michigan state agricultural college.

Vol. 12.

## NEW CATALOG.

Work on the new catalog has be gun and it is hoped that it will be ready for distribution abou the middle of May. There is, of course, much delay even after the matter is in the printer's hands, and for this reason we hope to have all necessary corrections reported in good time.

A list of stud=nts, with address and course of each, has been placed in the Library hall and each one is requested to see to it that his or her name is in the proper place, correctly spelled and with correct address. Please do not make corrections on list of names but report such to the president's office.

## BOSTON BANQUET.

Dear Sir: Assuming that all loyal alumni of M. A. C. read the Record I ask you to kindly announce that the Boston banquet for New England alumni will be held at the American House, Boston, Mass., March 8; reception at 5:30 to $6: 30 \mathrm{p} . \mathrm{m}$., to be followed by the banquet.

Our arrangements are practically completed and we are all anticipating one of the best times that ever happened off the M. A. C. campus.

The matter of attending the semicentennial next May in a body will be discussed. Dr. Howard Edwards, president of the Rhode Island college of agriculture and mechanic arts, has consented to act as our toast-master. We shall aim more at getting acquainted and expressing comradeship, than to follow any set rules of formalities. A consistent effort has been made by those having the matter in charge to get in touch with all M. A. C. people who are now in New England. However, if any have escaped our attention and have not received any personal letter in this connection, they should drop a line at once to G. C. Sevey, care The New England Homestead, Springfield, Massachusets. More than thirty already have indicated their intention of being preseat at the Boston banquet.

Yours sincerely,
G. C. Sevey. '03

## SOPHOMORES VS. FRESHMEN.

The meet held last week between the above classes was the most interesting and beneficial ever held, and brought out the ideal reason for such competitions. There were 50 men in track suits, and the meet all the way through was very close. Each team alternated in leading in the number of points until near the close when the Freshmen won the last four events and secured the meet 64 to 42 . Allen for the Sophomores won 2 firsts and 1 second; McKenna for the Freshmen 2 firsts and 2 seconds; Hanson, Freshmen', 2 firsts and 1 second. The feature was the relay with 20 men on a side, the Freshmen winning by a narrow margin. Four dashes were run, and these with the other events follow:

## 1st dash-Phippeny, Miller, Bohn. ed is -Griftin, Fox, Hutchins.

 3d -. -McKenna, Vaughn, Belknap.4th
dash-Thompson, Hanson, Burroughs.
Hurdle--Won by freshmen, Hanson, McKenna, Vaughn.
High jump-Allen, Baldwin, Sprague, High dive-Moss and Allen, tie, Vondett.
Shot-Burroughs, McKenna, Campbell.
Half mile--McKenna, Allen, Griffin. Potato race-Hanson, Oviatt, Fox. Wrestling-Three weights and no fall in any one, each being allowed two three-minute bouts.
Relay- 20 men won by freshmen.

## Final score 64 to 42 for freshmen.

## HORT. CLUB.

Prof. B air of the McDonald Agricultural College, Canada, who has been visiting some of our colleges, gave an interesting talk at the Hort. club last Wednesday night. His subject was McDonald College and its object, and also horticultural conditions in Canada.
McDonald College was founded by Sir Wm. McDonald of Montreal who gave $21 / 2$ millions for buildings and $\$ 10,00,000$ as fund. The college has 640 acres of land, 50 to 70 acres of which is devoted to horticulture. The object of the college is practical and research work along the line of agriculture and horticulture.
The conditions of horticulture in Canada is in a prosperous state. In parts of Canada are raised all the kinds of fruit grown in Michi. gan. The Annanolis valley, Ontario, Niagara and Britich Columbia are the fruit sections. The Dominion has established five main experimental farms, and many branch ones. These are mainly for experimental work and testing of varieties.
Canada has established many good laws relating to the fruit industry, such as: The fruit marks act, by which every grower grades his fruit in fancy, firsts and seconds. The packages must bear these marks, and are inspected by a corps of inspectors hired by the Dominion government. The fumigation law requires all nursery stock to be fumigated at the government station when it enters the country.

- The uniform package law provides for a uniform package, as bushel box of certain size, barrel of certain size, etc. Mr. Blair was given a rising vote of thanks by the club for his talk. Apples were served.


## Y. W. C. A.

A very helpful talk on "Daily Bible Study" was enjoyed at the Thurșday evening meeting.
Miss Beanblossom quoted Clarence T. Swift, former pastor of Plymouth church, Lansing, and many and useful were the sayings by this author as to the great need of more intimate acquaintance with God's Word.

