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To Editor:—The news in this bulletin is prepared especially for the press, and is released for publication on the date below. Please address exchange copies to Editor, 711 Langdon Street

THE UNIVERSITY OF WISCONSIN

PRESS BULLETIN

The purpose of this Bulletin is to bring to the newspapers of Wisconsin and their readers—the people of the state—Pertinent news and information concerning their State University. The University Press Bureau will gladly furnish any special news or feature stories to editors. Address letters to R. H. Foss, editor, Press Bureau, University of Wisconsin.

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Start Running Ultracentrifuge Machine Soon

Powerful New Machine Has Speed of 60,000 Revolutions Per Minute

Installation of the powerful velocity ultracentrifuge machine, a gift to the University of Wisconsin from the Rockefeller foundation, is now being completed by State University scientists and wil be placed in operation in September.

A "laboratory fortress" constructed with hundreds of tons of iron and concrete has been built on the Wisocnsin campus to house the new velocity ultracentrifuge machine, which weighs five tons and is used to obtain important information regarding molecular weights and other fundamental scientific data otherwise difficult to measure accurately.

Sent from Sweden

Parts of the new machine arrived during the summer from Upsala, Sweden, where it was built under the supervision of its inventor, Prof. Theo Svedberg, professor of chemistry at the University of Upsala. Prof. Svedberg was in 1923 a member of the Wisconsin chemistry department, and it was at that time that he first conceived the idea of an ultracentrifuge and built the first model.

The velocity ultracentrifuge is housed in a heavy reinforced concrete laboratory which has been built at the rear of the chemistry building on the Wisconsin campus. Another machine, a smaller equilibrium centrifuge with a normal operating speed of 18,000 revolutions per minute, has been set up in an adjoining laboratory of the chemistry building. The large velocity ultracentrifuge machine has a normal operating speed of 60,000 to 70,000 revolutions per minute, and produces cenrtifugal forces up to 350,000 times the force of gravity.

Exerts Huge Pressure

The mountainous pressure exerted by the huge ultracentrifuge as it runs at such terrific speed is the reason why the State University's newest laboratory had to be built like a fortress. It is also reinforced to prevent accidents in case of an explosion.

More than 300 tons of reinforced concrete have been used to build the foundations, walls and ceiling of the new laboratory, a building 17 feet wide, 36 feet long, and nine feet high. The heavy velocity ultracentrifuge rests on a huge cement block which extends into the ground for 10 feet below the floor of the laboratory. The machine is fastened to the block with six heavy bolts sunk eight feet into the concrete.

Only Six Such Machines

The ultracentrifuge machine which has been installed in this laboratory is one of only six such machines in existence throughout the world, and the only one in any American university. There is only one other such machine in this country, owned by the DuPont laboratories in Wilmington, Delaware. Of the others, two are in England and two in Sweden.

The machine will be used at the State University to aid researches in a number of departments and divisions of the University, including agriculture, biochemistry, chemistry, endocrinology, immunology, medicine, and plant physiology. In operating the machine, nearly an hour is required to attain normal speed, and the same time is required for it to come to rest.

At normal speed of 60,000 revolutions per minute, the rotor of the machine turns over about 15 times as fast as the crankshaft of an automobile running at top speed, and has a peripheral or surface velocity of more than 20 miles per minute, which is about one and one-half times the muzzle velocity of an ordinary 22-calibre bullet. This tremendous speed of rotation is produced by oil-driven turbines integral with the rotor shaft.

Use 18-Foot Camera

From the massive concrete ceiling of the new laboratory are suspended heavy iron beams to damp out vibrations and support a large 18-foot camera. This camera is used to take photographs of the sedimentation process in solutions containing large molecules. In operating the ultracentrifuge, the liquid material to be studied is placed in a small cell inserted in the rotor. This cell has transparent quartz windows, and in the big steel chamber which encloses the rotor are corresponding windows or peepholes.

By directing a beam of light through the windows, an observer can note the effects of the centrifugal force. In order to obtain exact measurements, the camera is used to take photographs at intervals, and from the photographs the rate of settling of the dissolved substance can be calculated and the size of the particles or molecules which make up the liquid can be determined as a further aid to solving scientific research problems.

