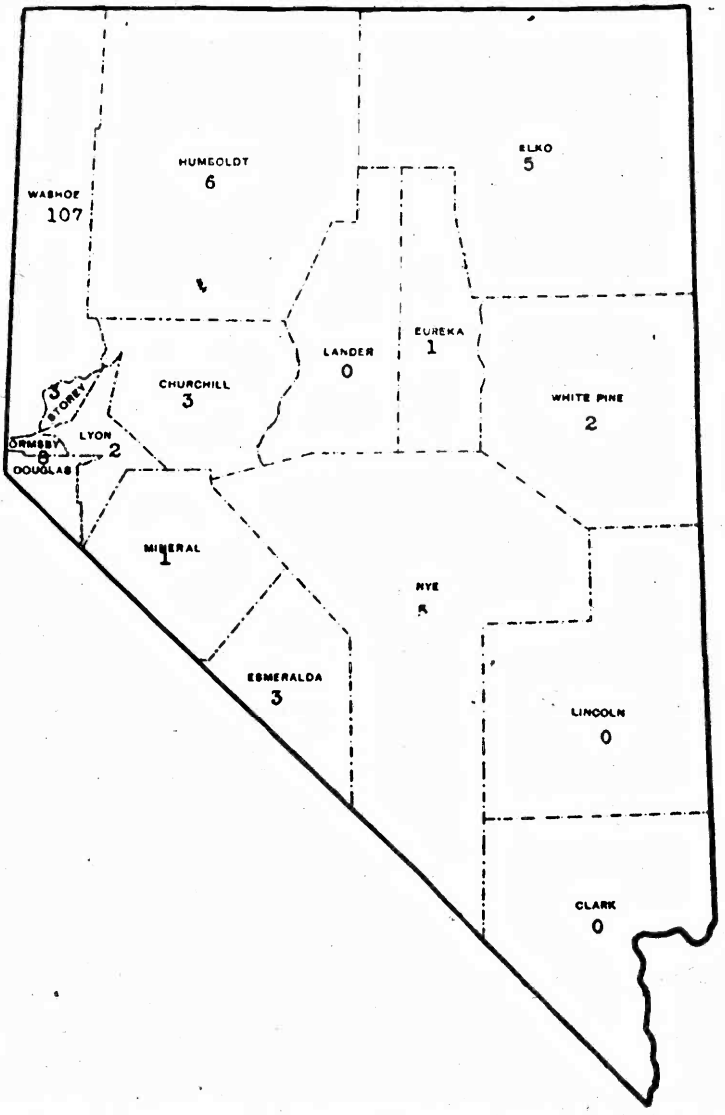
university budget should be devoted to an adequate rational plan of physical training for all students.

The university is fortunate in being able to avail itself of the services of the physician in charge of the State hygienic laboratory to conduct its physical examinations and to give instruction in hygiene. This officer, together with the director of physical education for men, the commandant of cadets, the director of physical training for women, and the dean of women might well be constituted an advisory faculty committee in physical education. Physical education is a phase of university instruction which the committee feels needs the organized attention of a sympathetic faculty group.

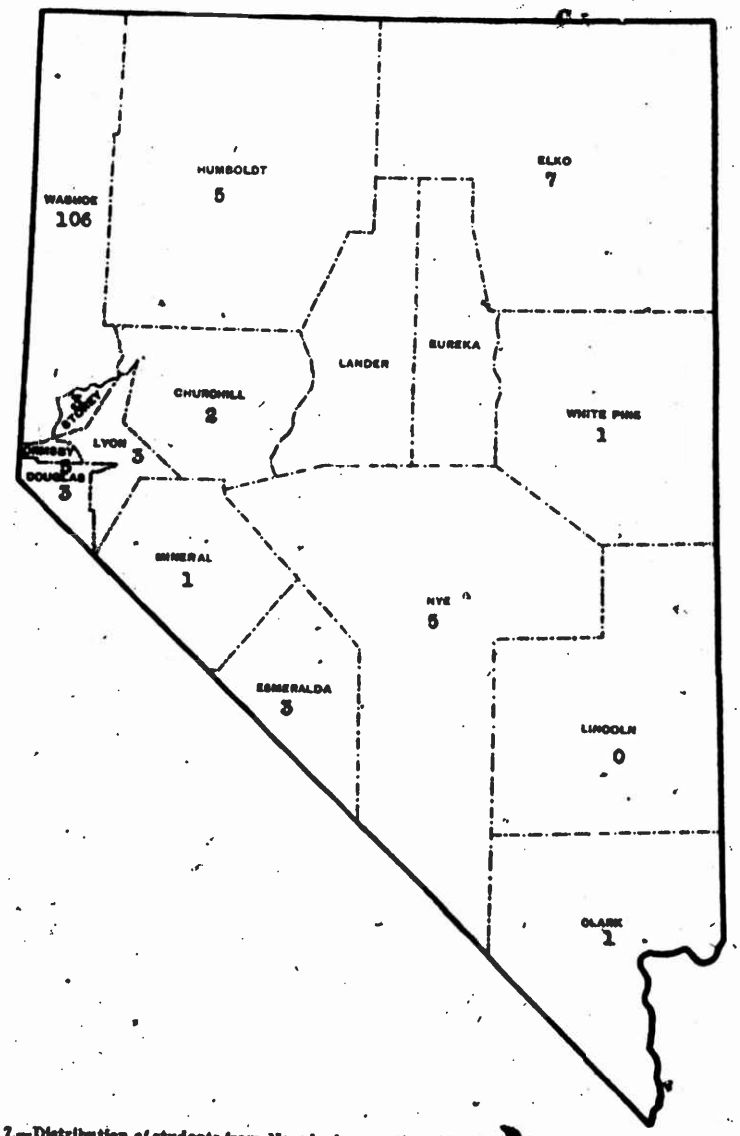
The college hospital suggests what might well be the beginning of a general infirmary system similar to but on a smaller scale than the excellent one which has been established at the University of California. Aside from its direct benefits, such an institution in a university is a helpful object lesson in teaching young people how and when to avail themselves of necessary medical and dental assistance.