## RESOLUTIONS.

Whereas we have learned with deep regret of the death of Hon. Henry Chamberlain of Three Oaks, and

Whereas Mr. Chamberlain was for many years a member of the State Board of Azriculture and a conspicuous figure in public affairs, Therefore be it
Resolved, That the State Board of Agriculture recognizes the faithful and efficient services of Mr. Chamberlain during the twelve years of his m mbership upon that hoard and his untiring efforts in behalf of the Agricultural College.

Resolved, That as a member of the bodv politic who felt the full responsibility of citizenship and who was distinguished for his active interest in agriculture and his earnest effort to promote the welfare of that important in lustry, an appreciative tribute of respect and grateful recogn tion of services performed are due his m-mory from this body.
Resolved, That in the passing of Mr. Chamberlain we are made unhapp ly mindful of the rapid disappearance of that staunch band of pioneer public men who have been so important a factor in the development of the state.

Resolved, That these resolutions be entered in the records of the board and an engrossed copy sent to Mr. Chamberlain's family:
J. L. Snyder,
A. M. Brown,

Committee.

## DEBATING CLUB.

The meeting of the debating club last Thursday evening was an exceptionally interesting one, both on account of the subject discussed, and the fame of the debators. The subject under discussion was, "Resolved that a progressive inheritance tax should be levied by the Federal government," the affirmative of which was uphe'd by Mr. Gunson, while Prof. Hedrick defended the negative.
As is customary when these two gentlemen debate, neither one knew upon which side of the question he was to debate, but after some little discussion it was settled satisfactorily to both sides. The masterful oratorical eloquence of the affirmative were met with quiet humor and convincing arguments by the negative and it was only with great difficulty that the judges reached a decision slightly in favor of the negative. A delightfully candid criticism by the critic followed in which the debators were both roundly censured and highly praised. The meeting was a decided success and the mem. bers are very grateful to the debators for their efforts.

The preliminaries for choosing the team to debate against Ypsi. occurred last Saturday evening, and the following men were successful in securing a place to debate in the semi-finals: F. M. Barden, Roswell Carr, J. C. De Camp, N. B. Hubbard, H. L. Kempster, W. E. Piper, E. J. Shassberger, H. G. Stone, C. C. Taylor, E. I. Wilcox, F. B. Wilson and J. S. Welles.

## ALUMNI.

## '73.

Charles W. Ball is employed as cashier and hookkeeper for A P. Loomis \& Co., of Muskegon. Itis address is 181 Peck St.

With ' 85 .
J. B. Leonard is located in San Francisco, Cal., and is considered one of the foremost civil engineers on the Pacilic coast.
While at Coldwater last week Prof. Kedzie met W. D. Watkins who is still traveling for the Sprague \& Warner Co, and was recently a delegate to the convention of Pure Food men held at Columbus. His territory is southwestern Michigan.

## '99.

Mr. and Mrs. E. R. Russell, rozz Hulson ave., Detriot, announce the arrival of au eight pound boy, Friday, Feb. 15. Mrs. Russell, (Clara Ohland, with 'o1), is doing nicely and the boy is practicing the M. A. C. yell.

Mamie Crosby, of the above cla-s, is now doing most of the work of identifying seeds with the U. S. Department of Agricultare.

## " 03.

C. A. Lilly is with the General Electric Co., wi h sddress at SI St. Peter St., Montreal, Quebec.

## With 'o3.

H. G. Marshall, who has been in the beet sugar business as chemist for some time, since the close of his work at Carrollton, has gone to Cuba, and is now with the Cuban American Sugar Co.

## 05

Rolla J. West with above class and Miss Ella Welker were married at $33^{2}$ N. Mulberry St., Marshall, Mich., on Tuesday, Feb. 12, 1907. Mr. Ray Tower 'O3 was best man and H. I. Glazier 'o7 played the wedding march. Mr and Mrs. West are at home 186; 2 ist St. Milwaukee, Wis, after Feb. 15.

## 'o7

R. E. Haines who entered with the class of 'o7 but dropped out in 1905 on account of illness, is now pastor in charge of two churches near Medina, N. Y. He writes that he is well and getting along nicely.

Prof. Holdsworth is now located at Lake City, Florida, where he finds the climate agrees with him, and his health seems to be improving. In a letter to Mr. Newman he states that there has been but one cloudy day at Lake City since their arrival and he has been able to be out of doors from 9 to 5 all except two days without an overcoat. He states that while they did have a cold snap at that place some time ago, reports of damage done was greatly exaggerated. His many friends trust that he may return in the spring much improved.