The University of Wisconsin's hydraulic and sanitary engineering department aids in keeping the state's lakes and streams free from industrial waste and pollution, thus helping to conserve Wisconsin's natural resources.

U. of W. Men Use 2,700,000-Volt Lightning Bolt to Bust Atoms

A generator giving a bolt of lightning at 2,700,000 volts, which is the highest steady voltage that has ever been attained and actually used in atomic disintegration, has been developed by University of Wisconsin physicists recently for experiments on atom busting, it was revealed today by Raymond G. Herb, research associate in physics at the State University.

Using a new type Van de Graaff electrostatic generator, which was recently developed at Wisconsin, Mr. Herb and two other Wisconsin physicists, D. W. Kerst and D. B. Parkinson, are using their new high voltage to impart a high velocity to protons.

These protons, which can be considered as tiny electrical bullets, are strongly propelled by the high voltage and are shot at a terrific velocity through a 12-foot molded porcelain tube or proton gun at a target of whatever element is to be disintegrated. Already several research laboratories, including the Westinghouse Electric company, have adopted the new electrostatic generator for their own use.

Make Accidental Discovery

Mr. Herb revealed today that he had discovered a way in which to obtain the higher voltages in quite an accidental manner. He explained that one day he was using a small generator in an experiment, and the generator seemed to be running poorly. He thought that the belt attached to the generator was dirty and decided to clean it off. Spying a small bottle of carbon-tetrachloride, a liquid substance often used for cleaning clothes, he used it to clean the belts and put them back on the generator.

Immediately the generator worked very well, for a while at extremely high voltage. Tests followed, and the discovery was made that the cleaning substance was responsible for the high voltage. Today, by using the carbon-tetrachloride in the University's huge atom-busting tank, the physicists are able to obtain the world's highest steady voltage yet used in atom-busting work.

Both the new electro-static generator and a 12-foot proton gun are housed in the large 20-foot steel tank, five and one-half feet in diameter. Near the center of the tank, at the breach of a discharging gun, is a large steel cylinder into which electrostatic charges are fed by means of a rubberized cloth belt through a tunnel-like row of aluminum hoops.

The cylinder is one of the basic parts of the equipment for building up the high voltages needed in the successful busting of the mysterious but powerful atoms. In the interior of this cylinder charges are removed from the belt and surge to the outside of the cylinder and thus build up the high voltages needed.

Find Gamma Rays

A separate high voltage unit inside the cylinder is used to provide the protons, which are merely positively charged particles of electricity. These protons, or "electrical bullets," are shot through the proton gun at the terific speed of about 15,000 miles per second, smashing with almost irresistible force into the element being disintegrated.

Along with their atom-busting experiments, which are being carried on to gain information concerning the nucleus or core of the atom, the Wisconsin physicists are also using their equipment to delve into the action of protons and the attraction of these positively-charged electrical particles for each other, and also into the field of gamma rays.

In their experiments so far, the Wisconsin physicists have found gamma rays when the element fluorine is bombarded by protons at 2,000,000 volts. These rays are extremely hard X-rays, of very high intensity. This radiation is even harder than the radiation from radium and of such intensity that it might be of great value in certain fields of medical science.

Kenosha County 4-H Members Compete for Scholarship to U. W.

A lively rivalry has sprung up among farm boys and girls of **Kenosha county.** They are eagerly striving to earn a scholarship in the State University's college of agriculture which the publishers of the **Kenosha** Evening News are offering to the 4-H club boy or girl of the county who best meets the requirements.

Under the rules laid down for the scholarship award, some 4-H club member interested in home economics or agriculture will be eligible to receive $150 towards a course in either of these subjects at the University of Wisconsin. As outlined by R. S. Kingsley of the News staff, one-half of the scholarship will be payable at the beginning of the first semester and the other half at the beginning of the second semester. The student will be required to have a grade average of at least C for the first semester's work in order to be eligible for the second payment of the award.