H. ADDITIONAL STUDENT DISTRIBUTION, FROM MAP.

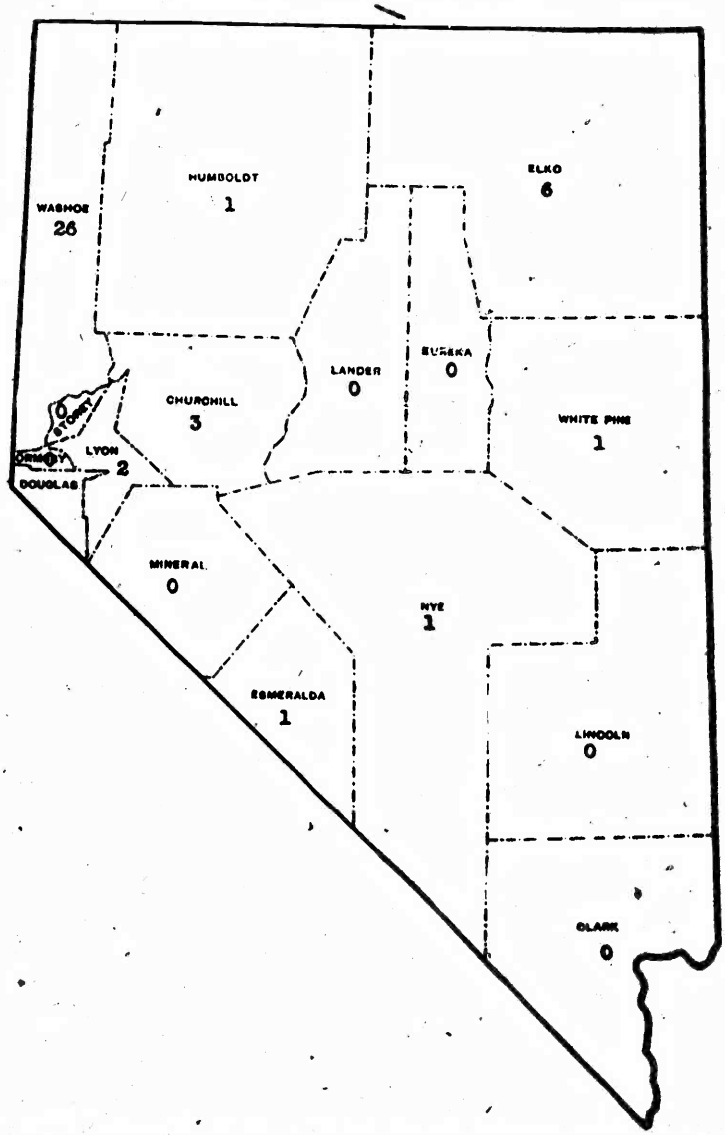
(For Maps 1-5 see text of the report, especially Chapter V.)