THE M. A. C. RECORD.
COLLEGE YEAR BY THE
Michigan Saate Agricultural College
B. A. Faunce, managing Editor Aszociate Editors.
G. A. HEINRICH, 'O
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G. S. VAlentine, '08
R. G. CARR, '08
B. B.
B. B. PRATT, '0
H. L. CANTRICK, '02
W. D. FRAZER, '09

ALLEEN RAYNOR, '09
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## TUESDAY,FEB.19,1907.

## ATHLETICS.

M. A. C. 33 -HOPE 23 .

In a very exciting game of basket ball M. A: C. added another victory to her string by defeating Hope College on her own floor Saturday evening. Hope was in the lead the greater part of the game, but M. A. C. finished with a rush and were 10 points to the good when time was called,
Preparations have been made for a big crowd at the armory tonight when Detroit comes. The visitors are perhaps the strongest team in the state, and this game will be the best of the season.

NOTRE DAME $7 \mathrm{I}-\mathrm{M}$. A. c. 42 .
The track team report a fine trip and a good time at Notre Dame on Saturday. The meet was first class in every respect, and M. A. C. did just as well as could be expected considering her handicaps. It was the first meet of the kind we have ever had, and this on a strange track. The results show that while we have no individual stars, the team is a well balanced one, as they scored in every event on the program. Capt. Waite led in the number of points, winning ist in both the mile and two-mileruns. Vaughn won rst in the 220 and 2 nd in the 40 yd . dashes. Scales, Keefe and Smithson won most of the points for N. D.

The relay was the most exciting event of all, Griffin, Oviatt, Vaughn and Pearsall holding their own in fine shape. Keefe for N. D. finished by about 6 ft in the lead over Pearsall in the final lap. Following are the events, N. D. contestants only being indicated:

40 yard dash-Smithson N. D.. V aughn, Pearsall.

40 yard low hurdle-Smithson $N$. D., Scales, N. D., Small.

40 yard high hurdle-winners same as in low hurdles.
Mile run- 6 starters, W aite, Graham, N. D., Carr. time $4-55^{2-5}$.
Half mile, - 5 starters, Keefe N. D., Oviatt, Bignell. Time 2-9 2-5, len, Burvey N. D. Height 5 feet 6 incher.
Shot put,-Woods, N. D., Burroughs, Burvey. Distance 37 ft 3 in . 220 yard dash-Vaughn, Griffin, Keach, N. D. Time 24 3-5.
Keach, N.D. Thime ${ }^{2}$. ${ }^{3-5}$. Gong. wer, Gilbert. Height, 9 feet 8 in.

Two mile run- 5 starters, Waite, Graham N. D., Carr. Time 10-58 Quarter mile-Cripe N. D. Keefe, N. D., Oviatt. Time 56 3-5. Broar jump-Scales N. D., Boyle N. D., Small. Distance 19 feet $71 / 2$ inches.
Notre Dame will come here for a track meet on May 4. M. A. C. will go there for base ball May 7 and their foot ball team will play here on Oct. 26.

## Y. M. C. A.

The meetings of the Y. M. C. A. in the past week have been very well attended. Mr. Rogers, the Students State Sec'y of Y. M. C. A. spoke to over a hundred men in the association room Thursday evening His talk was very forceful and full of helpful instruction and inspira tion. Everyone enjoyed the ad dresses of Mr. Burns his visit and all were impressed with his message It is to be hoped that he may be secured again to come to M. A. C and tell us more about his inter esting work. Several of the students are expecting to attend the State Y. M. C. A. convention which is to be held at Jackson on Wednesday. There are to be some especially strong men at this convention and the men are fortunate who can attend.

Prof. Smith's Bible class for the short course men was concluded last Sunday evening. This class has been quite successful this year, the average attendance has been about 25.

## SOILS.

There has been published recently by Doubleday, Page, \& Co., a book on "Soils," that comes from the hand of Prof. S. W. Fletcher. The book is not a contribution of new things to the science of the soil; it presents important facts regarding the soil in a plain manner avoiding the use of technical terms.

