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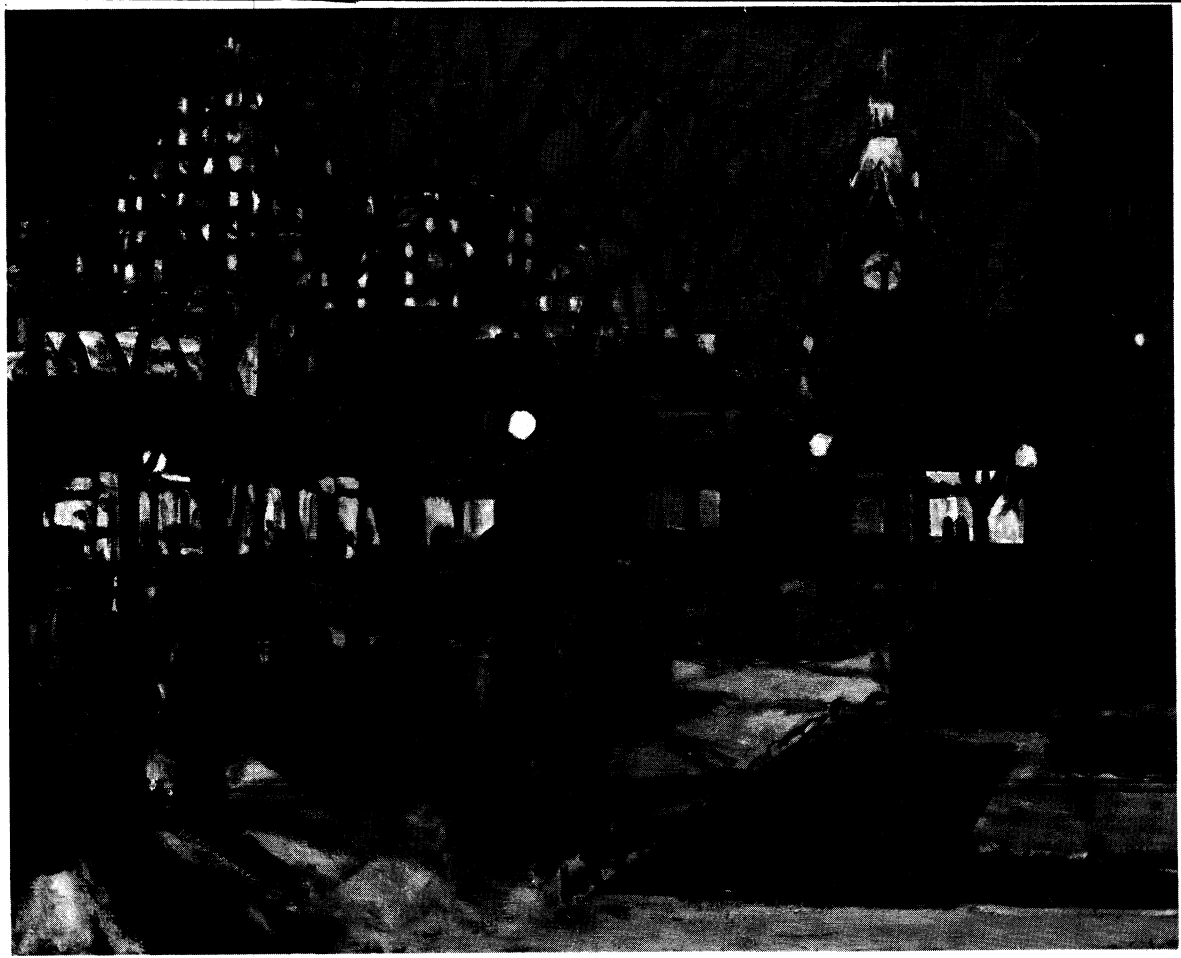
WISCONSIN ACADEMY REVIEW

WINTER 1963



WISCONSIN ACADEMY
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Vol. 10 Winter, 1963 No. 1

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WISCONSIN ACADEMY REVIEW

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THE LABORATORY OF LIMNOLOGY AT THE UNIVERSITY OF WISCONSIN

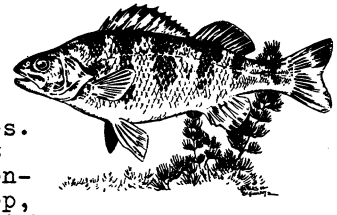
By Arthur D. Hasler, Director
and
Professor of Zoology

An internationally known limnologist, Professor HASLER obtained an A.B. degree at Brigham Young University and a Ph.D. at the University of Wisconsin. Active in research, in 1954-55 he worked in Germany as a Fulbright research scholar. After acting as president of the Ecological Society (1960) he is now a member of their Ecological Study Committee, as well as of the research advisory committees for several governmental research agencies. During World War II he was in the U.S. Strategic Bombing Survey-Germany (1945). In 1962 he acted as Chairman for the 15th International Congress of Limnology held in Madison. At present he is working with the International Biological Program (IBP) which is under the jurisdiction of the International Union of Biological Sciences and is similar to IGY.

Since the 1940's, aquatic research at Wisconsin has been dominated by the philosophy of experimental limnology. Made possible by the development of modern apparatus, experimental limnology stands upon a foundation of descriptive knowledge assembled here and elsewhere. Since limnology and its sister science oceanography augment one another and are inseparable as disciplines, problems of mutual interest may be effectively studied in lakes, where the more manageable size favors experimental testing of many theories. Subsequent understanding of the processes of surface waters will enable man to better utilize this resource for his various needs without detriment to it. We have become aware that sovereignty over water carries with it the moral obligation of wise utilization to insure that future generations will not be robbed of their heritage.

