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ANNUAL REPORT

OF THE

PRESIDENT OF THE UNIVERSITY

1916-1917

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San Francisco, lectures have been given on dentistry as a vocation.

Beginning with the next regular session the four-year course of study will be inaugurated. This permits of the addition of fundamental studies in medical and dental science and gives more time for the elaboration of the advanced courses. While a decrease in enrollment is expected, present indications are that it will not be materially lessened on account of the great public demand for good dental service.

The school has offered its building and equipment, together with the services of its faculty and student body, to the Federal Government for the purpose of putting the mouths of soldiers and recruits, who might be rejected because of oral conditions, in good condition, provided the cost of materials and maintenance would be met by the Government or the Red Cross. An advice from Colonel J. C. Kean, Director General of the Red Cross, states that he has recommended the acceptance of the offer to the Adjutant General and that the San Francisco Chapter furnish the funds. The matter is now pending, but if accepted it will enable this department to render a very efficient service to the Government during this crisis, and at the same time maintain a reserve of trained dentists to meet the demands of the Government and the civilian population in the future.

Respectfully submitted,

GUY S. MILLBERRY,  
Dean.

## EXAMINER OF SCHOOLS

BERKELEY, July 1, 1917.

*To the President of the University,*

SIR: As Examiner of Schools, I have the honor to submit herewith my report for the year 1916-17.

The work of the Examiner of Schools for the year has fallen within the lines of the previous year, and may still be summed up, in the main, under the headings formerly given: (a) personal work in the field, as examiner and visitor of schools; (b) as chairman of the Committee on Schools, a general responsibility for the direction of the committee's activities, and, with the Committee, general charge of the visiting of schools by members of the Committee and the annually appointed assistants in this work; (c) statistical study of the scholarship records of the freshman class; (d) official correspondence. A brief account of the work under these headings follows.

(a) The Examiner spent in person the usual time—January to June—in the field, inspecting schools and conferring with school boards. In this connection a considerable number of public addresses were delivered in the interests of various phases of secondary education. The calls for this work grow more numerous yearly. In addition, several commencement addresses were delivered, and at least six similar calls had to be declined because of conflict with other duties.

Each year the Examiner is more and more forcibly impressed with the impossibility of covering the field of general school inspection by one officer. Please see report of last year for data on the growth and expansion of the secondary schools of the State. With this situation in view, the Examiner begs to call

attention again to the recommendation of last year, heartily seconded by the Committee on Schools, that measures be taken immediately for the appointment of an Assistant Examiner of Schools. The situation seems to warrant and excuse further insistence now on this need.

In the institution of accrediting, the University has a unique opportunity to extend its influence for better standards of work, higher ideals of secondary education, and closer mutual understanding between the two great branches of the State's educational system. The Committee on Schools feels keenly that the University is not measuring up to the opportunities in this field; that it is in real danger of losing the leadership which it should in some measure assume in all educational movements; that the provision now made for keeping up an intelligent and sympathetic contact between the schools and the University is, particularly in view of the great growth of secondary education in the past dozen years, utterly inadequate. Some details of this growth are set forth in the report of last year. Moreover, to make our task more difficult and render our present provision relatively still less adequate, a new type of secondary schools has recently come to the fore in large numbers and is asking for University inspection and recognition. The reference is to the evening high schools, which the state law has recently recognized as regular high schools. The enrollment of pupils in these schools is already over 20,000 and is rapidly growing. Schools of this type present peculiar difficulties from the point of view of accrediting. The University is, however, in its published statement, committed to the task of visiting and reporting upon these schools also, now that they are a regular branch of the State system. In view of the above, it is earnestly hoped that provision for doing more adequately the work we have in hand may be made before another year.

In another respect the Examiner and the Committee on Schools believe that this feature of the University's work with schools can be made far more valuable than it now is, to the schools and the University as well.

