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# The UNL Botanical Seminar: Establishing a Scientific Community at the Turn of the Century

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## Abstract

This is an online work cataloguing the history of the UNL Science Departments. It has several pages focusing on digital collections, as well as some written analysis. To date the collection includes the Chemistry Department and Life Sciences Departments, although data for additional departments are currently being assembled from the Love Library Archives & Special Collections. Special emphasis is placed on lists of faculty and detailed timelines for each department. Additionally, the groups and clubs associated with each department, including the Chemistry Club and Botanical Seminar, are of particular interest as scientific communities which shaped the departments, university, and field. Additionally, collections of Christmas newsletters sent by various departments define the focus and values of the departments and university, and indicate the direction science is taking in particular fields. Agricultural work was particularly important at the end of the 19<sup>th</sup> Century, but industrial projects expanded at the beginning of the 20<sup>th</sup> Century and during the war years. Today, research and industry collaborate; the technological advances by the science departments have made this possible in previously unimaginable ways. The archival research has yielded interesting information on the way each department affected and was affected by the changes in the structure, size, and focus of the University of Nebraska, in eras such as the agricultural recessions, wartime industrial booms, baby booms, and technological shrinking of geographical distances. The structuring and focus of scientific communities at the University of Nebraska have defined the direction of the university and of scientific progress.



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Paper presented at the 3rd Annual James A. Rawley Conference in the Humanities — *Imagining Communities: People, Places, Meanings*. Lincoln, Nebraska, April 12, 2008. Sponsored by the University of Nebraska–Lincoln History Graduate Students' Association. Copyright © 2008 Susannah Hall.

The University of Nebraska saw several significant scientific communities develop at the end of the Nineteenth Century, when the University was just beginning to come into its own as a serious collegiate institution. These communities pushed the science departments, both faculty and students, away from rote memorization and towards groundbreaking research. They encouraged members of the community to learn and contribute, and developed a scholarly camaraderie which eventually circled the globe. These scientific communities influenced the rate and direction of the university's growth and helped to define the departments' aspirations and purpose.

Scientific coursework, for more than a decade at the beginning of the University's existence, entailed memorization of two or three main textbooks. Students could choose between a few courses of study for their four years at the school: the Classical Course or the Scientific Course, or later on an Arts Course. The "Science Course" had different requirements over the first few decades, but these usually included Latin, Greek, German and French, about twenty classes in history, literature, philosophy, and rhetoric; five math courses, three chemistry courses, one class each for botany, physiology, physics, astronomy, geology, mineralogy, meteorology, and zoology.<sup>1</sup> During the 1880s, some laboratory coursework was added, usually to the effect of two chemistry labs and an anatomy observation. The minimal requirements resulted in students who could recite pages of textbooks, but not necessarily analyze any scientific problem they had not been taught. The agricultural "Farm" changed this slightly, but the University was struggling to gain prominence and accreditation from peer institutions and the state. The building of scientific communities helped the school to attain these goals.

One of the science clubs at the University of Nebraska, undeniably influential in the rise of scholarly research and scientific rigor at the university, was the Botanical Seminar. The Sem Bot (as it was affectionately called) came into existence October 11, 1886. Although it is often stated that seven students founded the organization, the first year's roll includes only five students—J. G. Smith, H. J. Webber, J. R. Schofield, J. A. Williams, and Roscoe Pound—who decided to test each other above and beyond the regular rigors of scientific

study. The next year's roll includes A. F. Woods, J. H. Marsland, and L. H. Stoughton.<sup>2</sup> Once a week, they held convocation, where one or two students would read original papers, and the other students would then critique and question the writers. Since the topics of the papers were announced six weeks in advance, the students were thoroughly prepared to rip the presenter's position to shreds. This, of course, prepared the students for stringent scholarship and promoted well-studied, well-researched papers, not to mention any later publications. In a hopeful manner, in each year's "Chronicle", a section headed "Publications," usually empty during the first decade, concluded the record.

However, the rigors of convocations were slightly misleading: the Sem Bots were anything but dry and reclusive. The men enjoyed "tossing lits" in tussles with students from the literary societies, composed songs on botanical subjects, and ate "Canis Pie", traditionally filled with mincemeat, presumably never actually made with dog. Under Professor C. E. Bessey, these students, not all of whom originally focused on or continued in Botany, established a long-standing, somewhat irreverent society.