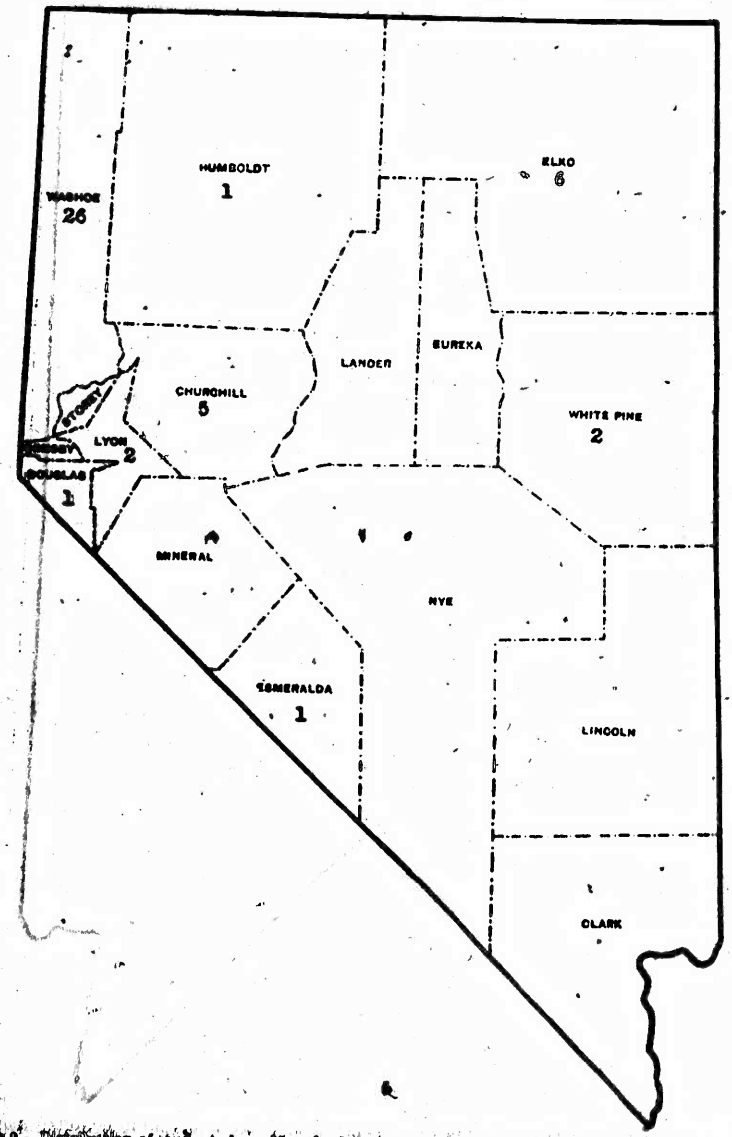
MAP 6.—Distribution of students from Nevada, by counties of residence, enrolled in arts and sciences during first semester, 1915-16.



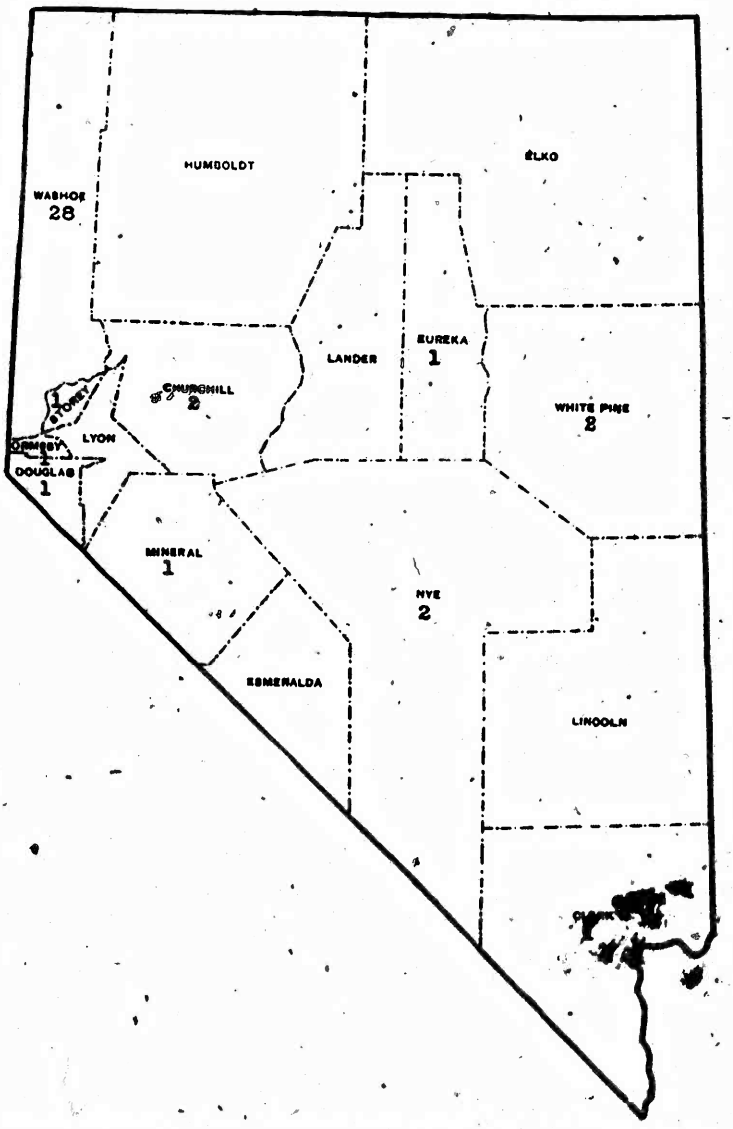
MAP 7.—Distribution of students from Nevada, by counties of residence, enrolled in arts and sciences during second semester, 1915-16.



