

OFFICIAL NOTICES

Classified

LOST—One Longines wrist watch between Ed's and College. Initials "J. M." on back. Reward, 425 No. 15.

FOR QUICK SALE—Bedroom suite, half bed, chest of drawers, breakfast suite, studio couch and occasional chairs. Call 4-2319 after 5 o'clock.

LOST—Light brown leather jacket. Left in Academic Building. Lost Feb. 11. Howard H. King, 526 No. 11.

LOST—Four-month-old female, black Cocker Spaniel puppy, "Smoker." Reward. 4-2244. Jerry Oden.

LOST—A pair of rimless glasses at Hrdlicka's Saturday night. It is very important to owner that they be returned. Finder please notify Billy Owens, No. 17-118, P. O. Box 2189.

LOST—Central wrist watch with blue crystal and name "Pete Pratt" scratched on back. Reward. Return to G-13 Walton. V. P. Kelly.

CLUBS

PORT ARTHUR CLUB MEMBERS—Come by room 418, No. 7, and get your Valentine boxes from the Mothers Club.

THE CAMPUS STUDY CLUB will meet in the lecture room of the Animal Husbandry Building at 9:00 o'clock on Tuesday, Feb. 16. Dr. Luther Jones will speak on the topic, "Why Plow?" and a film, "The Heritage We Guard," will be shown.

ABLENE CLUB meeting Wednesday night in 209 Academic Building. All boys from Abilene and Taylor County invited. There will be election of officers for the new semester.

FISH AND GAME CLUB—There will be a meeting of the Fish and Game Club Wednesday night at 7:00 in room 115 of the A. & I. building. We urge all Fish and Game majors to be present. Visitors are welcome.

THE COLLEGE CAMERA CLUB will meet in the Y.M.C.A. chapel Wednesday night, Feb. 17, at 7:00 at which time officers for the current semester will be elected. It is important that all old members be present and that they bring new members with them.

Meetings

AGRONOMY SOCIETY MEETING Wednesday evening, Feb. 17, at 6:45 in room 312, Agricultural building to elect remaining officers. All agronomy majors are urged to be present.

BRAZORIA COUNTY BOYS—There will be a meeting of all boys from Brazoria County in room 212 Academic Building on Wednesday, Feb. 17, at 7 p.m. Important business will be transacted. Please bring yourself and be there on time so we can be through by call to quarters.

SOCIETY OF AUTOMOTIVE ENGINEERS—There will be a meeting of the Society of Automotive Engineers at 7:00 Wednesday night in room 109, Mechanical Engineering Building. Freshman and Sophomore engineering students are invited to attend.

THE AMERICAN SOCIETY OF CIVIL ENGINEERS will meet Wednesday evening at 6:45 in the C. E. lecture room. Business will include the election of officers; all Civil Engineering students are invited to attend.

BELL COUNTY BOYS—There will be a meeting of the Bell County Club Wednesday night at 6:45 in Room 505 Academic Building. All Bell County men are urged to be present as officers will be elected.

Announcements

BRAZORIA COUNTY BOYS—There will be a meeting of all boys from Brazoria County in Room 212 Academic Building on Wednesday night at 7 p.m. Important business will be transacted. Bring yourself.



We have just received another large shipment of regulation caps . . . slacks . . . shirts . . . shoes and field jackets—stop in and make your selection today.

- Officers' O.D. Felt Dress Caps\$8.50
- Khaki Rayon Poplin Dress Shirts\$4.25
- Dark Gabardine All-Wool Shirts\$11.50
- Dark Spun Rayon Dress Shirts\$5.00
- Dark Elastique All-Wool Slacks (High Back)\$14.50
- All-Wool "Fish" Slacks\$10.95
- Reg. Feild Jackets 80% Wool Lining \$10.95
- Nunn-Bush Shoes\$10 to \$11
- Edgerton Shoes\$6.50 to \$7.95
- Fortune Shoes\$4.95

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Electronic Microscope Devised To Measure One Millionth of an Inch

Particles as small as one millionth of an inch—one thousandth of the diameter of a human hair—can be measured accurately with a new electron microscope developed by Dr. Charles H. Bachman and Dr. Simon Ramo of General Electric's Electronics Laboratory. The microscope is mobile, small, and operates on ordinary house current.