It is planned that a winner and an alternate will be selected and in the event the winner cannot take advantage of the scholarship, the alternate will become eligible for the position.

The contestants will be required to submit a story of their 4-H club history, showing projects, achievements, prizes won, leadership records, offices held and such incidentals as will show a helpful attitude on home life.

The contestant will be required to be regularly enrolled in a Kenosha county 4-H club. High school grades will be submitted with the records and will be considered in the scholarship rating. Applicants will have until September 1 to file their aplications.

Besides its general educational work with more than 10,000 young men and women each year, and its long list of public services, the University of Wisconsin has contributed a large number of scientific achievements to the welfare of state and nation.

New Law Protects Badger Youth from "Racket" Schools

Act Protects Persons from Falling Prey to False Schools

A new measure of protection for Wisconsin young people from correspondence schools of the "racket" type has been extended by the 1937 legislature in the enactment of a bill, offered by Sen. Phil Nelson, which received the governor's approval. Schools offering home study courses now must submit copies of their courses and sales contracts to the state superintendent of public instruction, and file an indemnity bond ranging from $2,000 to $10,000.

The act is intended to safeguard persons from falling prey to unscrupulous sales practices and from spending exorbitant sums for courses that often are of little value.

Prospective students are advised by State Supt. John Callahan to ascertain from his office whether a particular course offered is on file there. If not, they are cautioned to be wary of an agent making the representations, and to send his name and address to the city superintendent, principal, or district attorney.

Job Promises Out

This legislation was prompted by depression conditions which kept thousands of high school graduates from going to college and who were led to sign up for home study courses under extravagant promises made by agents of out-of-state schools. Heavy individual losses were reported by many of these students.

One of the principal evils attributed to such schools is now legislated against in a provision that no promise of a job may be made without a written agreement for it between school and employer. Upon violation, the amount of the fee may be recovered by the student in an action for debt.

Must Report Violations

Under this law, teachers are charged with responsibility for reporting violations coming to their notice. Local superintendents are required to investigate complaints and report the facts, if necessary, to the state superintendent, who in turn is charged with obtaining compliance from the offending school, and, through the attorney-general, is authorized to begin any necessary legal action.

The public was reminded that practically every course sold by commercial schools is offered by the State University and at lowest rates. This is made possible because the University Extension division, which teaches subjects by corrensponddence, is a public educational service that derives support from the state.

Journalism School Grads Find Jobs

Additional placements of graduates, mainly since last June Commencement, are announced by the school of journalism of the University of Wisconsin. These do not include several juniors placed in summer positions on Wisconsin weekly newspapers. The records for the 1937 class are not complete, because a number of graduates have not notified the school concerning the jobs they finally took.

On Wisconsin newspapers: Frank Chokel, 1937, **Milwaukee,** on Iowa County Democrat, Mineral Point; Harold F. Heidmann, 1937, **Algoma,** on Algoma Record Herald; Paul Kratochwill, 1937, **Mazomanie,** on Shawano Daily Leader; David Levine, 1937, New York, on Sheboygan Times; William Muenchow, 1937, **Milwaukee,** on Park Falls Herald; Leo W. Roethe, 1937, **Fennimore,** on Jefferson County Union, Ft. Atkinson; John W. Wyngaard, 1937, **Madison,** capitol correspondent for Appleton Post-Crescent and Green Bay Press-Gazette; John J. Schuele, 1938, **Milwaukee,** on South Milwaukee Journal; Elaine Zimmer, 1937, **Milwaukee,** club editor, Milwaukee Sentinel.

On newspapers in other states: Lester H. Ahlswede, 1937, **Oshkosh,** on Decatur (Ill.) Herald; Helen Firstbrook, 1937, Asbury, New Jersey, resort correspondent for New York Sun, Herald-Tribune, and World-Telegram; Herbert O. Kubly, 1937, **New Glarus,** on Pittsburgh (Pa.) Sun-Telegraph; Margaret Van Aken, 1936, Ridgeway, Pa., on Erie (Pa.) Times; Gordon W. Wilson, 1938, Brookings, South Dakota, on Ironwod (Mich.) Daily Globe.