The practical interpretation of what is known of soil science, its directness and simplicity, the absence of technical data make the book well adapted to the general reader and student. The work covers the history of soils, their formation and fory of soils, their formation and with their physical characteristics, and right methods of management. Soil water and practical methods of regulating it are discussed. The matter of tillage in its varied phases is given quite in detail. The fertility of the soil and practical methods of maintaining it are fully explained including the use of green manures, farm manures, and commercial fertilizers.
The book comprises over 400 pages of reading matter, and more than 100 fine illustrations add much to its beauty and attractiveness. These illustrations are by the author and need special mention for their fine finish.
There must be a useful place for the man who can place the work of the scientist before the reader in a manner that is attractive and that can be clearly understood. Prof. Fletcher deserves much credit for his work; the book will prove a valuable addition to the literature on soils.

Prof. Fletcher has presented to the Library a copy of his new book which is acknowledged with thanks.

## QUALITIES VERSUS FACTS.

## By Elbert Hubbard.

It is qualities that fit a man for a life of usefulness, not the mental possession of facts. The school that best helps to form character, not the one that imparts the most information, is the college the future will demand.

I do not know of a single college or university in the world that focuses on qualities. I do not know of a university in America, excepting Tuskegee, that prohibits the use of tobacco among its students. At Harvard, Yale, Dartmouth, Columbia, and Princeton, cigarettes are optional, but a stranger, seeing the devotion to them, would surely suppose the practice of cigarette smoking was compulsory. The boy who does not acquire the tobacco habit at college is regarded as eccentric. Many of the professors teach the cigarette habit by example. At all of our great colleges, gymnasium work is optional. Instead of physical culture there is athletics, and those who need the gymnasium most are ashamed to be seen there.
How would the scientific cultivation of these do?

Bodily Qualities: Health of digestion, circulation, breathing, manual skill, vocal speech, and ease in handling all muscles.

Mental Qualities: Painstaking, patience, decision, perseverance, courage, following directions, tact, concentration, insight, observation, mental activity, accuracy, and memory.

Moral Qualities: Putting oneself in another's place, or thoughtfulness for others, which includes kindness, courtesy, good cheer, honesty, fidelity to a promise, self-control, selfreliance, and self-respect.

If you knew of a college that made a specialty of qualities, where the teachers were persons of quality would you not send your boy there? And if you would send your boy to such a college, would not others do so, too ? These things being true, will we not as a people soon decide to pay teachers enough to secure quality?-which is not presuming to say we have none now. Would not such a school as this evolve through the law of supply and demand a college that approximated the ideal.-Cosmopolitan.

## BOOKS ADDED TO THE LIBRARY SINCE OCTO BER LAST.

Stockbridge, Rocks and soils.
Stoker, Personal reminiscenses of Henry Irving.
Shelley, Llterary by-paths of Old England.
Spencer, Autobiography. 2 vols.
Smith, Tides of Barnegat.
Strong, The worst foe, a temperance story.
Turner, Rise of the new West 1819-1829. Tappan, American hero stories.
Thwing, Hist. of higher education in the U. S. America.
VanSlyke, Modern methods of testing milk.
Venable, Garbage crematories in America.
Wade, Indian fairy tales.
Winslow, Elements of applied microWhipple, Microscopy of drinking water. Wallace, Ben Hur.
Wister, Lady Baltimore.
Wallace, Lew. Autobiography. 2 vols. Wright, Fruit culture for amateurs. Waugh, Dwarf fruit trees.

Mr. David Moomaw, 'o7, spen the latter part of the week in De troit with friends. Mr. W. DeLange accompanied him on business. They will return Monday to again resume their studies (?) and thesis work.
The 35 th annual state gathering of the Y. M. C. A. of Michigan will be held in the association building at Jackson on next Wednesday Feb. 20. The program contains many good things and it is hoped a number may go from M. A. C. A banquet will be held in the evening.
"Since the year of its creation1857 -the Michigan State Agricultural College has had 568 students, all told. 530 of them have been residents of this state, representing about 40 different counties, 37 of them various other states, and one from Canada."-The Bubble, Oct. 24, 1868.