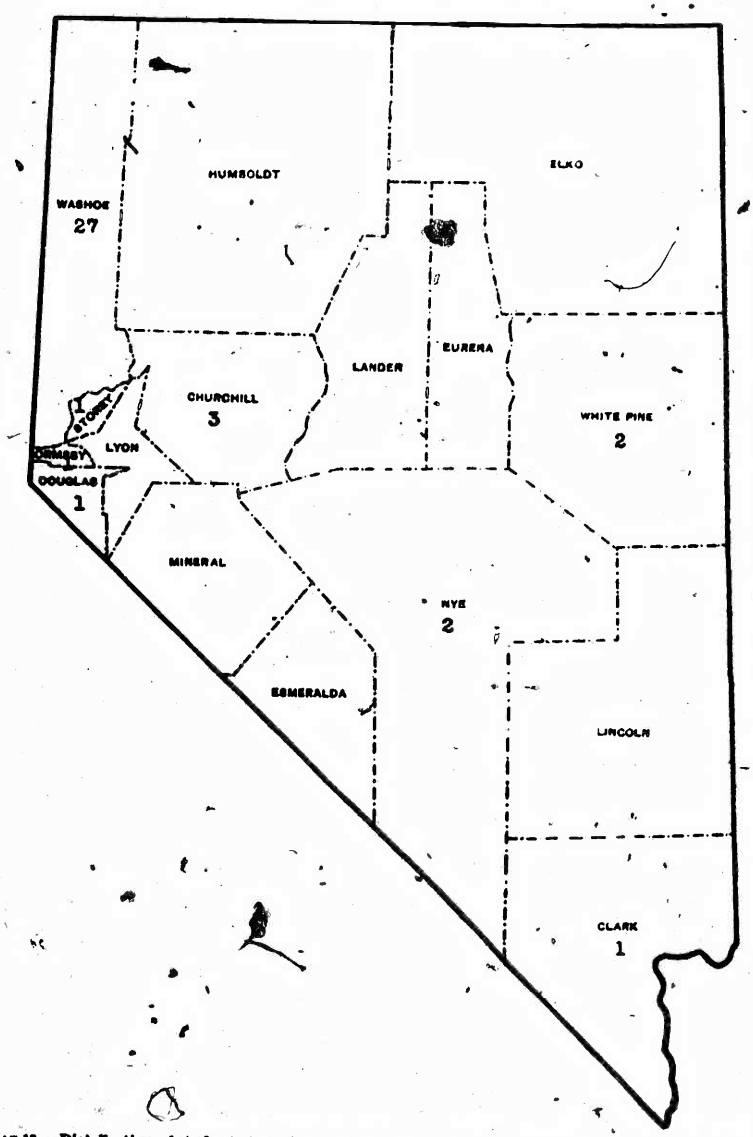
MAP 8.—Distribution of students from Nevada, by counties of residence, enrolled in agriculture during first semester, 1915–16.



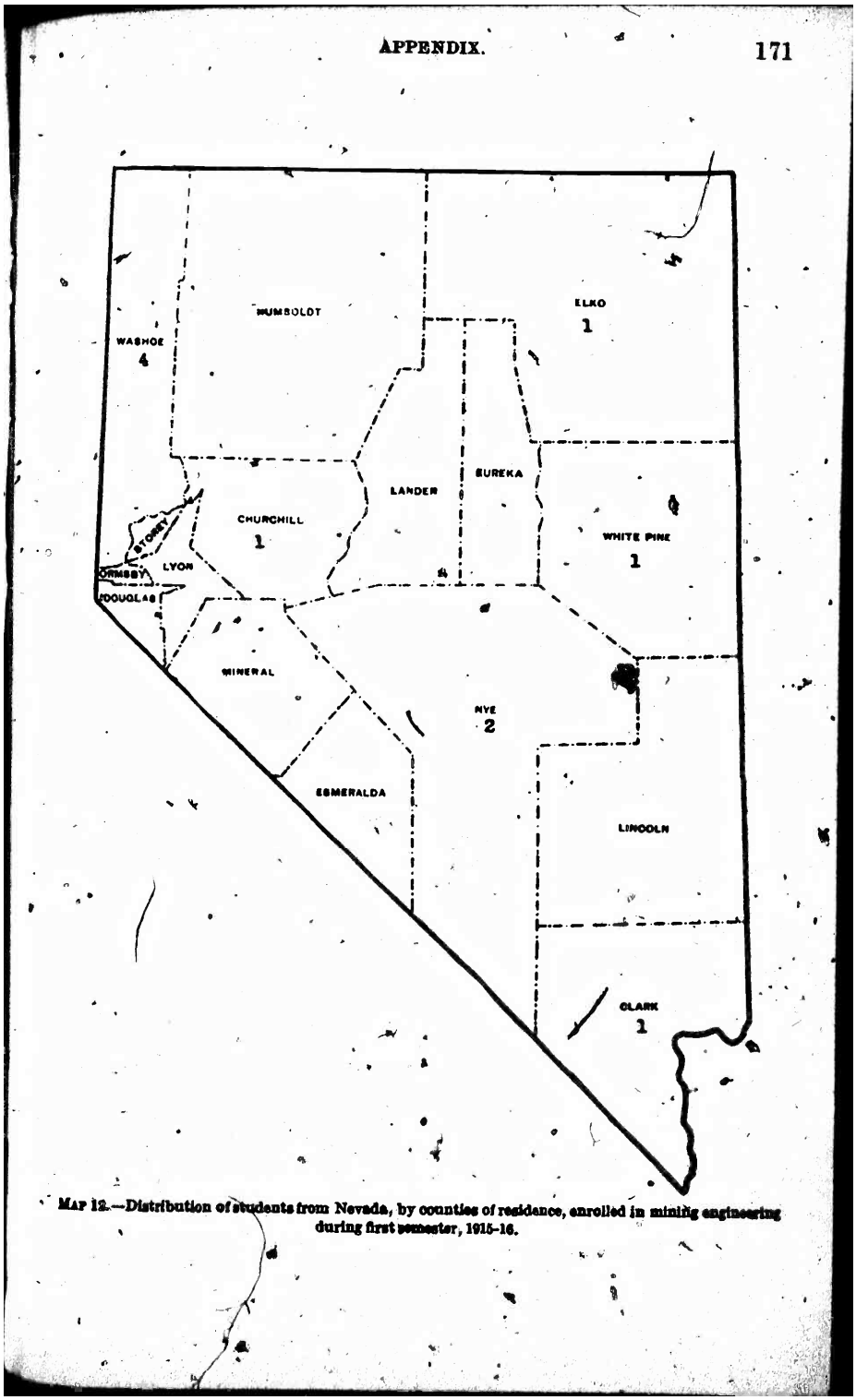
MAP 9.—Distribution of students from Nevada, by counties of residence, enrolled in agriculture during second semester, 1915-16.