Thus, we feel that the members of the committee and the

various special assistants sent out annually should each be definitely commissioned to visit especially the work of the school which is most closely allied to his own University work. Since we now no longer accredit by subjects, there is no longer any reason why this may not be done. In such case the visitor should be instructed to go out with the purpose of getting acquainted with conditions as they are, with a purpose of promoting mutual understanding and an atmosphere of sympathetic co-operation. It goes without saying that it is not possible for a man to do this in a field or department in which he has but a fleeting and superficial interest. Moreover, a man whose attention in the University is centered mainly in one *Fach* cannot be expected to be necessarily a good judge and a constructive critic of the whole school. Again, with the general and widespread inrush of new subjects into the secondary schools, in response to social unrest and dissatisfaction with the traditional subjects and methods, there is imminent danger that the older and by many still valued subjects, with their fairly definite aims and methods, may be either quite abandoned or at least greatly neglected in the universal clamor for immediately practical subjects. Many of these latter subjects are as school material only in the making; in them there is neither recognized subject matter nor any agreement as to aims or methods. But such subjects are with us in ever-increasing numbers and with steadily-growing popularity. How to preserve and improve the good which we believe the old contain, and at the same time meet intelligibly and educationally the call for the new, are tasks which will within the next decade tax all the educational resources of the State. It is neither right nor expedient that the University should stand aside chiefly as a spectator in this greatest of movements for the adjustment of educational practices to social ideals; far rather should the University in this field, too, assume the attitude of willing and intelligent service.

(b) This year the visiting of the junior colleges was continued under direction of the Committee on Schools. The committee is of the opinion, in which the University Examiner, Dr. Woods, concurs, that with our visiting of the past two years we

have now a very fair idea of the present condition, performance, and immediate purposes of these new institutions, and that the visiting of them in the coming year need not be so comprehensive as it has been in the two past years.

It was unfortunate that the appropriation for the visiting of schools and junior colleges was inadequate this year, and nearly forty secondary schools had to be omitted, for lack of funds. This caused a good deal of dissatisfaction and complaint, and in some cases evident hardship.

(c) Owing to the greatly increased cost of publication, it has been thought best not to issue the statistical report of the Examiner this year. The data, however, in so far as they are available, are in hand and are being worked over. The present plan is to get the report ready and print it next year with the report for that year. There is a great and widespread interest in this feature of the Examiner's report, and it is hoped that it can be issued in detail at least every two years.

(d) In view of the extensive and increasing correspondence connected with the work of the Examiner and the many records to be cared for, including those of the Committee on Schools, the Examiner begs to call attention again to the urgent need of a special office for the Examiner of Schools.

In February the Examiner attended, as the representative of the University, the annual meeting of the National Association of High School Inspectors, which was held in Kansas City, Missouri. He delivered an address on "Methods of Testing High Schools." The meeting was a very valuable one, and it is to be hoped that the Examiner may be enabled to attend each future annual meeting.

Respectfully submitted,

W. SCOTT THOMAS,  
Examiner of Schools.

## UNIVERSITY EXAMINER

July 1, 1917.

*To the President of the University,*

SIR: The work of the University Examiner has been chiefly along two lines: (1) the supervision of the rating in the Recorder's office of credentials of all students who apply for admission to the University from other than accredited California high schools; (2) the development of a basis of rating with other institutions of collegiate grade, particularly with the normal schools and with the junior colleges. With reference to the first division, it may be interesting to note that during the year ending October 1, 1917, approximately fifteen hundred applications for admission were received from persons other than graduates of accredited California high schools. Of these about eight hundred eventually registered as students. A proper determination of their status involves the study of credentials from institutions of varied types. An estimate of the value toward the Bachelor's degree of work done in normal schools, library training schools, colleges of osteopathy, training schools for nurses, art institutes, etc., requires accurate sources of information and careful attention to detail. The results obtained frequently merely approximate the truth. Duties in connection with the admission of such students touch the functions of a number of committees, including the Committee on Credentials, the Committee on Schools, the Committee on Admissions, the Committee on Entrance Examinations. The University Examiner is *ex-officio* a member of each of these committees.