According to the society's official records, the year 1888

was the most prospered year of the Sem Bot. The greatest enthusiasm was manifested by all, both in Botany, and in the persecution of lits. Regularly after each convocation one or more lits were tossed, and the tossing of lits and consumption of CANIS PIE became so common at the Lab. as to cease to attract attention. In the Scientific Club, too, the Sems were completely dominant, filling the programs and electing officers as and whom they pleased.<sup>3</sup>

After proceeding for several years in this manner, the Sem Bot began to feel their work could simultaneously educate other members of the university and state. In 1889, the Sem Bot undertook to develop the *Botanical Survey of Nebraska*. Initially they planned a severe rewriting of Samuel Aughey's *Flora of Nebraska*, commonly viewed by faculty and students as an ill-researched, error-ridden shame to have as the university's first publication in botany. Determined not

to be accused of the same lackadaisical approach to scholarship, the members went out into the state, collecting specimens for verification, and paving the way for even more work on the subject in subsequent years. They were so thorough and dedicated that R. Pound earned his MA for organizing and directing it, and some of those early specimens remain in the Nebraska State Museum collection still (a tribute to their preservation).

The Sem Bot also encouraged professors to expand their repertoire. In 1886, F. S. Billings taught the first course on animal disease. In 1888, the Sem Bot asked Professor Lawrence Bruner to outline a course in insect fauna. He taught the university's first entomology course in 1890, and by 1895 established the Department of Entomology & Ornithology. Bruner also established a standard for international cooperation in ecology by journeying to Argentina at the request of that country's government, in 1897, to fight grasshoppers. In 1893, Henry Ward, sometimes dubbed the "father of American parasitology", taught the first laboratory class in parasitology in the Western hemisphere. The Graduate College officially came into existence in 1893, and in 1896 Instructor Herbert Waite organized the Department of Bacteriology.

Later, the expanded colloquia functioned as a continuing education program for faculty, and supplementary lectures for pupils. The Sem Bot lectures encouraged students and professors to learn outside their primary areas of focus. The constant pressure on readers to take a new position or find new insight inspired research projects in the department and fostered a higher level of scholarship by undergraduate and graduate students. The graduate program itself came into maturity during the first decade after the Sem Bot's foundation: the first A.M. was awarded in 1886, and the first Ph.D. in 1897.

As more students joined, and members graduated, the society expanded to include graduate students in 1888, and faculty members beginning around 1890, mostly to accommodate members who attained these positions. The meetings came to entail certain traditions, especially during the first open convocation of the year, where a banquet was often held. The dishes on the menus were written in

their two-part Latin botanical or zoological names, according to the Linnaean system. The toasts for the banquets were equally entertaining: on 21 November 1891, a banquet was described thus in the Records of the Sem. Bot.:

“The Chancellor”	Roscoe Pound, Toastmaster
Response by the Chancellor	
“The Sem Bot & the Department of Botany”	Dr. Bessey
“The World We Live In”	J. G. Smith
“The Perfessor”	J. H. Marsland
“Boys”	Prof. Bruner
“CANIS PIE!!!”	The L.W. (A. F. Woods) <sup>4</sup>

After the toasts, “A feeble attack by some lits was ignominiously put to flight, the lits losing their hats, and at the close of the banquet a magnificent UNDULATOR was sent forth upon the midnight air.”<sup>5</sup>

The Undulator and its meaning were described by Edith S. Clements in her article, “Our Botany Trip” in 1909:

When the long wailing notes of the Sem. Bot. undulation rose on the June air, heads were thrust from windows of the oncoming train in startled surprise, and even the townsfolk stopped to listen. Etiquette demanded a like response, and after scrambling aboard with much laughter and some curses at encumbering luggage, we rushed to the rear platform and sent wavering back towards the disappearing lights of the city those same mournful notes so intimately associated in our minds with aspirations towards scientific attainment, and huge sectors of mince pie:

Peye-eye! Ca-nis! Peye-eye!  
 Whoop-ee!  
 Show! Me! A! Lit!  
 Non-cum-dipteris-  
 dor-sal-i-bus-  
 afflicti--s-u--m-u-s!

"I like that song," said Babe as we sought our Pullman seats and sat down to recover from the hurry and excitement. "It makes little prickles run up and down my spine. But what does it mean anyhow?"

"That, my dear child," answered Dad [R. J. Pool], who hopes some day to be a professor in the University, "represents the learned way in which the learned members of the most exalted Botanical Seminar of the University of Nebraska express their articles of faith. 'Pie-well, er-that's merely pie-not 'pie-eye' you understand; it's necessary in order to chant in the approved Gregorian manner, though it's quite unlikely the monks of that day were acquainted with pie..."