Mr . Gunson was unable to be present at the Nature Study club last week so the meeting adjourned This week Prof. Jeffery was to talk to the club on "Agriculture in Rural Schools," but owing to the basket ball game coming that evening it was thought best not to have any meeting this week. Prof. Jeffery will speak to the club some time in the future, however.
On Friday evening, in their parlor the girls paid honor to St. Valentine by charades and games and the exchange of sentiment and hearts. Most of the Valentines were home-made, and many were both clever and artistic. The Senior Sleigh Ride, as a charade, gave special amusement and was warmly applauded. Simple but delicious refreshments closed the festivities for the evening.
On Tuesday (Lincoln's birthday) in chapel Mr. Collingwood began a series of talks on Lincoln which were continued throughout the week. These talks were very interesting and had the students known the nature of the same, every seat would have been occupied. We are sure that all who were for tunate enough to be present will tender a hearty vote of thanks to Mr. C. for his inspiring words.
The annual Freshman Oratorical Contest of the Themian Society was given Saturday. The first place was won by Miss Alda Beanblossom whose oration was entitled "The Blood Money of the Congo." Miss Glenna Pancoast won second place, the title of her oration being "The Passion Play." The judges on composition and delivery were Miss Jones, Miss Norma Gilchrist and Mr. Ryder.
The short course men are receiving instruction in parliamentary law under Mr. Collingwood and are much pleased with the work. The text used is Howe's Handbook of Parliamentary Usage by F. W. Howe, now a post graduate student at M. A. C.

The State Round-Up institute will be held at Ionia beginning one week from today, Feb. 26. Reduced rates have been secured on railroads and a committee on entertainment will look after the matter of rooms and board. Quite a number will go from the college and the program presents quite an array of M. A. C. men who will give addresses or take part in discussions A corn show is to be held under the auspices of the Mich. Corn Improvement Association.

THE M. A. C. RECORD.

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No classes will be held on Friday, Feh. 22.
Miss Vesta Haney was ill with grippe several aays the past week.
Ten men have reported for the special two weeks' course in fruit culture.
Seventeen men have registered for the four weeks' course in cheese making.
On next Friday the track and basket ball teams go to Olivet for a return meet.
E. A. Calkins ' 98 a civil engineer of Mason, was a college visitor Friday of last week. -
Mrs. Albertus of Detroit, spent Sunday with her daughter at the Women's Building.
Mrs. Haner has been suddenly called to Bay City on account of the serious illness of Mrs. Doe.

Feb. 27 is Longfellow's birthday, and at chapel exercises something of his life and work will be mentioned.
Sup. E. M. McElroy, '93, Three Rivers, attended the debate held in the Union Lit. Bldg. Saturday evening.
Interior work on the engineering building has been at a stand still for some time on account of a lack of heat in same.
Mr. Edgar Brown, botanist in charge of the seed laboratory, $U$, S. Dept. of Agriculture, visited M. A. C. recently and stated while here that this college was doing more work along the line of identifying seeds than any he had visited.

Leslie Slote, special last year, is now teaching near Three Rivers and attended the institute held at Constantine.
The Y. M. C. A. advisory board have hired Mr. Webber as general secretary for another year, dating from Jan. I.

Remember the Detroit-M. A. C. basket ball game in the armory tonight. Best game of the season. Plenty of seats.
The standings are out. If you received an A which you think should have been "otherwise" please report same.

Rev. F. G. Ward, of the Lansing Plymouth Congregational church, will preach in the chapel next Sunday morning.

Those out on institute work this week are Dr. Beal, Mr. Halpin and Miss Bemis at Mason, and Dr. Waterman at Howell.
O. K. White has been obliged to drop out of college for a week or ten days on account of illness. He is at his home near Hart.

At its recent meeting the State Board of Agriculture voted to allow the Michigan Traction Co. to construct a loop near the terminal of their line on the college campus.

Bulletin No. 244 by Prof. Pettit has been received from the press. The work treats of new or unusual insects in Michigan, and is written for the purpose of placing on record the former and of noting recent invasions of old but little known or unusual enemies.
C. D. Curtis, 'og, who has just recovered from measles, had the misfortune to break his collar bone Saturday while in practice at basket ball.

The eight weeks courses in general agriculture and fruit culture close this week. There has been a good increase in numbers over last year.
V. S. Hill'yer, '91, a mining engineer of Ishpeming, took dinner with his classmate, Dr. Waterman, one day the past week and called on old friends.
Miss Mabel Robinson, of Cass City, has been visiting at the home of Mr . and Mrs. McCue. She expects to enter for the regular course next September.

Two events will be held in the Armory next Saturday-Mason H. S. basket ball team play our freshmen, and Lansing H. S. meet our freshmen track team.

Prof. Shaw has been given authority by the State Board to visit the Channel Islands for the purpose of purchasing fine specimens of Jersey and Guernsey cattle.

Alfred N. Clark, a former instructor in the chemical department, called on Prof. Kedzie Wednesday last. He is now chief chemist of the Wallaceburg Sugar Co.