Two of the most interesting tasks of the past year have been: (1) a visit by the Examiner to all the normal schools in the State giving the regular course for grammar school teachers, and (2)

the visiting of the junior colleges and a study of their problems. The first has resulted in an affirmation of the University's policy of allowing from 32 to 48 units advanced standing toward the Bachelor's degree for graduation from a State normal school in addition to the allowance made toward the high school teacher's certificate of one-half year of graduate work. The second has revealed three important problems that appear to be common to most junior colleges: (1) the junior college teacher is usually somewhat overworked; instead of having the number of hours of instruction reduced when he undertakes collegiate courses he frequently has the number increased, and in view of the character of the work this is most unfortunate; (2) there is difficulty in obtaining for the junior colleges teachers who are specialists in their subjects and who are vitally interested in them; (3) there is a problem of meeting local needs by courses especially designed to that end.

One of the tasks contemplated for the coming year is the establishment of a set of minimum requirements for the approval of any junior college. In view of the large number of requests for guidance made of the University this procedure seems to be highly desirable.

Respectfully submitted,

B. M. WOODS,  
University Examiner.



## UNIVERSITY EXTENSION DIVISION

BERKELEY, July 1, 1917.

*To the President of the University,*

SIR: I have the honor of presenting herewith the fourth annual report of the University Extension Division.

Within the past year, through this Division, 8074 persons received systematic instruction in academic courses. Three thousand three hundred and twenty-nine of these were enrolled in University Extension classes. Five thousand seven hundred and forty-five, 2581 of whom enrolled within the year, received instruction through correspondence courses. In addition to the number thus receiving instruction in the more systematic manner, 79,760 attended lectures given by this Division. About 30,000 persons were present at the debating contests conducted by the Bureau of Public Discussion through the Interscholastic Public Speaking League. Six hundred and fifteen thousand one hundred and fifty is the estimated aggregate of those who profited by the material made available to the schools and the general public of the State through the Bureau of Visual Instruction. Aggregate numbers of courses involve duplication, but, when due allowance for such duplication is made, it will be seen that the total number of persons served by this Division within the past year runs up into many thousands.

Following the plan heretofore adopted in reporting the work of this Division, I present separate statements covering the activities of each bureau.

## BUREAU OF CLASS INSTRUCTION

*Classes and Enrollments.*—Within the year this bureau conducted 311 classes with a total enrollment of 5014. Two hun-

dred and sixteen of these classes met in San Francisco, 76 in Oakland, 10 in San Jose, and 9 in other cities of the State. Sixty-eight courses were given and 57 instructors employed. Of the 3329 persons enrolled, 2171 were men and 1158 were women. Only 380 failed to complete the work for which they enrolled. The percentage of attendance was approximately 83.

Following is the enrollment by general subjects:

Business .....	1,956
English .....	591
Modern Languages .....	600
Mathematics .....	163
Technical .....	1,198
Miscellaneous .....	596
	<hr/>
	5,104

Ninety enrollments are duplicated in shorthand and type-writing, thus making the total enrollment for the year, as previously stated, namely, 5014. Two thousand six hundred and seventy persons who did not enroll made inquiry concerning instruction.

*Special Courses.*—Several special courses were offered within the year. The course in Interior Decoration by Mr. Sumner Robinson of New York, for the furniture dealers and drapers of San Francisco and Los Angeles; a class in Salesmanship for business men and women of San Jose, conducted by Mr. James Lynch, Pacific Coast Manager of the Herring-Hall-Marvin Safe Company of San Francisco; and the course in Speech Correction given by Mrs. Mabel Farrington Gifford, Director of Speech Correction in the public schools of San Francisco, deserve special mention. The policy of appointing special instructors for special classes, as, for instance, business men for business courses, has proved successful. We are thus able to utilize the practical experience of men of affairs who at the same time are academically qualified to give instruction.

*Accommodations for Classes.*—Forty-one rooms were used for extension classes, twenty-three in San Francisco. Through the

generosity of Mr. Rudolph Spreckels we had the use, for a small rental, of an office room and three class rooms in the Lick Building, a building well located for our purposes, but ill adapted to class-room instruction. Three rooms of the Hastings College of the Law, the City Hall, San Francisco, the auditorium of the Phelan Building, room 19 of the Ferry Building, a class room in the Affiliated Colleges, seven rooms in the Polytechnic High School, four rooms in the High School of Commerce, one in the Girls' High School, and one in the Cogswell Polytechnic College, were also used for classes. The courses taken by the American Institute of Banking were given in their own rooms, 126 Post Street. Classes in Business English for men and women employed in the General Electric Company met in the offices of the company; the class in Commercial Law, for the members of the Chamber of Commerce, in the Chamber of Commerce Building. In Oakland classes met in the Technical High School, the Vocational High School, the Museum, and the Clearing House.