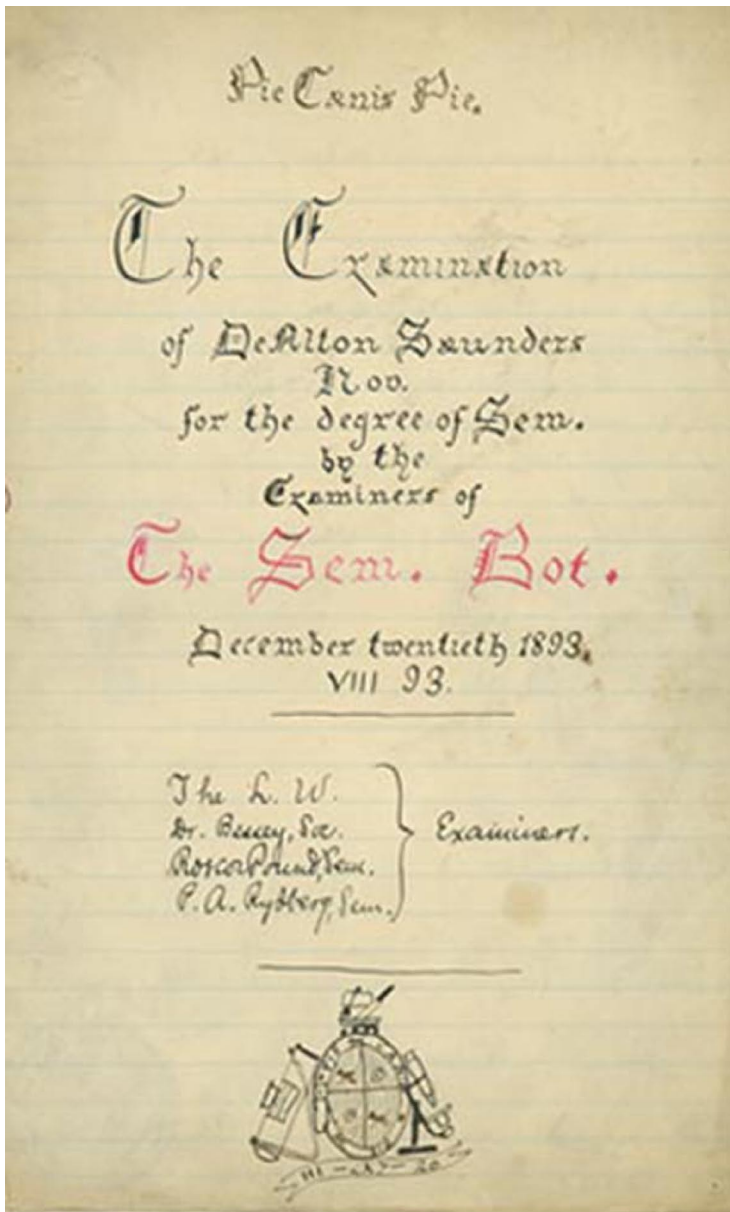
"Poor things, murmured Nell. "No wonder they retired to monasteries and invented such doleful wailings."

"Canis," continued the lecturer, ignoring the interruption. "Who remembers enough Latin to tell what that means?"

"I know. I know, teacher," cried Nell, waving her hand in the air. "Can-is, can-e, can-em, dog. But where does the dog come in?"

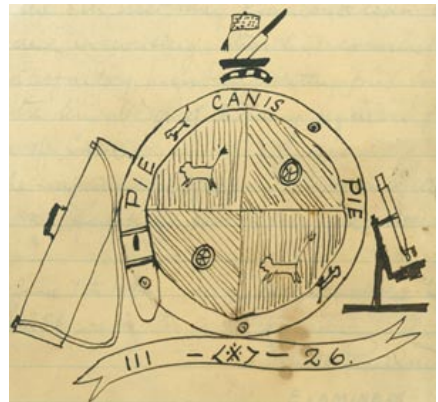
"In the pie, of course, though it tastes better under the name of 'mince-meat,' which is the regulation filling for the pie consumed at our high and mighty feeds. 'Show me a Lit.," continued Dad, "means that if a scientific student means a member of a literary society on a dark night, the latter should jolly well look out. But the gist of the whole matter, Little One, lies in the final statement which, though here appearing in purest Latin, means in vulgar parlance that 'there are no flies on us,' the truth of which assertion we are one and all pledged to maintain to the bitter end."...<sup>6</sup>

The structure of the Botanical Seminar was designed with a Lord Warden (LW) over the Honorarii, Ordinarii or Seminarii, Novitii, and Candidati. In order to officially become a member of the Sem. Bot., or to attain a higher level of membership, the candidate was required to pass a written examination and an oral defense in front of a committee of examiners. A great deal of effort went into each

