

# FIELD & LABORATORY

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## Edward Otto Heuse (1879-1954)

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The death on June 2, 1954, of Dr. Heuse, professor of chemistry from 1918 to 1949, has removed the last of three long-term professors of science in Southern Methodist University. The biographical notice of Professor J. D. Boon of the Department of Physics was printed in the January, 1952 issue of *FIELD & LABORATORY*; the death of Dean E. W. Shuler (whose biography appeared in the January, 1953 number) was noted in the January issue of the present volume. It now becomes necessary to put into type an account of the life and work of Professor Heuse. It is a grateful though sorrowful task to bear testimony to the character of an old teacher and friend of nearly half a century. Our friendship began in 1908 in a little college in northeastern Iowa, and over the years grew in intimacy and confidence. Nor am I alone; as he was the soul of kindness, Professor Heuse will long be remembered by many a student and fellow-teacher as a warm, sympathetic, self-effacing, and self-denying friend.

EDWARD OTTO HEUSE, son of Otto and Louise (Scherling) Heuse, was born in Madison, Jefferson County, Indiana, on March 25, 1879. He attended the excellent public schools of his home town (on the Ohio River, in southeastern Indiana), and presumably prepared for college in the high school there. In his seventeenth year he entered Hanover College, ten miles from his home. From this college he was graduated as valedictorian of the Class of 1900, with the A.B. and B.S. degrees. Six years later he received *in cursu* the degree of Master of Arts.

During the year of 1900-01, young Heuse taught science in the Noblesville high school, near Indianapolis; and from September, 1901 to December, 1902, in a small Baptist seminary, "Webb City College" in southwestern Missouri. At the latter institution he on occasion served as acting president, in the frequent absence of President John W.

Keltner. This "college" (founded in 1897) was soon closed for lack of funds. Subsequently, for a half-year (in the spring of 1903), Heuse was Instructor in Physics and Chemistry at Antioch College, Yellow Springs, Ohio.

Filled with ambition to become a college teacher, Heuse now applied for an assistantship (laboratory and research) in the Department of Chemistry of the University of Illinois. He secured it, and from 1903 to 1907 was so engaged. On June 12, 1907, he received the M.S. degree in chemistry, with a Thesis entitled, "The Decomposition of Hydrated Ammonium Salts, with Special Relation to its Bearing on Molecular Structure." As no suitable college opening appeared at the time, Heuse took for the year 1907-08 an instructorship in science in the Township High School at Streator, LaSalle County, Illinois. In 1908 he married; that fall he began his career as a full-fledged teacher of college students at Upper Iowa University, Fayette, Iowa. Here, with his gracious wife, he spent four happy years. By careful husbanding of his modest salary, he was now enabled to spend two more years in graduate chemistry at the University of Illinois. On June 17, 1914 he received his Ph.D. degree. He spent an additional year on salary at the University of Illinois (1914-15) as Instructor in Chemistry.

The next three years Dr. Heuse taught chemistry at Monmouth College; and then in the fall of 1918 came to Southern Methodist University as professor and head of the Department of Chemistry. Two of his former colleagues at Upper Iowa University — Dr. J. S. McIntosh (Classics) and Dr. A. D. Schuessler (German) — had preceded him to Dallas, to become members of the original faculty (1915) of the University. The University was then in straitened circumstances (partly owing to the War); chemical equipment was meager, and quarters restricted to a few rooms in the basement of Dallas Hall; but Dr. Heuse as always made the best use he could of slender resources. "Monmouth College," he once told me, "had far better means and equipment for work in chemistry than Southern Methodist University then possessed." Much of his school experience had been on a small budget; and uncomplainingly he sought to do the best with the means at hand. His self-effacing and self-denying traits (for which his friends loved him) tended often to take on a shade almost of vice. For his department he often de-

manded less than the irreducible minimum; he asked but little for himself. To an interested outsider the Department of Chemistry often appeared then to be the stepchild of the University.

There were some small victories by the way, however. As a graduate student at the University of Illinois he had been elected to the honorary chemical fraternity, Phi Lambda Upsilon; later he became member, then Fellow, of the American Association for the Advancement of Science, the American Chemical Society, and the American Institute of Chemists. His master's Thesis and his doctoral Dissertation, both of them in the field of inorganic and physical chemistry, reflected his greatest interests. His Dissertation, entitled, "A Differential Dynamic Method for the Measurement of Vapor-pressure Lowering", was a masterly piece of work on the air-saturation method of such measurement. Yet in both his *published* Thesis and Dissertation his major professors took senior-authorship — a procedure that an historian of science would think had passed out of reputable use a century ago, even in German universities.<sup>1</sup> In this as in other matters, Dr. Heuse probably found his reward in the inner consciousness of having done his best in the numerous tasks to which his hands had been laid.

Once I expressed to Professor John H. McGinnis my regret that the early professors at the University had not "kept their hand in research" after attaining the doctorate. With patience and kindness he said, "You don't understand the conditions under which professors worked, in an institution growing up to be university out of a johnson-grass pasture." The situation in the Department of Chemistry when Dr. Heuse came to the University may serve to illustrate how that worked.