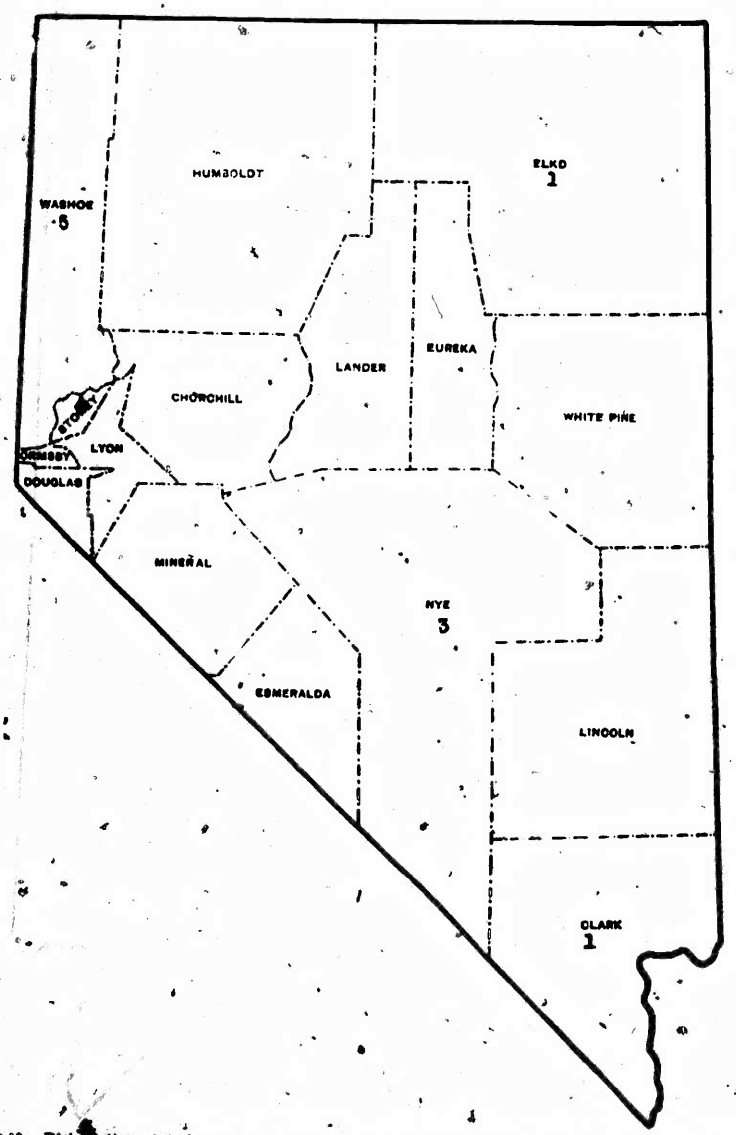
MAP 10.—Distribution of students from Nevada, by counties of residence, enrolled in engineering during first semester, 1915–16.