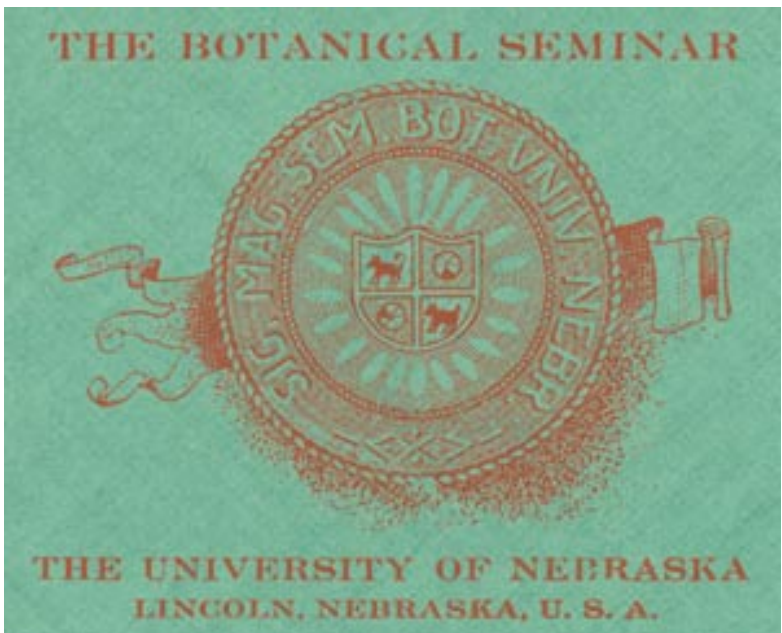


Examination packet cover for D.A. Saunders to become a Sem. in 1893.





The seal of the Sem. Bot., shown at the bottom of the previous cover, changed often. Other forms seen throughout the years included: Seal - D. A. Saunders Candidatus 1893 (left), and Seal - C. A. Turrell Candidatus 1894 (right).



The simpler figure was adopted for general use, as drawing individual seals in meticulous detail for every examination and piece of correspondence became impossible.



By its tenth anniversary, the Sem. Bot. had developed from a student-centered group to include a significant number of faculty. This photo was taken December 30, 1896.

examination, both by the examinee, and the examiners, who wrote new questions for each exam, specifically tailored to challenge the examinee, and constructed the packets by hand for the first ten years of the Seminar's existence.

By this time, most of the original members had begun to go their separate ways. Most earned graduate degrees. In 1890, J. G. Smith took a "round the world tour," first studying at Zurich, then in Australia. Schofield and Williams both graduated from the University. Herbert Webber graduated and taught a little, then left the University in 1891. Roscoe Pound studied for one year at Harvard Law, then returned to Lincoln, became a member of the Bar by apprenticeship, and then become a Professor of Law while earning the first doctorate in Botany at the University of Nebraska. Other important

members, Fred and Edith Clements, stayed on studying and teaching for several years before going to the University of Minnesota in 1907; their excursions at NU are instrumental in their later decision to establish Pike's Peak Alpine Laboratory, also called "Pinecroft." However, the members of the Sem Bot had built a camaraderie that spanned the globe. Visits to Lincoln by old members were celebrated usually by a meeting at the train station, a small banquet and colloquium in their honor, and a thoroughly practiced ritual of *Canis Pie* and the *Undulator*. Since many of the students went on to become faculty elsewhere, they were able to carry this and often found similar programs at other universities.

In fact, many of the students had taken on teaching positions at the University of Nebraska itself during the 1890s, and so the club had expanded to include many faculty members. In fact, almost, if not all of the Botany department faculty members were in the Sem Bot during parts of the first twenty years of the new century. The new faculty were rarely put through the thorough examination procedure endured by earlier members, but the amity established by the club strengthened both the department and the scientific community as a whole. For the most part, the Botany department had lower faculty turnover during than the other science departments of the period. It is interesting to note how long many of the professors who joined the department in the early twentieth century stayed at the University: the Walker sisters, Elda and Leva, taught for over half a century each; Dr. Emma Andersen taught at the university until the 1960s; Dr. Pool was associated with the department until 1956. Also, the developments in the Botany department promoted a healthy sense of competition within and without the department. Other sciences expanded their efforts and programs in order to achieve funding and results comparable to the Botany departments. This was somewhat difficult when the Botany department had worked so hard to assemble strong relationships with the administration of the University. The presence of the Chancellor and other high-ranking officers of the system at banquets indicates the University's involvement in the department and the Sem Bot. As is often the case, involvement implies investment, and the

strength of the program by the time of the twentieth anniversary was impressive.