Instructor McCue has just been notified of his election as horticulturist of the Delaware experiment station and expects to leave M. A. C. for his new work about the middle of March.
F. E. Beatty of Three Rivers was unable to be here last week, but will speak before the Hort. club Wednesday evening.
The many friends of Mr. McGugan will be sorry to learn that on account of throat trouble he has been advised to seek a dryer climate, and will leave for the west in a week or ten days, where it is hoped he may find permanent relief.

Ray Tower, 'o3, 198, I3th St., Milwaukee, Wis., called at M. A. C. Monday, Feb. 11 , on his way to Marshall where, on Tuesday, he attended the marriage of R. J. West. M. B. Langeler, 'o6, is now duly installed as Tower's room-mate.
The seniors in plant breeding, are now gaining their practical training after having devoted the first half of the term to the discussion of the plant. Some of the assignments for experiments are as follows: H. B. Weeks will secure seeds of the same variety of vegetables from several sources and compare the resulting plants. O. I. Gregg, comparison of plants grown from seeds of both early and late ripening fruit taken from the same plant. O. K. White has for a subject a change of soil, a cause of variation; N. C. Perry, a change of climate, and $P$. H. Shuttleworth excess of food. Walter Hart, variation in plants grown from seeds taken from same plant. D. H. Ellis, bud variations in greenhouse plants. E. J. Kraus, comparison of plants grown from self fertilized and cross fertilized seeds of violet, primrose and geranium.

Michigan Agriculture College semi-centennial calendar 1857-1907 is certainly a dandy to speak after the manner of men. It is by all odds the handsomest ever sent out by any Michigan school, and nothing surpassing it has ever come to us from any school. The beautiful pietures represent campus and farm scenes in varjous seasons. The folks that took the pictures knew just where and how to do it. The engravers and printers were also onto their job. As we turn each of the 12 exquisite pages we grow prouder and prouder of the old school, the great school, the men who have made it, and the state that has fostered it. Here's hoping that the M. A. C. may bave many glad returns of the day she celebrates. Pres. Snyder, we're mighty glad to be on your list.-Moderator. Topics.

## PERIODICALS

Purchased hy the College to bo found in the reading room.
Agricultural Gazette.
Agricultural Research Ass'n, Proceedings.
Allogemeine Forst and Jagd-Zeitung. American Agriculturist. . (Exchange.) American Cheesemaker.
American Chemical Journal.
American Cultivator.
American Economic Ass'n. Publica-
tions.
American Engiveer and Railroad Journat
American Fertilizer. (Exchange.)

## American Florist.

American Historical Review
Imerican Institute of Electrical Engi.
weers. Transactions.
American Journal of Physiology.
American Journal of Science.
American Journal of Sociology.
American Lumberman
American Machinist.
American Naturalist.
American Society of Civil Engineers.
Proceedings and Transactions.
American Sheepbreeder. (Exchange.)
American Sugar Industry: (Exchange.
American Veterinary Review.
Analyst.
Justus Liebig's Annalen der Chemie.
Annalen der Physik.
*Annales de l'Institut Pasteur.
Annales de la Societe Entomologique de Belgique
Annales de Medecine Veterinaire
Annales des Sciences Naturelles. Botan ique.
Amnales du Jardin Botanique de Buitenzorg.
Annals American Academy Political and Social Science.
Annals and Magazine of Natural His-
tory. Zoology, Botany and Geology. Annals of Botany.
Annals of Mathematics.
Annals of Scottish Natural History,
Arbeiten aus dem Bacteriologischen Institut.
Arbeiten aus dem Kaiserlichen Gesundheiteamte.
Archives de Medecine Experimentale.
Archives de Parasitologie.
Archives des Sciences Biologiques.
Archiv fur Experimentelle Pathologie und Pharmakologie.
Archiv fur die Gesammte Physiologie. Pfluger.
${ }^{*}$ Archiv fur Hygiene.
Archiv fur Physiologie. Englemann.
Atlantic Monthly.
Auk.
Beihafte zum Botanischen Centralblatt. *Byitrage zur Chemischen Physiologie und Pathologie.
*Berichte der Deutschen Botanischen Gesellschaft.

Bericht des Hygienischen Instituts Hamburg.
Berliner Entomologische Zeitschrift. Berliner Klinische Wochenschrift. Berliner Tierarztliche Wochenschrift. *Biedermann's Centralblatt. *Biochemisches Centralblatt.
Biologisches Centralblatt.
Bird Lore.
Blackwood's Magazine.
Botanical Gazette.
Botanical Magazine
*Botanische Centralblatt.
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