NOTES

THE GROUNDHOG AS A WEATHER FORECASTER

February 2 was celebrated by the ancient Romans as the date to burn candles to their goddess Februa, mother of Mars. Out of this ancient custom has come the superstition that

If candlemas be fair and clear
There'll be twa winters in the year.

The modern legend states that the groundhog, or woodchuck, wakens from his sleep on February 2 (Candlemas Day), and crawls out of his hole to view the weather. If he sees his shadow he is supposed to go back to sleep for another six weeks on the assumption that winter is not over. If, on the other hand, February 2 is cloudy so that the groundhog cannot see his shadow, he will remain above ground, and spring will begin at once. Although this weather proverb is quite popular, the climatological data of the U. S. Weather Bureau fail to substantiate the claims of the groundhog.

The accompanying tables, from the files of the Weather Bureau at Dallas, Texas, show that for the twenty-two year period (1914-1935) the groundhog was correct only once. During that period there were seven years when he did not see his shadow (Table A), nine years when he did see his shadow (Table B), and six years which are doubtful since the sky was partly cloudy on February 2 of those years (Table C).

Table A. Cloudy—
Groundhog did not see shadow, February 2

Year	Date of last killing frost	Days until spring
1919	March 5	31
1920	March 8	35
1922	March 4	30
1923	March 20	46
1928	April 15	73
1929	February 22	20
1932	March 13	40

Table B. Clear—
Groundhog did see shadow, February 2

1915	March 22	48
1916	April 9	67
1917	March 5	31
1924	March 15	42
1925	March 15	41
1927	March 22	48
1933	March 20	46
1934	March 19	45
1935	March 7	33

Table C. Partly Cloudy—
Doubtful years, February 2

1914	April 9	67
1918	February 21	19
1921	March 29	55
1926	March 31	57
1930	March 3	29
1931	March 29	55

*Data from files of the U S. Weather Bureau, Dallas, Texas.

Table A shows the time from February 2 to the last killing frost to vary from 20 days to 73 days, and average almost 40 days. In those years the groundhog did not see his shadow, and winter was supposed to end on that day.

It is interesting to note that one of the earliest spring seasons came under such conditions but was twenty days late.

Table B shows the time from February 2 to the last killing frost of spring to vary from 31 to 67 days, with an average of nearly 45 days. In those years the groundhog saw his shadow, and the coming of spring was to be delayed for six weeks. It is interesting to note that the groundhog made his one correct guess during that time (1924), and that he came within one day of repeating his luck the next year.

The time from February 2 to the last killing frost in Table C on the partly cloudy years, shows a range from 19 to 67 days, with an average of 47 days. Unfortunately there is no way to tell whether the groundhog saw his shadow on February 2 of any of those six years or not, but there is no year in the six that can be credited to his record.

The above tables reveal that the groundhog is not reliable as a forecaster, and that the climatological data of the Dallas Weather Bureau not only fail to substantiate his claims, but actually prove that he was correct only one time out of 22 attempts. Possibly twenty-two years is not a long enough record, but it seems doubtful that additional years would improve his standard. There appears to be no scientific basis for the groundhog legend, but in spite of that, people will continue to believe in it, and predict the date of the last killing frost on the condition of the sky each February 2.

MILDRED McDANIEL

TWO LEADING CHEMISTS VISIT SOUTHERN METHODIST UNIVERSITY

On Friday, March 8, Roger Adams, President of the American Chemical Society, and director of the department of Chemistry at the University of Illinois, was a guest on the campus. Members of the science faculty with President Selecman and Dean Jennings entertained for him at dinner. Later in the evening in the foyer of McFarlin auditorium an enthusiastic and appreciative audience of some two hundred chemists and friends heard Dr. Adams in a stimulating and impressive lecture on "Recent Trends in Applied Organic Chemistry". He particularly stressed the latest discoveries in the sex hormones and vitamins and showed by lantern slides the closest approximation to the structural formulae of some of them. One of the most interesting facts shown was the striking similarity in the general formulae of the two types of substances. Dr. Adams is a members of the Science Advisory Council recently appointed by President Roosevelt and is a member of the National Research Council.

Saturday, March 23, Professor B. S. Hopkins, en route to the meeting of the Central Texas Section, American Chemical Society, at Waco, spent the morning on the campus. The party of faculty members and students in the Chemistry Club who went to Waco entertained Dr. Hopkins at lunch-

eon. The discovery and isolation of the chemical element, Illinium, is one of the outstanding achievements of Dr. Hopkins. And the successful completion of the isolation came after twenty years of intensive work with the sand in which he was sure he would find the element. Dr. Hopkins was the guest speaker at the meeting in Waco. He gave an excellent presentation of "The Rare Earths and the Periodic System."

M. L. W.

THE CHEMISTRY CLUB

On February 27, a group of chemistry students under the guidance of Professors Whitsitt and Heuse, held the initial meeting of what was to become the Chemistry Club of Southern Methodist University. It was decided that the organization was not only to be a study group through which the members could understand some of the problems of current research, but also to serve as a means of acquainting students with chemical industries in Dallas.