On magazines or trade papers: Franklin Bump, 1920, **Sheboygan,** editor of Fox and Fur Breeders Magazine, Wausau; Jack Hand, 1938, **Ladysmith,** editorial assistant, Furniture Index, Jamestown, N. Y.; Blair Torgerson, 1937, **Madison,** on Washington Business Barometer, Washington, D. C.; Virginia B. Van Brunt, 1937, **Horicon,** on Vogue, New York.

In advertising positions: Wallace Drew, 1937, **Wausau,** radio writing, Pennsylvania Tobacco Co., Wilkes-Barre; Jack W. Eigel, 1937, **Wauwatosa,** Four-Wheel Drive Co., Clintonville, Wis.; Charles L. Fleming, 1937, **Madison,** Sears-Roebuck, Chicago; Margaret M. Green, 1937, **Oshkosh,** advertising, Hills Dept. Store, Fond du Lac.

Others: Jean Tate, 1937, Washington, D. C., now Mrs. Blair Torgerson, secretary to Senator Lonergan, Washington, D. C.; Ellen Sorge, 1937, **Madison,** graduate fellowship, University of Wisconsin.

The University of Wisconsin's electrical standards laboratory tests various kinds of electrical products and electric meters each year to protect the consumers of electric power in the homes and factories of the state.

The state's General Hospital at the University of Wisconsin each year provides medical aid and care for hundreds of the state's indigent citizens, besides carrying on valuable medical research to protect the health of Wisconsin citizens.

100,000 Citizens Visit Museum at University of Wisconsin Annually

Everything from circus posters to classes in the art of becoming a museum director can be found in the state historical museum located on the fourth floor of the state historical building at the University of Wisconsin, but the meuseum by no means confines its activity to the one building. Under the direction of C. E. Brown, a variety of statewide work is carried on.

Folklore meetings to collect and stimulate interest in the legends of the country are held regularly during the summer, a considerable number of folklore pamphlets have been published, the establishment of house museums throughout the state is encouraged, the museum is working with the archeological society to find and survey former Indian camp grounds in the state, and the museum furnishes lecturers to go with summer school excursion parties seeing Wisconsin.

Exhibits Are Valuable

The museum proper includes 12 large rooms and is visited each year by approximately 100,000 people, who come to look at the exhibits which have great value.

An evidence of interest in the museum is the great number of donations regularly reecived. Last year approximately 200 individuals gave over 2,000 gifts. Indian relics, old style surgical instruments, firearms, equipment and uniforms used in the Civil war and the World war, and pioneer relics of all kinds were included. Less than $100 was actually spent during the year for the purchase of exhibits. Unique among the gifts was a large amount of early Wisconsin circus material collected by the Wisconsin Folklore survey in such old circus towns as Delavan, Evansville, and Baraboo.

Establish Classes

Classes in the art and business of becoming a museum director were started in 1933 and are taught as a regular part of the University curiculum by C. E. Brown, director of the museum, who says that the field is developing rapidly. There are at present more than 100 museums in the state of Wisconsin, and all over the country museums are increasing at the rate of two each fortnight. The University courses offered are museum administration, regular apprentice work, and a museum appreciation course.

One of the most popular projects sponsored by the historical museum is the series of folklore tales given each week during the summer at Memorial Union terrace. At these meetings stories are told of such characters as the super-lumberman, Paul Bunyan, the super sailor, Stormalong, Johnny Appleseed, and other folklore figures. The folklore meetings started in 1912, and their object is to collect and spread the folklore stories of America.

Publish Folklore Stories

Folklore booklets and leaflets published under the auspices of the museum are used all over the country. The booklets include Indian Stories, Paul Bunyan Tales, Pioneer Tales, Ghost Tales of Wisconsin, Gypsy Tales of Wisconsin, Cloud Lore, and Tales of Sailormen on the Great Lakes. Leaflets are on Landmarks of the Campus, Birds of the Campus, Trees of the Campus, Flower Toys and Games of American Children, Flower Games and Toys of Indian Children, Star Lore, Indian Mounds of Lake Wingra, Stories of Little People (Fairies), and Insect Lore.