This bureau needs large accommodations in the central part of San Francisco and in the central part of Oakland. Widely scattered classes increase, of course, the difficulties of administration. It will never be possible or desirable, however, to centralize all the work of the bureau. Still, the general administrative work in San Francisco may and should be centralized in offices equipped and furnished in a manner befitting the character of the work. Adjoining these offices there should be at least a dozen well-equipped class rooms for such classes as cannot be advantageously conducted elsewhere. There should also be a large lecture hall. It would be possible with such a hall to provide lectures throughout the year. Without suitable accommodations it will always be impossible to conduct the work of this bureau in the most satisfactory manner.

*Classes in Technical Subjects.*—The total number of enrollments in technical classes in the past year was 1162, approximately twice that of the previous year. Eighty classes in twelve subjects were conducted. These classes met in San Francisco, Oakland, San Jose, Stockton, and Sacramento. The subjects taught were Art Metal Work, Automobile Technology, Chemistry,

Electricity, Machine Shop Practice, Mechanics, and Reinforced Concrete Construction.

In conducting classes in technical subjects we have had the co-operation of the Boards of Education in several cities, Cogswell College in San Francisco, the Pacific Gas and Electric Company in Sacramento, the Chevrolet Motor Car Company in Oakland, and a number of automobile firms in San Jose. In the last named city the school authorities purchased a considerable amount of technical apparatus to facilitate the University Extension instruction.

In San Jose and Sacramento the method of combining class instruction with correspondence instruction was employed. Classes met once in two weeks. This method promises to be effective in providing instruction for groups in the more distant parts of the State.

The number of instructors in technical subjects was twenty-three, of whom three were University instructors, ten engineers (electrical, mechanical, or chemical) engaged in commercial practice, and the remainder high school instructors, five being heads of departments.

The chief difficulties in conducting these classes are lack of equipment and of suitable rooms for classes, particularly in the downtown district of San Francisco. Notwithstanding the difficulties, this phase of the work, under the supervision of Assistant Professor Howard H. Bliss, has developed rapidly.

#### BUREAU OF CORRESPONDENCE INSTRUCTION

*General Statistics.*—During the year this bureau received 2000 paid enrollments, 442 enrollments of prisoners in the State penitentiaries, and 139 enrollments from inmates of the United States Disciplinary Barracks on Alcatraz Island, making a total of 2581 enrollments. These were made by 2397 persons. The total number of enrollments received since the organization of the bureau is 8175. During the year instruction was given by correspondence to 5745 persons.

One thousand six hundred and four enrollments were by persons in California. All the counties of California save Alpine

## SUMMARY OF MEDICAL SCHOOL REPORTS

SUBMITTED TO THE DEAN BY DEPARTMENTS

**Anatomy.**—Enlarged quarters have increased the department's experimental facilities. The instruction by the department continues as in 1916-17 with the exception of the offer of several new elective courses. Professor Moody has taken over the supervision of anatomical instruction for general University students majoring in Physical Education and Public Health.

The research activities consist in experimental analyses of the behavior of the tissues and organs of the embryo and of the adult. Professor Evans has continued his studies on the action of vital stains. Investigations on the pathological histology of experimental infections produced by Bang's bacillus of contagious abortion were continued in conjunction with Professor Karl F. Meyer of the Hooper Foundation. Professor R. O. Moody has prosecuted investigations on the behavior of the living placenta to dyestuffs. Dr. J. A. Long, of the Department of Zoology, has undertaken an extensive study of the physiological anatomy of the mammalian ovary. Assistant Professor G. W. Corner has reinvestigated the origin of the corpus luteum of the pig. Dr. P. E. Smith has taken full advantage of our improvements in equipment for experimental amphibian work which was reported as begun last Spring. Dr. Katherine J. Scott has brought to completion our study of the cytology of connective tissue cells stained vitally with acid azo dyes. Dr. John S. Marshall has been concerned with studies on the peridental membrane and periosteum and in addition has attacked the whole question of the physiological anatomy of tooth growth and nutrition by means of diffusion and precipitation reactions with vital stains.