On October 11, 1906, the Sem Bot celebrated its twentieth anniversary. An article appeared in *Science* in December (Volume 4, Issue 101, pp. 822-825) describing the successful organization and its history. At the celebration, C.E. Bessey gave a speech, wherein he addressed the purposes behind the Sem Bot. Although the full text of the speech was not transcribed, his notes remain:

“Canis Pie & Meristem: 2 very important things--”

1. Canis Pie

Contributes to bodily support, giving strength, tone, vigor.

Made of vegetable & animal, i.e. *Biological*

Always a:

--mixture

--mystery

The Eater is an *investigator*.

2. Meristem

--is growing

--may develop

--may change

--may take new ideas

--is not fixed

--Meristem is youth

--Permanent tissue is *Old Age*

--Be Ever Young

--Don't grow old

To sum up: “Keep yourselves so that you may grow, and not become fixed. Keep an abundance of mental meristem, and avoid acquiring too much permanent tissue. Have a bias for the new and untried.”<sup>7</sup>

After Bessey's death in 1915, the leadership of the Sem Bot passed to R.J. Pool, who had indeed become a Professor at the University. As the size of the club grew, however, its rigorous demands decreased, and the club became less inclined to toss lits and employ the Socratic Method in response to members' papers. The tradi-

tion of pie remained, but the important aspects of its consumption and symbolism were all but forgotten. By the late 1920s, the club had degenerated into more of a social scientific club, with its student leader Julia Joyce Harper even petitioning to surviving original members to change the society's name to "Sigma Beta" according to the Greek-ification trend of the period. Roscoe Pound responded to Ms. Harper in May, 1924: "For my part, I should say go on with the Botanical Survey; go on with the Flora of Nebraska; do some big things for botany and let the wearing of pins and sporting of Greek letters be done in connection with some other organization."<sup>8</sup> The society dwindled, however, as the expansion of summer programs to Cedar Rapids and the Black Hills rendered many of the convocations and colloquia superfluous. Students and faculty could travel and learn beyond the campus much more easily, and the smaller groups created within these programs were easier to develop than the expansive ranks the Sem Bot included at its peak, around 1920.

However, the catalyst had served its purpose: it inspired a research-based botany, and later on, biological sciences department. I would be betraying the scientific term catalyst if I did not acknowledge that it was necessary to accelerate this reaction, but not for the end product. The Sem Bot, like many other professional societies, faded into oblivion during the 1930s, when scholarships and salaries dwindled significantly. It no longer appears in the *Cornhusker* annual after 1931, and the records discontinue after 1936.

Fortunately, the glories of the Sem Bot and other scientific societies from the beginning of the university's existence have been preserved by the UNL Archives & Special Collections and the Nebraska State Museum collections. It is because of these records that I can now read the Sem Bot creed, and recognize its impact on the development of sciences at the University of Nebraska, and eventually its impact on universities across the nation:

I believe in a vegetable kingdom of which the Myxomycetes are not a part. I believe in the Bessyan system of classification. I believe in the nutritive qualities of Canis Pie. I believe in the Schivendenerian algo-lichen hypothesis, in the heteroe-

cism of rusts, in the law of priority, in the use of parentheses in nomenclature and in the decapitalization of specific names. *Frigida dies est cum relinquemur! (Feeble is the day when we are left behind!)*<sup>9</sup>

The impact of this scientific community was profound, and helped to strengthen the department, the University, and the state of Nebraska as all three struggled to grow at the turn of the century.

### Notes

- 1 *The Register and Catalogue of the University of Nebraska. Lincoln, Nebraska, Fourth Session, 1874-1875.* Lincoln: Journal Company, State Printers, 1875.
- 2 *Records of the Sem. Bot.* "Chronicles of the Sem. Bot. Year I (University Year 1886-7)". P 3 and "Chronicles of the Sem. Bot. Year II (University Year 1887-8)". P 4
- 3 *Records of the Sem. Bot.* "Chronicles of the Sem. Bot. Year III (University Year 1888-9)". P 7
- 4 *Records of the Sem. Bot.* "Chronicles of the Sem. Bot. Year VI (University Year 1891-2)". P 14
- 5 *Records of the Sem. Bot.* "Chronicles of the Sem. Bot. Year VI (University Year 1891-2)". P 14
- 6 Clements, Edith S. "Our Botany Trip" *Nebraska Alumnus*. Nov. 1939.
- 7 C.E. Bessey. Notes for 20<sup>th</sup> Anniversary. October 11/06.
- 8 Pound, Roscoe. Letter to Julia Joyce Harper, 20 May 1924.
- 9 *The Book of the Sem. Bot.* "Creed" p. 12