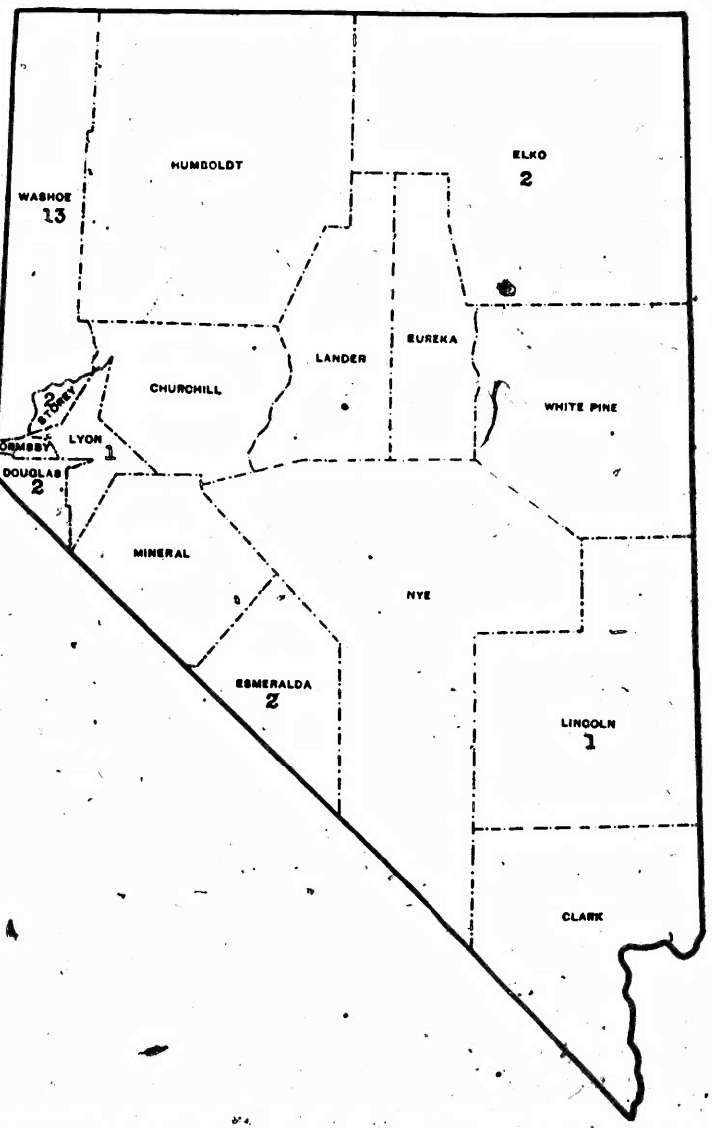
MAP 12.—Distribution of students from Nevada, by counties of residence, enrolled in engineering during second semester, 1915-16.



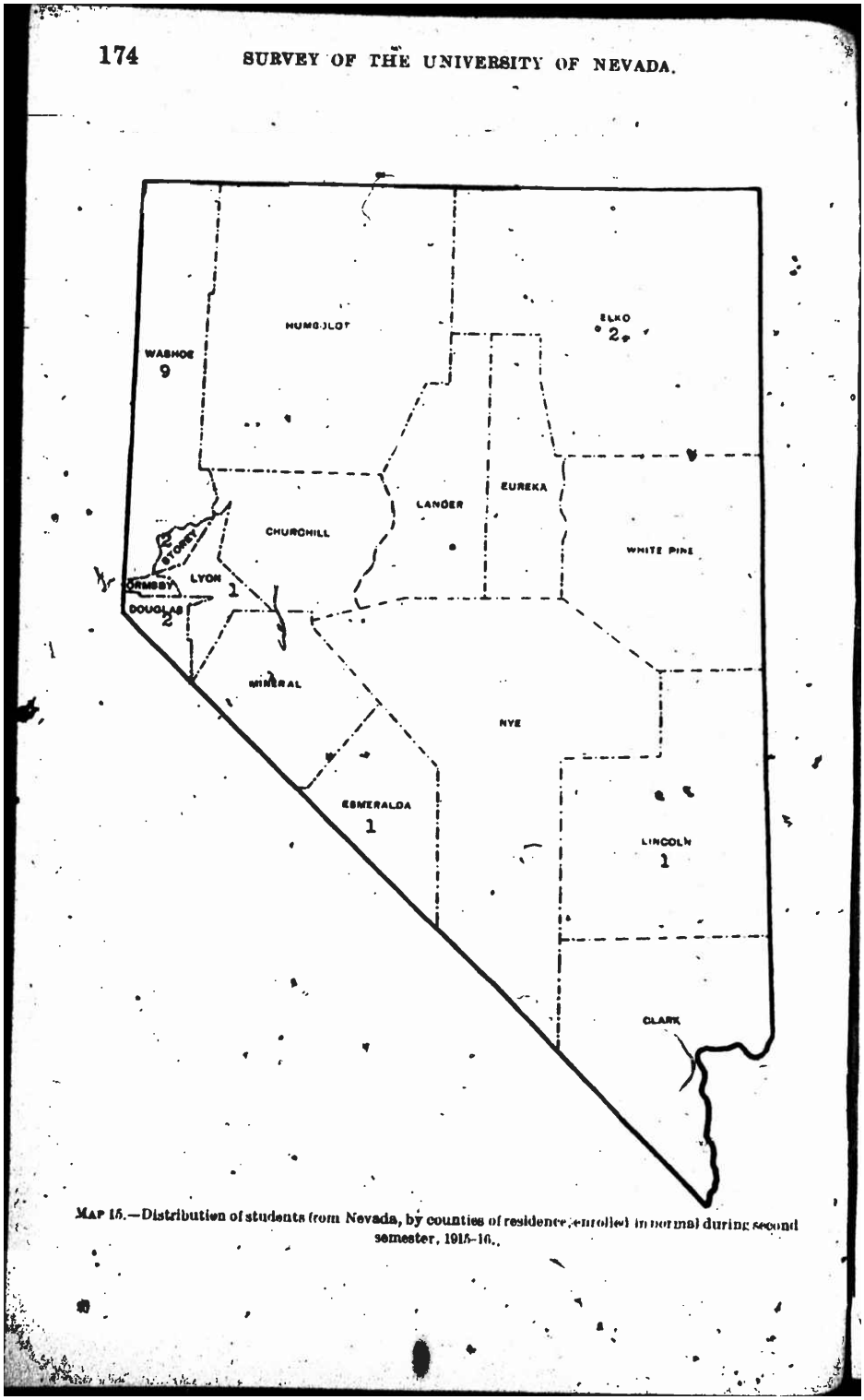
MAP 12.—Distribution of students from Nevada, by counties of residence, enrolled in mining engineering during first semester, 1915–16.