Dr. Ralph W. Sweet, formerly in charge of illustration at the Mayo Clinic, Rochester, Minnesota, has taken charge of our scientific illustrating and in order to extend these advantages generally to the Medical School will be concerned in the illustration of articles intended for publication by other departments, though on appointment with us.

Three papers and demonstrations were presented at the December meeting of the American Association of Anatomists held in New York. On January 12, Professor Evans gave an address before the Biological Association of the University of Missouri, "On the Present Status of Some Problems of Cell Specificity."

**Biochemistry and Pharmacology.**—Alterations to the Physiology Building have materially alleviated the serious condition of congestion which existed last year. Great difficulty has been experienced by Pro-

fessor Wasteneys, however, in organizing the laboratory course in Pharmacology, owing to lack of necessary equipment. The addition of another instructor to the Biochemistry staff has rendered the teaching of this subject much more efficient.

Professor Robertson has continued his researches upon the physiology and biochemistry of growth. The growth-controlling substance, tethelin, which he succeeded two years ago in isolating from the anterior lobe of the pituitary gland has turned out to be of considerable value for accelerating the repair of slowly-healing wounds. Arrangements have been concluded whereby the ownership of Professor Robertson's patents covering the manufacture of tethelin has been transferred to the Regents of the University, in order that any proceeds which may ultimately accrue from its manufacture and employment in therapeutics may be utilized to form the nucleus of a "University of California Foundation for International Medical Research."

Professor Wasteneys has initiated investigations on the phenomenon of tolerance. Dr. Sundstroem has been continuing his investigations upon acclimatization. Dr. Marshall has continued his investigations on the relation of the composition of saliva to the incidence of dental caries. Dr. Delprat has carried out very extensive measurements of the effect of tethelin upon the growth of suckling mice. Dr. C. L. A. Schmidt, in collaboration in part with Dr. E. S. May, has carried out a series of important investigations upon the pharmacological actions of tethelin and of its split-products.

Dr. A. H. Rowe has been investigating the effects of tethelin and of extracts of the posterior lobe of the pituitary body upon the concentration of glucose in the blood. Mr. S. A. Waksman has been investigating the metabolism of fungi found in soils. Messrs. H. S. Hoyt and I. F. Harris have added an important contribution to our knowledge of the origin of the toxicity of ultra-violet light for lower organisms. Messrs. J. McQuarrie and S. Hansen have improved our present methods of determining the indican in urine. Messrs. J. McQuarrie and S. Hansen, Z. B. Coblentz, G. W. Clark and Miss V. M. Bathgate have investigated the influence of a variety of conditions and substances upon the relative proportions of the various proteins in blood. Mr. D. D. Waynick has investigated certain chemical aspects of the actions of the ammonia-forming organisms in soils.

**Medicine.**—Several projected developments in the department have been postponed on account of the demands made by the war upon the faculty. Fortunately it has been possible to organize the important division of clinical pathology with Dr. S. H. Hurwitz at its head. A new group of student laboratories has been equipped in the old hospital building and, with proper technical assistance, Dr. Hurwitz will be able to place the teaching of clinical pathology on the proper basis.

Growth of the Out-Patient Department has required certain changes in the former hospital building in order to provide additional space for special clinics. It has proved advantageous to divide the general medical clinic into several divisions dealing with specialties such as gastrointestinal diseases, diseases of the heart, syphilis, etc. It has become necessary for the proper teaching of the important subject of physical diagnosis to provide several small teaching rooms and to place instruction in the hands of a special staff.

In April the department suffered an irreparable loss in the death of Dr. William Watt Kerr, for twenty-five years Professor of Clinical Medicine in the Medical School. His important department in the San Francisco Hospital will be in charge of Dr. Ebright.

A number of articles have been published during the past year by members of the staff:

Dr. Moffitt: Tumors of the Kidney, *Cal. State Journal*, July, 1917.