Development of the new device makes it possible for small laboratories and war plants to take advantage of this type of instrument which is capable of producing images 10,000 times the size of the subject.

The G-E electron microscope uses electrons in an entirely different way than earlier electron microscopes, applying electrostatic focusing to the beam of electrons instead of electromagnetic focusing.

"This step may well be compared," say the young scientists, referring to the new simplified microscope, "with what was done in the X-ray field years ago when early machines were bulky, complicated, and installed only in the largest institutions. Today, many doctors, dentists, and small clinics have their own small, compact, and easily operated machines."

In the new G-E microscope the beam of electrons passes through the specimen inside a vacuum chamber and produces a visible picture on the fluorescent viewing screen. This image can then be photographed outside the tube, and, if desired, enlarged many thousand times the original size of the specimen for a wall print known as an "Electronmicrograph." Former instruments required taking of the photograph inside the vacuum chamber.

According to General Electric, unique features of the instrument include the application of electrostatic fields as the electronic lenses. These guide the paths of electron waves through the instrument just as glass lenses guide light through ordinary optical microscopes. Earlier electron microscopes used magnetic fields for this purpose.

It is claimed this electrostatic principle can be developed far beyond its present use, and may allow future attainment in microscopy enabling man to see and study for the first time the structures and hidden forces of atoms, the smallest known and still invisible particles of matter.

However, William C. White, in charge of the G-E electronic laboratory, says that "the magnifying power of the new G-E microscope was not selected to attempt an approach to this ultimate, but rather to provide an instrument useful to the solution of immediate war and post-war problems confronting the great majority of workers in this field. It is believed that to these workers, the relative simplicity and ease of operation of the instrument will appeal."

In addition to the development that permits photographing the large image of the specimen directly from the fluorescent screen outside the vacuum, other features are the elimination of the need for water supply, and ease in inserting specimens.

In designing the new electron microscope, Dr. Bachman and Dr. Ramo sought a simplified instrument designed as a compact mobile unit that could be plugged into the regular 110-volt a-c house circuit. The problem was solved after three years of research. The machine is expected to expand the use of electron microscopy in laboratories now engaged in war work and medical research—and eventually to find wide usage in high schools and colleges.

Due to present priority requirements, the device will be available for use only in essential laboratories and war plants. It will not only enable scientists to look at greatly magnified physical appearances, but also reveals the actual composition and structure of minute particles. They can also study impenetrable substances such as war metals, clays, plastics and synthetic rubber by improved transparent replicas.

The device uses the relatively small electron waves instead of light waves because their shorter length makes it possible to study much smaller objects than could be achieved with visible light waves. Light travels in waves of about 1-42,000th of an inch in length, and objects must be at least half that long before they can be seen under the ordinary optical microscope. Prior to the electron microscope, when objects to be viewed were smaller than this, it was impossible to obtain sharp images, so that further magnification at that wave length be-

came impractical.

The new microscope has an overall height of 52 inches, and requires floor space of about two by three feet. The cabinet includes a simple power supply, the mechanical vacuum pump, and an air-cooled, oil-diffusion high vacuum pump. A camera is provided for mounting on the front of the instrument for photographing reproduction when this feature is desired. The cabinet is mounted on castors for mobility, and weighs 600 pounds. No special facilities for operating the instrument are needed, and the unit includes the microscope proper and all auxiliaries.

Physically, the microscope has been designed for the convenience of the operator. The electron chamber is mounted horizontally, the eye piece at one end being at eye level for an operator seated before the instrument. The electron chamber is supplied with voltage and is evacuated from the end which extends into the cabinet. All controls are at the operator's fingertips. These include accelerating voltage, image intensity, the main vacuum valve, focus control, and the movement of the specimen. In effect, the operator is seated at a desk with a drawer beneath so that materials and notebooks are conveniently at hand.

