

**ELECTRONS HEARD BY NEW RADIO DEVICE**

**One Hundred Thousandfold Amplification Used.**

Ann Arbor, Mich.—Experiments by which scientists have been able to listen to the movement of electrons, the smallest particles of matter, were described here by Dr. A. W. Hull of the research laboratory of the General Electric company, at the annual meeting of the American Physical society.

The vacuum tube amplifier in which the amplification is carried to a hundred thousandfold, and with which a millionfold can be reached, makes this possible, Doctor Hull stated. The sound produced by the electrons is caused by bombardment of the plate by electrons, released from the hot filament. It is these electrons which carry the current and which make the operation of the tube possible. The noise is therefore a fundamental property of electron emission, a characteristic of the electron, according to Doctor Hull. The experiments have been conducted jointly by Doctor Hull and Dr. H. H. Williams of the University of Michigan at the university.

**Called Schrot Effect.**

The noise, due to the electrical oscillation which is set up by the impacts of the individual electrons on the plate, is known as the Schrot effect. The energy of each blow is extremely minute, but, like rain drops, the energies of the many individual impacts add, and their sum becomes very large. With sufficient amplification, Doctor Hull stated, the blows may produce a roar like that of Niagara.

The electron is the unit charge of electricity and the utmost importance of its value is of the utmost importance. The oil drop method, devised by Professor Milliken in the physics laboratory of the University of Chicago, gave science its first accurate measurements of the charge of the electron. Accurate as the experiments are, however, it is desirable that they be checked by some independent method.

Milliken's method of measuring the charge of an electron is based on the influence of gravity and of electric charges on minute oil "droplets." These droplets are so small that the effect of gravity causes them to fall only a quarter of an inch in ten seconds.

In the formation of these small drops with an atomizer, occasionally one becomes charged through friction; for example: it may carry an additional electron. If, then, the droplet is between two electrically charged plates, it will behave differently from the uncharged particles, Doctor Hull stated. Those which are not charged will fall. The charged particles will be attracted to the positive plate. By the use of the proper voltage between the plates, these charged particles can be made to fall more slowly, held stationary, or caused to move upward. If two electrons, instead of one, are held by the droplet, the effect is doubled. Measurements made by this method give the value of the electronic charge very exactly. In recognition of the importance of this work, the Nobel prize in science for last year was awarded to Professor Milliken.

**Opens Up New Field.**

Doctors Hull and Williams have measured the charge of the electron in a different way, by means of the Schrot effect, and have opened a field for research which promises to add to the knowledge regarding the electron and its properties.

It was not such a long time ago that the electron was unknown, the speaker declared. First scientists had the molecule, itself so small that man's ability ever to see even one of the largest may seriously be doubted. Then came the atom, the minute integral part of the molecule. For a long time the atom was considered as the ultimate particle of matter. But each element presents a different atom. Science was not content to rest. It sought to connect all phenomena, and the electron was the result.

It was discovered that all matter is composed of electrons, the different substances resulting from the different properties possessed by the atoms according to the number and arrangement of the electrons they contain.

**Woman Mail Carrier**

Lansing, Mich.—For 21 years Mrs. M. Wood has driven a rural mail route here. Mrs. Wood has the second heaviest route out of Lansing, delivering mail to 450 families.

**British Woman, 106, Is Looking for Mate**

Tiptree, England.—Mrs. Betsy Pennick, who was a debutante when Victoria became queen of England in 1837, is on the lookout for a husband. She is 106 years old and still going strong. Having just recovered from a period of illness, she says she wants someone to provide for her for the rest of her days.

Mrs. Pennick was married 86 years ago, but has been a widow for 40 years. She is thought to be the oldest of King George's subjects in England.

**TRACE ORIGIN OF AMERICAN PEOPLE**

**To Use as Guide in Fixing Immigration Quotas.**

Washington.—The task of tracing the family tree of the American people is under way, representatives of the secretaries of state, commerce and labor having begun investigations to determine the broad lines of national origin for use as a permanent guide in fixing immigration quotas.

Ancestors or descendants of particular individuals are not being considered in the study, which was provided for in the immigration act of 1924, their place for the purpose of the nation's genealogy being taken by statistics of immigration and emigration, rates of increase of population as shown by successive decennial censuses and such other data as may be found to be reliable.

Monographs prepared by the census bureau and by the Department of Labor are being used in the work of determining as accurately as possible the origin of the homo-American. The investigation is expected to continue a year and the results must be formulated by April 1, 1927, the date when President Coolidge, under the law, must proclaim the new quotas fixed according to the ratio of the alien origins of the American people. The present quotas are determined on the basis of the census of 1890.

William R. Vallance, assistant to the solicitor of the State department, and Col. Lawrence Martin, chief of the division of maps, library of congress, represent the State department in the investigation. Dr. Joseph A. Hill, assistant to the director of the census, and Laverne Beales, expert on population statistics, represent the secretary of commerce, and W. W. Husband, commissioner general of immigration, and A. E. Reitzel, assistant solicitor acting as alternate for Ethelbert Stewart, are the members for the secretary of labor.

**Intrinsic System Guards Gem Dealers' Offices**

New York.—In the wholesale jewelry district of this city, where millions of dollars in diamonds and precious stones are daily handled, extraordinary precautions are taken against possible holdups.

It is, of course, a simple matter to provide burglar-proof vaults. In buying and selling precious stones it is necessary, however, to remove the gems from the safes to display and examine them. The offices where fortunes in gems are handled are ingeniously safeguarded.