Dr. Ebright: Infectious Endocarditis, *Journal A. M. A.*, Dec. 23, 1917. Vol. LXVII, pages 1927-8.

Dr. Kilgore: Typhoid Quotients, an Analysis of the Factors of Uncertainty in the Cutaneous Typhoidin Test. *Arch. Int. Med.*, Feb., 1917. Vol. XIX. A Comparison of Two Methods of Vaccinating against Typhoid Fever. *Ibid.* The Agglutinins and Complement-Fixing Antibodies in the Serum of Persons Vaccinated against Typhoid Fever [with Dr. K. F. Meyer]. *Ibid.*

Dr. Whitney: Co-operative Medicine: Relation to Social Insurance. *Cal. State Jour.* Nov., 1916. Acidosis: A Summary of Recent Knowledge. *Boston Med. & Surg. Journal*, Feb. 15, 1917. Vol. CLXXVI, No. 7, pp. 225-31.

Dr. Best: Refractive Examination of the Stomach Content. *Journal A. M. A.*, Oct. 7, 1916. Vol. LXVII, pp. 1085-6.

Dr. Lisser: The Eye, Ear, Nose, and Throat in Diseases of the Thyroid and Thymus. *Ophthalmic Record*, Sept., 1916. Vol. 25, p. 433.

**Obstetrics and Gynecology.**—Our chief interest during the year has been the development of plans for fully utilizing the increased clinical opportunities afforded by the new hospital. To this end much attention has been paid to the development of the ambulatory clinic. This has increased in a satisfactory manner, the attendance being fifteen per cent more than that of the previous year. The Departmental Secretary was utilized chiefly for the development of the "follow-up" system. Under her direction ninety per cent of all hospital patients have been kept under observation until finally discharged by the department, giving us material for study which has been observed more closely than that of nearly any similar department in an American institution. Accurate data has been obtained by this means which has not yet been reported in medical literature.

The resident hospital staff has been increased to four by the appointment last July of an Assistant Resident. This has somewhat relieved the burden of the clinical routine, but has not helped the difficulties attending the proper preparation of pathologic material for study. The department has not yet been able to include the service of a laboratory technician.

The teaching problem has proven much of a burden during the last year. The clinic has made constantly growing demands on the time of a small staff, composed chiefly of men who are offering a limited number of hours to the University without financial reward, and partially of younger assistants who are not yet developed so that they are valuable as teachers. Two of the staff have been assigned to the San Francisco Hospital to develop our service and do the teaching there.

No investigated work has been undertaken by the department, save one relating to the blood carbonates in the toxæmias of pregnancy, by the Resident, L. A. Emge. Several of the staff have addressed medical meetings in various parts of the State.

**Pathology and Bacteriology.**—The undergraduate course in Bacteriology was taken by 166 students. Nineteen graduate students have been enrolled in research courses, and other advanced students, some of them graduates in medicine, have availed themselves of the opportunities of the department and have contributed in large degree to its productive output. Medical instruction has proceeded in the usual manner. During the absence of Professor Gay in the East on Sabbatical leave the instruction in Immunity was given by Professor Hall and Miss Griffiths. A new course of seminar of interest both to medical and non-medical students, on Immuno-Chemistry, will be offered by Dr. Schmidt, a research worker in this department, who is one of the few investigators in the world fitted to present the problems of this important subject.

The investigations in typhoid with which several members of the department have been concerned in the past three or four years have been further continued, and certain aspects of them may be regarded as having been carried as far as possible with the opportunities and qualifications of this department. Dr. Gay and his collaborators have treated ninety-eight cases of typhoid fever with extremely good results as regards diminution of mortality and abbreviation of the course of the disease. The department is still interested in continuing its studies in relation to the typhoid carrier condition, which represents the outstanding problem that has been least successfully attacked in this disease. An extended monograph treatise on typhoid fever considered in relation to its epidemiology, pathogenesis, diagnosis, prevention, and treatment by Dr. Gay is nearly finished, and will be published through the book trade, but issued under the auspices of the Semicentennial Series of University Publications.