Professor John H. Reedy (Ph.D., Yale) was our original professor of chemistry, having come from Southwestern University at Georgetown in 1915. In 1918 he accepted a professorship in chemistry at the University of Illinois. In his last year here (1917-18), the Department included also

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<sup>1</sup>Thesis and Dissertation were published under the following titles: WILLIAM M. DEHN & E. O. HEUSE, "Decomposition of Hydrated Ammonium Salts," *Jour. Amer. Chem. Soc.* v. 29, pp. 1137-65, August, 1907. EDWARD W. WASHBURN & E. O. HEUSE, "The Measurement of Vapor-pressure Lowering by the Air Saturation Method." *Ibid.*, v. 37, pp. 309-21, February, 1915. Washburn (*Physical Review* [III], v. 5, pp. 342-43 April 1915) published the method employed, but does not say whether the apparatus originally was designed by H. B. Gordon, E. O. Heuse, or himself. Washburn presented the paper at a November 28, 1914 meeting of the American Physical Society.

Assistant Professor Lyle J. Pletcher and three undergraduate assistants. Pletcher, a Chicago M.S., left the University in 1918 to go into industrial chemistry. As a consequence, the year 1918-19 (Heuse's first with us) saw the chemistry staff reduced to a single undergraduate assistant, Waldo B. Burnett (later to make a solid reputation as an experimental and industrial chemist.) Dr. Heuse gave the lectures of eleven term-courses spread over Fall, Winter, and Spring terms — each course a 5-hour unit. His work-load, spread over the three terms of his first year (based on his grade-sheets in the registrar's office), was distributed as follows:

<i>Fall</i>	<i>Winter</i>	<i>Spring</i>
Chem. 4	Chem. 2	Chem. 3
Chem. 51	Chem. 5	Chem. 11
Chem. 70	Chem. 52	Chem. 72
	Chem. 71	Chem. 80

This schedule of work (not one greatly to facilitate productive research through its ample leisure) promised to be somewhat lightened in the second year by the appointment of Associate Professor August G. Koenig and two undergraduate assistants. The discovery of oil on Koenig's Mexia properties led to his resignation at the end of the Winter Term (March 25, 1920); as a consequence Dr. Heuse in the Spring Term now had to carry not only the lectures previously assigned to him, but also those of Professor Koenig, with the following results:

<i>Fall</i>	<i>Winter</i>	<i>Spring</i>
Chem. 4	Chem. 5	Chem. 3 (Sec. 1)
		Chem. 3 (Sec. 2)
		Chem. 11
		Chem. 21
		Chem. 53
Chem. 70	Chem. 71	Chem. 72
		Chem. 75

He thus carried in the Spring Term the lectures of seven 5-hour courses. It goes without saying that such a situation made almost impossible adequate keeping-up with the advances of chemistry in a broad sense, and completely interdicted research in the field.

Dr. Heuse was par excellence a teacher. Hundreds of graduates of Southern Methodist University will remember with gratitude his lucid teaching of the principles of chemistry from the stores of an acquisitive and encyclo-

paedic mind. Most of all will they remember his unflinching kindness and sympathy. What if often he mistook geese for swans? "He always treated me as a younger equal", said an old student of many years ago, "and made me feel that I counted. Much of what I have done over the years has stemmed from the inspiration and encouragement of those early years when as a raw country boy I enrolled in his classes."

S. W. GEISER

### Locations of Maximum Numbers of the Wheat Curl Mite, *Aceria tulipae* (K.) (Eriophyidae) on the Winter Wheat Plant during Spring Growth<sup>1</sup>

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Coincident with investigations on chemical control of wheat curl mite, *Aceria tulipae* (K.)<sup>2</sup>, a vector of wheat-streak mosaic, it was necessary that the area of heaviest and most uniform populations on the wheat plant be determined for mite counts. Both greenhouse screening trials and field application tests of miticides are being conducted currently. Since little is known concerning this mite, certain biological observations are recorded below for the information of other workers.

As the season advanced it was found that a progressively upward movement of mite colony establishment took place on the aerial portion of winter wheat plants. Counts on basal leaves, begun April 28, tended to lose their importance as evidences of total mite populations as the plants grew. The plants started jointing in early April. Prior to head emergence, mite counts were made on the upper side of the second visible leaf where it joins the leaf sheath. These counts were made on a measured area of the leaf blade close to the leaf sheath, and included the pocket formed by the ligule (Figure 1). The mites seemed to congregate most at this site at least during the daylight hours, and the average count was twenty mites per site in unsprayed plots. Eggs were also more abundant in this sheltered area. Mites were also abundant on the curled, top leaf, but counts were not

<sup>1</sup>Contribution No. 628, Department of Entomology, Kansas Agricultural Experiment Station, Manhattan.

<sup>2</sup>Identifications made partly by R. E. Beer, University of Kan., and partly by H. H. Keifer, Sacramento, Cal., are gratefully acknowledged.