The new machine can peer into the submicroscopic for scientific study in an invisible world far beyond reach of ordinary optical microscopes. With the electron microscope, the G-E scientists have seen smoke particles, only one millionth of an inch in size, appear as minute spheres and as cubes similar to a child's play blocks. With the instrument, a mosquito's "stinger" looks like a flint arrowhead of the Stone Age.

Dr. Bachman and Dr. Ramo say there is hardly a field of science where the extra acute vision of the electron is not of advantage. This includes physics, chemistry, engineering, agriculture, biology, and medicine.

—LONGHORN—

(Continued From Page 3)

Baylor Bears blackened the T. C. U. chances of ever overcoming the pace setting Longhorns by conquering the Toads at Waco 50-41. The Frogs have only a Mathematical chance to win or even come near to throw the lead into a three-way tie.

Rice continued its terrific pace by overpowering the cellar bound Mustangs by a margin of 53-33.

Bill Tom Closs, long, lanky center for the Rice Owls continued to set a sizzling pace in the individual score. Close on the heels of lanky the trestop sharp-shooter is Hargis, another center from T. U. who lead the scorers for a short time but was dethroned by the sharp-shooting Owl ace.

Team	W	L	Pts.	OP.
Texas	7	1	371	298
Rice	5	3	316	311
Arkansas	5	3	316	311
T. C. U.	4	4	298	340
S. M. U.	3	5	353	345
A. & M.	2	5	326	329
Baylor	2	7	367	349

Last Week's Results

S. M. U. 51, A. & M. 39
Rice 50, Texas 39.
Texas 45-48, Arkansas 31-35.
Rice 53, S. M. U. 33.
Baylor 50, T. C. U. 41.

This Week's Schedule

Thursday: Baylor vs Rice at Houston.
Friday: A. & M. vs Arkansas at Fayetteville.
Saturday: A. & M. vs Arkansas at Fayetteville.
Texas vs T. C. U. at Fort Worth.

Leading Scorers

Closs, Rice	52	28	132
Hargis, Texas	43	26	112
Wynne, Arkansas	40	24	104
Edwards, Baylor	42	17	101
Tomlinson, SMU	37	24	98
Huffman, A&M	42	10	94
Overall, Texas	33	23	89
Watkins, A&M	35	12	82
Carpenter, Ark.	30	21	81
Sweet, Baylor	34	6	68

—COMETS—

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690-point season against their opponents' 424, with the Kinney, Dick, Dowell combination credited with 431 points, or seven more than the opposition made as a team. Dowell's slide ruler complex also reveals that the "trio's" game point average is slightly more than one point per game higher than their opponents per game average.

Coach Jack Gray refuses to comment on the figures. "Since working those navigation problems, I'm

Randolph—Heart of the Army Air Corps



Randolph Flyers Devote More Time To Link Trainers

For years aviation men considered it drudgery, but for the past few weeks, Randolph Field fliers have been readjusting their schedules to get in more and more time on the Link Trainer—ground-bound, stubby-nosed, short-winged, blind-flying "teacher."

Realizing that any war to be fought in the air will necessitate hours and hours of instrument flying to pilot Uncle Sam's deadly bombers to distant military objectives, Aviation Cadets and instructors alike are clamoring for the opportunity to ground-fly these mechanical marvels.

So important do Gulf Coast Air Corps Training Center officers consider the trainers, that they have prepared plans to include six or more hours of blind flying instruction in the basic flight course taught here at the "West Point of the Air."

Fortunately, where a few weeks ago there were only three, today there are thirty-seven more trainers to teach Air Corps fliers how to get to Axisland and back when the lights are out and the shades are down.