The casual visitor to these offices will scarcely notice precautions to guard against attack. The offices usually contain an outer room enclosed by high partitions. The only employee in evidence is behind a small window. When the visitor satisfies the observer at the window, and not before, a door is opened in the partition, and on his entering is quickly closed.

The office is divided into a series of rooms, each closed with high partitions. To enter any one of the rooms is opened by the observer behind the window in the outer office.

It is impossible to gain entrance to one of these inner rooms without the help of a man in the outer office. Once inside, the door is fastened, and it can only be opened from the desk outside.

Should a holdup be attempted in the outer office the thief would find himself confronted by a formidable series of barriers. Should the man in the office be overcome the doors to the inner rooms would remain locked.

Let the thief attempt to hold up anyone after gaining admission to the office and he would be locked in without the assistance of the man in the outer office.

**Six Years After War Mines Still a Menace**

Copenhagen.—Recent reports disclose the presence of drifting mines in the Baltic as a menace to shipping, and it is evident that official reports as to the clearance of mines in these waters are not to be wholly trusted.

It is believed that any storm might dislodge the units of some mine field laid during the war, and it is argued that dangerous mines, frozen up in the ice of winter, may well float about until next spring and then reappear in totally unexpected locations.

**Astronomer Sees Crack in Steeple; Saves Church**

London.—Sir Frank Dyson, astronomer royal, while testing the big telescope at Greenwich observatory turned it on London. A church steeple caught his eye. He observed a menacing crack at the base of the steeple.

Although the church was ten miles away he measured the crack with the instruments used to determine lunar distances and was convinced it was dangerous.

It was difficult for him to find out where the church was, because the magnification was so great only the steeple showed in the telescope's field, but with the aid of a large scale map and instruments Dyson placed the church. He telephoned the vicar, who

when he heard a voice say the astronomer royal wished to warn him his steeple was about to fall thought it was a practical joke.

Sir Frank finally prevailed upon him to examine the steeple, in which was found the crack which, invisible from the ground, was so dangerous the church has been closed.

**Ohio Wesleyan University Gets John Wesley's Cane**

Delaware, Ohio.—Frank S. Monnett of Columbus, former attorney general of Ohio, has given Ohio Wesleyan university a riding cane carried by Rev. John Wesley.

The cane will be displayed permanently in the Ohio Wesleyan library, along with other valuable relics.

Mr. Monnett, a graduate of Ohio Wesleyan in the class of 1880, recently came into possession of the cane during his trip to England.

The founder of Methodism is said to have left the cane by accident in a London coach operated by Thomas Park, a follower of Wesley's teachings. Park preserved the cane and took the first opportunity to return it. Meanwhile, however, Rev. Mr. Wesley had purchased another; so he presented Park with his original riding cane.

The cane since has been preserved continuously in the Park family. During a trip to England last summer Mr. Monnett was a guest at the home of Sir John Powell, a relative of T. E. Powell of Columbus. Sir John Powell is a descendant of the Powell family which originally owned the land upon which Ohio Wesleyan university stands.

During Mr. Monnett's visit Cecil Wellington, great grandson of Thomas Park and for many years a chauffeur for Sir John Powell, presented the riding cane to him with the understanding that it was to be brought to America and presented to Ohio Wesleyan.

**Capt. Eagle and Priv. Hawk Real Birdmen**

Washington.—Capt. G. I. Eagle, late of the office of the chief of air service of the War department and now of Bolling field, whose name has been used in many puns upon the air service, has at last found companionship. It appears that there is a Private Hawk in the air service, too.

**Hit by Burglar, Woman Traps Him in Closet**

Philadelphia.—How Mrs. Sarah Kaufman unwittingly trapped and almost caused the death of a burglar who had felled her unconscious was revealed 15 hours after the attack. Then a closet door in the Kaufman home was opened by police and out fell the burglar nearly unconscious.

Mrs. Kaufman was passing through a room on the second floor on the way to her bedroom when she was felled by a blackjack. Police say that in falling she struck the closet door into which her assailant had darted, and closed it, the spring lock snapping.

Her husband found her unconscious and took her to the Misericordia hospital. She was able to return home the same day and was passing through the room where she had been assaulted when she heard a faint scraping noise in the closet. Going to the door she heard a faint breathing and called the police.

As the officers opened the door a woman, who later said he was Melvin Barnes, eighteen, of Galveston, Texas, fell out, almost unconscious from lack of air.

He admitted later he had broken into the house, but denied striking Mrs. Kaufman.

**NOTICE TO NON-RESIDENT DEFENDANT**

To Hurrel Greenway, Non-Resident Defendant:

You are hereby notified that on the 29th day of July, 1924, Marie Greenway, as plaintiff, filed a petition in the District Court of Douglas County, Nebraska, against you as defendant, the object and prayer of which are to obtain a divorce from you on the ground of desertion.

You are required to answer said petition on or before the 22nd day of December, 1924.

Marie Greenway, Plaintiff,  
By W. B. Bryant,  
Her attorney.

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FOR RENT—Neatly furnished rooms in private home. Home privileges. Harney 1263-4t-11-21.

FOR RENT—Four-room apartment, telephone, electric light and water bill paid. 2629 Seward St. Web. 1825. Rent reasonable. 3t-12-12

FOR RENT—Furnished light house-keeping rooms, 2210 North 26th St. Web. 2097. 4t-12-12-24

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**Help Wanted**

WANTED—Colored men to qualify for sleeping car and train porters. Experience unnecessary, transportation furnished. Write T. McCaffrey, Supt., St. Louis, Mo.

**Miscellaneous**

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