MAP 13.—Distribution of students from Nevada, by counties of residence, enrolled in mining engineering during second semester, 1915–16.



MAP 14.—Distribution of students from Nevada, by counties of residence, enrolled in normal during first semester, 1915-16.

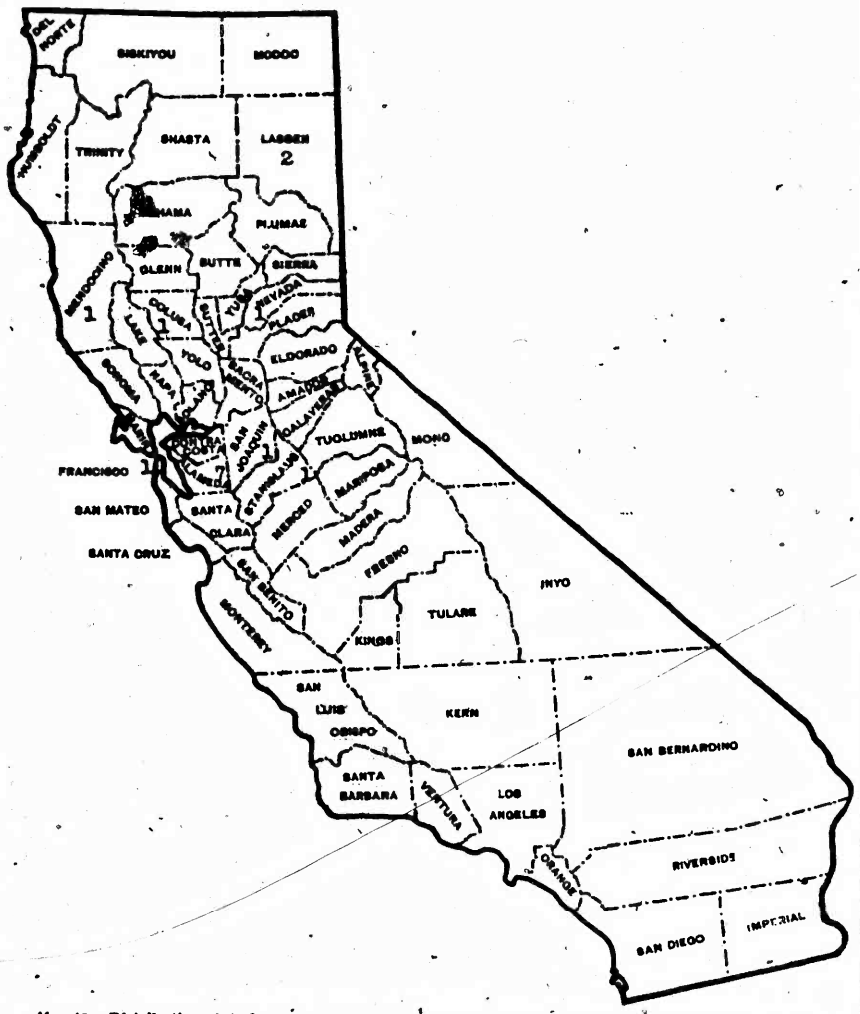


MAP 15.—Distribution of students from Nevada, by counties of residence, enrolled in normal during second semester, 1915–16.

MAP 16.—Distribution of students from California, by counties of residence, enrolled in arts and sciences during first semester, 1915-16.

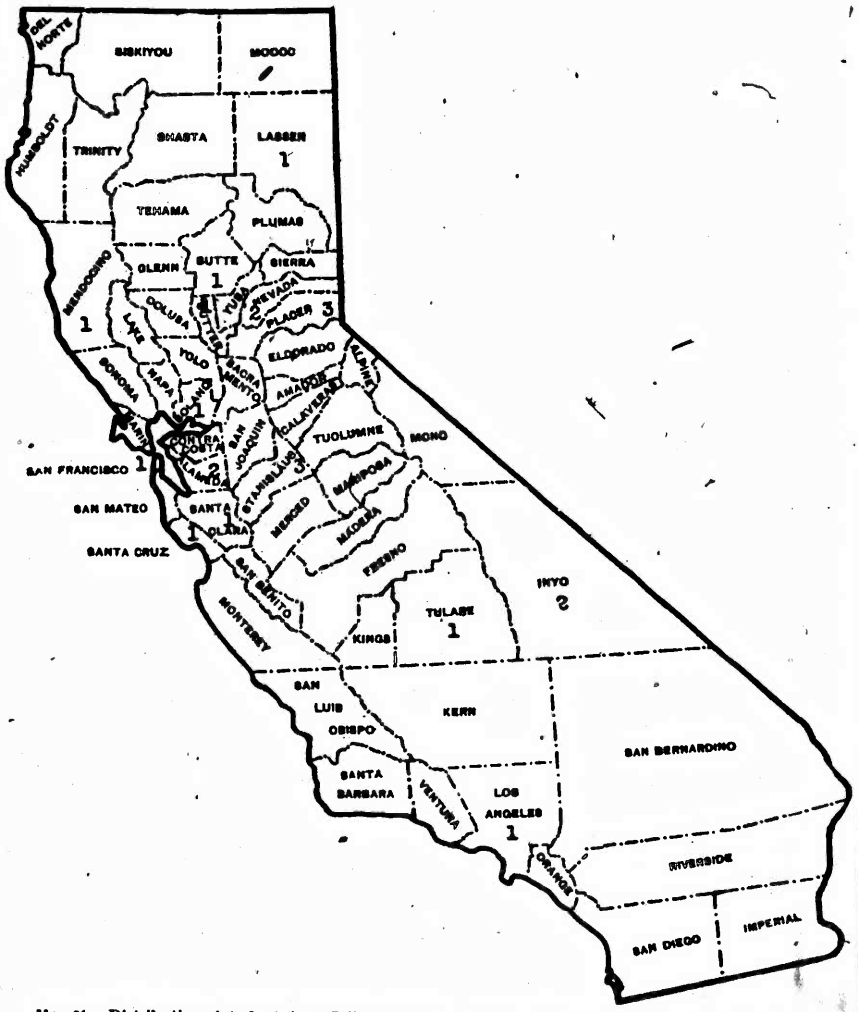
MAY 17.—Distribution of students from California, by counties of residence, enrolled in arts and sciences during second semester, 1915–16.