One veteran flier summed up the rush for reservations with a typical statement:

"Right now, I'm a flight instructor; soon, I might be flying a fortress on a regular Yokohama run, and when that day comes, I intend to be the best doggone blind flier in the business, thanks to this Link Trainer."

To all outward appearances the Trainer looks like a gadget you'd see along the boardwalk at Atlantic City, but there the resemblance ends, for inside, there's a complete panel of instruments, just like you'd find in a first-line fighting ship.

When the student climbs inside the Trainer, a metal hood is closed down over his head, and there he is—alone with his memoirs and his instruments.

As he takes off, he checks his airspeed, rate of climb, banks and turn indicator, for if everything isn't according to Hoyle, he'll fall into a spin, as would one of the basic trainers on the flying line. Just as important is the radio apparatus which keeps the ship on its course.

"Every now and then we catch somebody 'cheating'—flying by compass rather than by radio beam," claims one of the training instructors. "When that happens, we just shoot them a little artificial cross-wind and the next thing they know they're thirty or forty miles off their course headin' for a mountain top. That usually keeps 'em on the 'beam' the next time."

His training flight over, the student lands with the added experience of two or three hours of "under-the-hood" flying and without any physical risk to himself or to valuable Air Corps training equipment.

Yes, for a gadget that got its start at the rural county fair, the Link Trainer is doing all right by Uncle Sam's birdmen.



scared of figures," he says. "I just tell my boys to meet the enemy, keep their powder dry, and fire when the opportunity presents itself."

Same strategy seems to have been sufficient to win seven games from strong conference teams, and five from the Army.

Positions Open For Economists In Civilian War Effort

Because of the urgent need for economists, economic analysts, and statisticians for civilian war service in the Federal Government, recruiting is being intensified for these positions on a nation-wide basis, the Civil Service Commission announced today.

The positions pay from \$2,600 to \$6,500 a year plus overtime, which increases salaries by about 21 per cent on the first \$2,900 for 8 hours overtime a week, when the aggregate does not exceed \$5,000 a year.

The greatest need is in the fields of transportation, labor, commodities, and industrial studies. For economists marketing, international trade, money and banking, and housing are also important fields. Experience in other lines will also be utilized, and complete information may be obtained at first and second-class post offices, or from the U. S. Civil Service Commission at Washington, D. C.

Positions are both interesting and important to the war program. They include dealing with economic and statistical problems arising from the reoccupation of areas once held by the enemy, the sale of U. S. securities, exports and imports in connection with the war economic program, requirements for procurement of war materials, etc. Positions will be located throughout the United States and a few will be filled abroad.

Requirements for the positions have been lowered. In general, only 5 years of college or university education or experience in economics or statistics, or a combination of the two, are necessary for the \$2,600 grade. The minimum requirements for the higher grades are proportionately greater.

There are no age limits and no written examination will be given. Applications will be accepted until further notice, but qualified persons are asked to apply immediately. Applications are not desired from persons already using their highest skills in war work. War Manpower restrictions on Federal appointments are given in Form 3989, posted in first and second-class post offices.

—BASKETBALL—

(Continued From Page 3)

faster and faster with fouls mounting up on both score sheets; but the Aggies were not to be denied of that ball game.

Three minutes of play, the Ags were in front 52-44, and final gun brought it 54-47.

Pacing the Cadets was that tall lanky center Jamie Dawson who tallied 19 points and with only half of a minute of playing time remaining, was forced from the game on fouls. His team mate, Pete Watkins, who set the net afire the first half, came after with 13 tallies. Tomlinson of the Ponies also had 13.

Any record of this event should not be written without the mention of the sensational play that broke when Pete Watkins had a jump after tie ball. From Watkins the ball was tipped forward to Cokinos who quickly batted the ball behind him into the hands of Les Peden who dribbled half the court for a crip that added two points for the Aggies tallies. Also could be mentioned was the accuracy of Stringer and Martin who on many actions stripped the net from far out on the court.

Buy war bonds and stamps to today so our fighting men can come home tomorrow.

FOR VICTORY



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