During the last six months the major research activities have been shifted to the perennial problem of tuberculosis through our great interest in the work of a Japanese graduate student who has been working as a volunteer in this department for nearly three years. Dr. Takeoka, after years of investigation here and elsewhere, has obtained what must be regarded as a most striking therapeutic result in experimental tuberculosis by means of a normal constituent of the mammalian body, taurine. In collaboration with the Department of Biochemistry he has been able to obtain this substance in considerable amounts from the abalone. This work has recently been presented in the form of a preliminary communication. An extensive investigation of the important possibilities which this work suggests has been begun by a number of the members of the department. Dr. Gay and Miss Stone are undertaking further investigations of the experimental aspects of the problem, and Dr. Gay, in conjunction with Dr. von Adelung of Oakland, is beginning a cautious adaptation of the suggested treatment in human beings. Mr. Schmidt, research chemist in the department, has given part of his time to the direction of the chemical studies in metabolism coincident with the clinical work, and to the preparation and synthesis of taurine. Great help has been afforded by the delegation to this department of an organic chemist, Mr. Watson, by the State Board of Health. This investigation, which is growing in importance, has naturally required financial aid. This has been guaranteed by donations from private sources, from the Research Committee of the American Association for the Advancement of Science, and from the State Council of Defense.

Dr. Cooke is at present engaged in the investigation of the bacteriology of leprosy. Dr. Schmidt has continued his work in protein chemistry, particularly in relation to the antigenic properties of pure proteins. Professor Hall, in spite of his excessive teaching responsibilities, has continued a number of investigations in which he was engaged, and embarked on new ones. He has in the last year been particularly interested in the study of the infections due to the Preisz-Nocard bacillus in guinea pigs, and more fundamental studies on the taxonomy and metabolism of anaerobes. In this work he has been aided by several graduate students, notably Mrs. Ellefson and Mr. Woods, and has obtained results of significance in food poisoning and food sterility. Dr. Rusk is continuing the study of certain interesting neoplasms and co-operating in a comparative histological study of the material available in the work on experimental tuberculosis already outlined.

During the past year there have been fourteen publications by members of the department, and six more are in press. In addition, several reviews have been published in bacteriological journals by Mr. Hall. Reference has already been made to the book on typhoid by Professor Gay. A syllabus on undergraduate bacteriology is practically ready for the printer.

As further activities of the department may be mentioned two addresses delivered in the East by Dr. Gay as retiring chairman of the Section of Pathology and Physiology of the American Medical Association, and as retiring vice-president of Section K (Physiology and Experimental Medicine) of the American Association for the Advancement of Science. Dr. Gay has also been appointed a member of the National Research Council founded at the request of President Wilson by the National Academy of Sciences.

**Pediatrics.**—Few changes have occurred during this past year. We have developed our plan of intensive teaching of pediatrics for the third year, following lectures and demonstrations in the first semester by individual teaching of small sections of students in the Children's Clinic of the University Hospital in the second semester. During the fourth year all the work is individual section work.

We are sorry to lose Dr. Bolt, who, as a candidate for the degree of Graduate in Public Health, did a large part of his work in connection with the Children's Department. The subject of his thesis is: "The Problems Presented to a Children's Department of a University Hospital in Meeting the Medical Social Needs of a Cosmopolitan City." His analysis of the chief causes of infant mortality in San Francisco makes a valuable study and his suggestions for further development of the department will form the basis of an enlarged program. Dr. Bolt goes to Cleveland to take charge of the Bureau of Child Hygiene of the Department of Health.

The growth of the Children's Out-Patient Department in the University Hospital during this past year has been satisfactory. The total attendance for the year was 10,349, an increase of 9.6 per cent over the previous year. We have continued the medical care of the San Francisco Nursery for Homeless Children. Our work at the Nursery has been of material benefit in raising the health standards of that institution and we feel it is a valuable contribution to the problem of institutional care of children.

The Social Service work has grown far beyond our resources during this past year. During the past year more than 1120 calls have been made by members of the Social Service Department for the Children's Department.

Dr. Louise Morrow was in charge of the field work of the students registered in Economics 118 and 258c during the first semester and 119 and 258d during the second semester. Supervised work was done by the students in the various social welfare institutions in San Francisco, Oakland, and Berkeley.