MAP 18.—Distribution of students from California, by counties of residence, enrolled in agriculture during first semester, 1915-16.



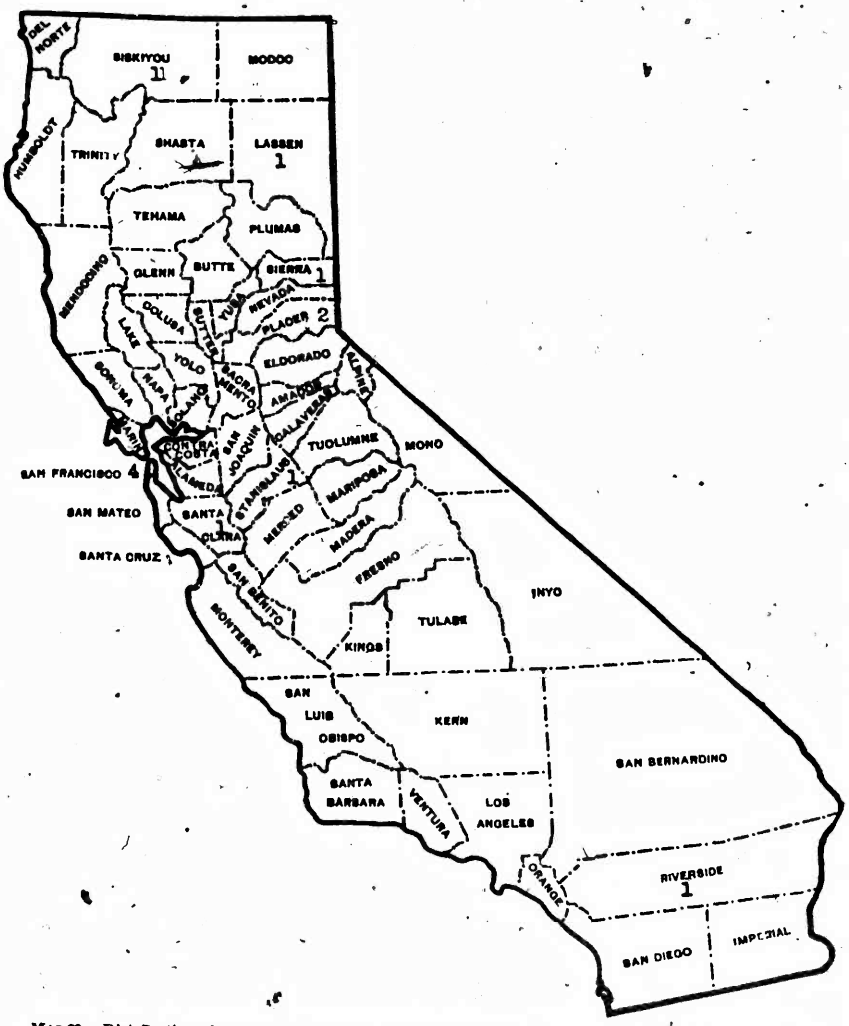
MAP 19.—Distribution of students from California, by counties of residence, enrolled in agriculture during second semester, 1915–16.

MAP 20.—Distribution of students from California, by counties of residence, enrolled in engineering during first semester, 1915–16.



MAP 21.—Distribution of students from California, by counties of residence, enrolled in engineering during second semester, 1915-16.

MAP 22.—Distribution of students from California, by counties of residence, enrolled in mining engineering during first semester, 1915–16.



MAP 23.—Distribution of students from California, by counties of residence, enrolled in mining engineering during second semester, 1915–16.

MAP 24.—Distribution of students from California, by counties of residence, enrolled in normal during first semester, 1915–16.

MAP 25.—Distribution of students from California, by counties of residence, enrolled in normal during second semester, 1915–16.