The establishment of house museums in different parts of the state, has been stimulated and approved by the state historical museum. Historic landmarks preserved partly through the interest of the museum are the Tank cottage at Green Bay (the oldest house in Wisconsin), the hospital of old Fort Howard at Green Bay, the Dousman mansion at Prairie du Chien, the hospital of old Fort Crawford at Prairie du Chien, the Indian Agency house built in Portage in 1831, the Grignon home at Kaukana, and the Governor Nelson Dewey Farm home at Cassville.

Mark Indian Mounds

Work on preserving and marking the Indian mounds in the state began in 1910 on the campus of the University of Wisconsin. Gradually the territory was extended until at present the historical museum is working with the archeological society in surveying the entire state to determine the location of former Indian villages, mounds, and so on.

Summer excursions from the University to interesting points around Madison were originally organized by the museum, but are now conducted by the Memorial Union with lecturers furnished from the museum staff.

Museum Born 82 Years Ago

The history of the state museum is an interesting one. When it was established in 1855, 82 years ago, a small glass case in the governor's office in the capitol held all of its exhibits, which included four silver medals struck in Napoleon's era, some continental paper money, and personal memorials of George Washington, Daniel Webster, De Witt Clinton, and William Henry Harrison.

The growth and advancement of the state historical museum has been inseparably linked with that of the state historical society. This society was organized in 1849, but made no progress until 1854, when Lyman C. Draper was named director. Under Dr. Draper both the society and the museum made amazing progress. The museum was moved from the state capitol building in 1900 into its present quarters on the State University campus.

Outagamie County Girl Takes Penn State Post

Miss Alice M. Murray, Sugar Bush, a graduate of the University of Wisconsin in June, has been appointed to the editorial staff of the Pennsylvania State College of Agriculture and Home Economics. She assumes her new duties September 1.

While at the university, Miss Murray took special training in home economics and journalism. She is a graduate of the Bear Creek high school and for a time was employed in the office of the Outagamie county agricultural agent at Appleton.

U. W. Graduates Join High School Staffs

Departments of agriculture in a considerable number of Wisconsin high schools will be headed, this fall, by graduates of the recent 1937 class of the University of Wisconsin, according to a report by J. A. James of the agricultural college. For the third consecutive year, the demand for men trained in agricultural education to head high school agricultural work has been greater than the supply.

High school staffs upon which members of the 1937 class will serve are: **Auburndale,** by Robert Bergstrom of Glen Flora; **Brandon,** by Donald Walters, Westfield; **Clayton,** by Frederic Gilmore, Bristol; **Cromwell, Minnesota,** by Irl Poehlman, Sugar Bush; **Deerfield,** by Harlan Stone, Prairie du Sac; **Frederic,** by Stanley Olson, Marinette; **Hartford, South Dakota,** by Ed Mathwig, Wautoma; **Kaukauna,** by James Judd, Shullsburg; **Lake Mills,** by Dave Hamilton, Westfield; **Montello,** by Ransom Shestock, Algoma; **Seymour,** by Willard Reese, Mineral Point, and **Shiocton,** by Arnold Wochos, Algoma.

Home-School Teamwork Subject of Broadcasts

A study of that "Heap o' Livin' " that makes a home will be made by Wisconsin homemakers, mothers, and Parent-Teacher associations in a series of radio broadcasts to be presented over state stations WHA-WLBL this fall and winter.

Beginning Wednesday, September 8, and held every first Wednesday of each month throughout the school year, mothers, PTA officers, school representatives, child specialists, and others will present views upon helpful cooperation between school and home in the interest of the school child. The program will be given over the Homemakers Hour from 10:00 to 10:45 o'clock A. M., according to Mrs. Aline Hazard, announcer, in charge of the program.

The University of Wisconsin's Geological and Natural History survey constantly carries on valuable research on the state's lakes and streams to help conserve the state's natural fish resources and to protect the state's reputation as the recreational center of the middle-west—a reputation which has given birth to a huge resort and tourist industry bringing millions of dollars to the state each year.