The work of the Psychological Clinic has continued actively throughout the year under the direction of Dr. Olga Bridgman. These clinics are connected with the San Francisco Juvenile Court, the Superior Court,

the Berkeley Dispensary, the Charity Organization Society of Berkeley, and the San Francisco Nursery for Homeless Children. In all there have been nearly 1800 children examined since the organization of the clinic, more than half of them wards of the Juvenile Court. More than a hundred adult offenders were examined during this past year in the Superior Court and many scattering cases for the other agencies named. In February, the San Francisco Juvenile Court moved into the new Detention Home, and it is gratifying to report that a whole floor of the new home has been set aside for the development of the medical and psychological work, which is under the direct supervision of the Pediatric Department. No other pediatric department in this country has such an opportunity for studying these border-line problems.

The importance of speech defect work in the public schools was demonstrated to the Board of Education by our clinics, and Mrs. Mabel Farrington Gifford was appointed to organize a department for this work in the public schools. The Saturday Morning Clinic has been continued, however, giving an opportunity to others than school children for this special instruction. Mrs. Gifford has also held University Extension classes in the auditorium of the Anthropology Building.

Classes in corrective gymnastics for poorly developed children, and especially children with poor posture, were organized last Fall in connection with the Orthopedic Clinic by Miss Signe Haglethorn.

A great deal of attention has been given to local problems connected with the conservation of child life. In this work we are closely affiliated with almost all the charitable associations in San Francisco. Members of the department have co-operated with sixty different social welfare organizations in San Francisco and vicinity in presenting papers dealing with the various problems of childhood. Dr. Lucas has been asked to serve on a committee from the American Pediatric Society, which is drawing up a program on the conservation of child life in America for the Council of National Defense. During March the Pediatric Department co-operated with the Child Welfare Committee of the California Federation of Women's Clubs in arranging a series of lectures on child welfare by specialists of the Medical School preparatory to Baby Week.

Dr. Ash and Dr. Fleischner represented the Department at the State Medical meeting in San Diego in April. Dr. Ash read a paper on Mongolism and Dr. Fleischner a paper on "Some Problems of Starch Digestion." An article on "A Tumor of the Spinal Cord," by Dr. Ash, will appear in an early issue of the American Journal of the Diseases of Children.

In January, 1917, Dr. Lucas report on "Health Conditions in Belgium" was published in the Journal of the American Medical Association. Other papers, several of which will be read at Eastern medical

meetings this summer, are ready for the press and will appear during the coming year.

**Physiology.**—The relative importance of the instruction work of the department continues to grow. The total number of student registrations during the year was 392, of which 43 were medical or pre-medical students. Crowded conditions, mentioned in the last report, have been only partially alleviated.

Notwithstanding the heavy instruction work, all the members of the department have been engaged in research during the year. Associate Professor Maxwell has continued his study of pituitary function, in conjunction with Miss Conkle and Miss Evans. Assistant Professor Burnett has continued his cancer work in collaboration with the Department of Biochemistry. Instructor Rosalind Wulzen has continued her investigations on the effect of the pituitary on growth and reproduction. Instructor Lillian Moore has been engaged in an investigation of the question of the existence of a temperature regulating-center in the brain. Assistant George H. Martin has devoted his time to the development of a technique for the quantitative determination of minute accounts of calcium. Assistant J. A. Larson has studied the effect of certain gland extracts on the growth of tissues *in vitro*.

**Surgery.**—The past year has seen no material change in our teaching personnel, but with the advent of war certain changes will be necessary in order that we may do our share toward providing medical men for the Army and Navy. Our loss will be in the younger men, particularly the assistants and internes. Our endeavor will be to so arrange our teaching that it can be carried on by a minimum number of instructors. More attention will be paid to war surgery than has been our custom in the past.

The Out-Patient Clinic has had a very busy year and the in-patient service has been filled to capacity most of the time. It has been rather difficult to take care of all the operations of the Department of Obstetrics and Gynecology, as well as the Department of Surgery, with its several sub-departments. From May 1, 1916, to April 30, 1917, a total of 2201 operations were performed by both departments.

The new University Hospital is now practically completed, and we confidently look forward to the realization of many hopes.