The following officers were elected: President, Henry Lewelling; vice-president, Jarrott Harkey; secretary, Harold Briskin; treasurer, Herschel Karchmer. Two types of membership were established; senior members including those who have eight hours credit in chemistry with an average of B and majoring in the department; and associate members, those with four hours credit in chemistry with a grade of B.

Coincident with the beginning of the Chemistry Club was the visit on the campus of one of the foremost men of American Science, Dr. Roger Adams, President of the American Chemical Society. The young club, through Irving Richman, made plans to greet the visitor and gave a luncheon in Atkins Hall in his honor. In a short talk after the luncheon, Dr. Adams outlined the functions of the American Chemical Society and its importance to the young chemist. He stressed the importance and value of a pleasing personality as well as the need of ability and good graduate training for one who is to follow chemistry as a profession.

The Chemistry Club of S. M. U. is indeed proud to have its beginning associated with Dr. Adams and trusts that in the future it may be of service to students in bringing them other leading chemists.

J. HERSCHEL KARCHMER

CENTRAL TEXAS SECTION, AMERICAN CHEMICAL SOCIETY MEETS AT SOUTHERN METHODIST UNIVERSITY

November thirtieth and December first the Central Texas Section, American Chemical Society held its regular fall meeting in Hyer Hall. At the afternoon session on Friday an excellent program was given by members of the section. Professor W. M. Potts from the department of chemistry at Texas Agricultural and Mechanical College gave a paper, "The Solvent Effect in the Addition of Reagents to Unsaturated Compounds". This included work done by Professor Potts with Professor M. S. Kharasch at the University of Chicago. Mr. Helman Rosenthal of Dallas presented a most interesting account of his experimental work on the reduction of solids in water by electrolysis. From his results, it would seem that this method will be found practicable to use in water purification on a large scale. Doctor Sylvia Cover of the Experiment Station at Texas Agricultural and Mechanical College, presented "A Study of the Relationship between pH Values of the Contents of the Intestinal Tract and the Deposition of Calcium in the Bones of Rats". Professor E. P. Schoch, head of the Division of Industrial Chemistry at the University of Texas, in his forceful manner described how he has found a low-cost process for making a new high-strength plaster of Paris. As a result of his work Professor Schoch has appreciably increased the value of the Texas potash deposits.

Upon invitation of Professor Whitsitt, Chairman of the section, Professor S. W. Geiser of the department of biology of Southern Methodist University gave a paper, "The Negro in American Chemistry". Following the excellent presentation of this paper it was decided by the section that any member of the American Chemical Society, regardless of race, residing in the section area should be brought into membership of the Central Texas section; many members feel that the shackles of the unscientific and unintelligent racial prejudice are beginning to loosen. About seventy members and guests enjoyed dinner at Virginia Hall. They were entertained by a demonstration lecture on explosives by Herr Tonic and his assistant, who except on the lecture platform are Bennett Browder and Henry Lewelling.

The evening session was given over to a lecture by Dean H. B. Weiser of Rice Institute, the honor guest of the meeting. Dr. Weiser's lecture, "The Mechanism of the Setting of Plaster of Paris" was splendidly illustrated by motion pictures of the actual crystallization, showing the conditions under which crystallization best takes place.

On Saturday morning the entire membership and guests were conducted through the sulphuric acid plant of the United Chemical Company. And following that was a complete trip through the Lone Star Cement Plant. At the end of the trip Mr. L. R. Ferguson, vice-president and general manager of the company, was host to the visitors at luncheon.

E. O. H.

OBERHOLSER LECTURES AT SOUTHERN METHODIST UNIVERSITY

Dr. Harry C. Oberholser, senior biologist of the Bureau of Biological Survey, spent two days in Dallas early in April, and gave a free public lecture in McFarlin Auditorium on Thursday, April 4. Dr. Oberholser has spent the past forty years of his life in the study of ornithology, and his lecture, which had to do with wild ducks and conservation, was well received.

He has conducted explorations in 40 states and in 9 Canadian provinces, and has become an authority on North American birds, and well versed in world ornithology. During recent years he has been especially concerned with waterfowl abundance of this continent, having conducted a waterfowl census for the Biological Survey from 1927 to 1930, and in the following years he handled the Bureau's assembling of data reported by observers throughout this country and Canada. His work has been particularly helpful in establishing the location of the birds' concentration areas while on their wintering grounds.

Dr. Oberholser has been greatly interested in the study of the birds of Texas, a work which he began shortly after 1900. Since that time he has made repeated trips to this state, and has been gathering data which he is at present assembling into form for publication. On some of his trips to this region he was accompanied by the late great Louis Agassiz Fuertes, famous for his paintings of birds. Many figures were completed by Fuertes on these trips which have never been published, and it is the plan of Dr. Oberholser to include these, in color, in his completed work. The Texas Academy of Science is planning to sponsor the publication of the work, which is expected to fill two fair-sized volumes.

M. L.