General Facilities and Location

As a consequence of a generous grant from the National Science Foundation, limnological research was given significant encouragement through the construction in 1962 of a new facility on the campus shoreline of Lake Mendota--the Laboratory of Limnology. An attractive formed-concrete building designed by Wisconsin Architects, Kaeser and McCleod, is cantilevered over the waters of Lake Mendota.



YELLOW PERCH

It provides offices, laboratories, conference rooms, a library and supporting facilities for a staff of 35 people, as well as adequate fish-holding and storage facilities. The basement level encloses a boat slip opening to Mendota between concrete entrance piers. A large shop, rooms for gear and boat storage, fish holding tanks, small rooms for recording instruments, motors, and batteries, and a shower room with locker facilities complete the lower floor.

The first floor includes laboratories for graduate students and visiting personnel, for paleolimnology, the study of specialized waters, northern lakes studies, and hydrobotany and microbiology. A dark room, culture room, isotope room, instrument room and chemical laboratory are also included. The second floor consists of laboratories for the study of the behavior of fishes, physiology of fishes, zooplankton and benthos, physical limnology, and fishery biology. Offices of the director, secretaries, a library, large aquarium room, graduate laboratories, and offices for investigators are welded into a working unit. The laboratory was designed, not only for the needs of the students and faculty, but also to meet those of the visiting investigator, who often adds much to our program by drawing upon his varied background.

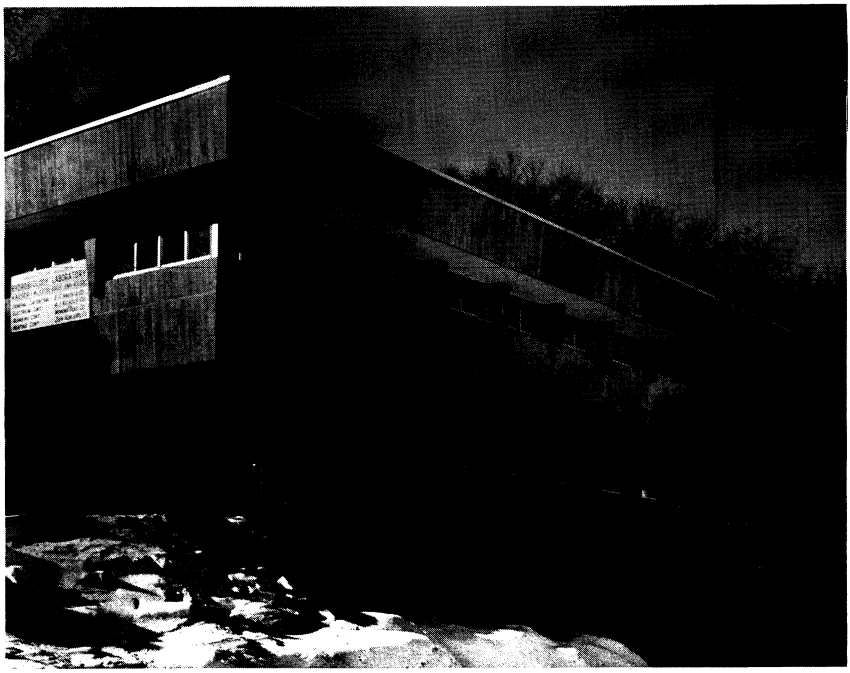
The campus laboratory embodies the advantages of a summer field station in addition to those of a large midwest campus, and provides the investigator with the opportunity for adequate housing and cultural enhancement. Moreover, competent advice is available in most scientific disciplines, as the Laboratory is located close to associated groups in supporting sciences. Cooperation among many departments of the University, including Botany, Meteorology, Engineering, Physics, Chemistry, Zoology and Bacteriology has been a feature of limnological research at Wisconsin. Working agreements with state agencies, as the Wisconsin Conservation Department and the State Board of Health, have broadened the scope of our research immeasurably. Besides Lake Mendota, the lower lakes of the Yahara system are within ready access. A series of small ponds in the nearby Arboretum of the University has been used for experimental studies. Likewise, a modest research laboratory at Trout Lake, Boulder Junction, Wisconsin, operates the year around. In addition, mobile units enable studies on outlying lakes and rivers.

Financial support has come from the following granting agencies for research and training of graduate students: National Institutes of Health, National Science

Foundation, Atomic Energy Commission, Wisconsin Conservation Department, U. S. Office of Naval Research, and University of Wisconsin Research Committee. Generous civic-minded individuals who have in the past supported fellowships include: Guido Rahr Foundation, Dr. and Mrs. Lester V. Frankenthal, Jr., Ben S. McGiveran Foundation, and Mr. Duncan Stewart (deceased).

Habitats and Fauna

Lake Mendota lies in the valleys of the pre-glacial Middleton and Yahara Rivers, which were dammed with glacial drift some 9,000 to 13,000 years ago. For many years the lake has been under the influence of the rich agricultural area which surrounds Madison; today Mendota is biologically a highly productive lake. Its rich populations of phytoplankton, zooplankton, benthic organisms and fishes are today a valuable source of potential knowledge to the limnologist. Detailed faunal lists for various groups have been catalogued within a list of the publications of the laboratory (Juday and Hasler, 1946. Trans.Wis. Acad., 36: 469-490; and Ch. 2, by A. D. Hasler in North American Limnology, University of Wisconsin Press, 1963).

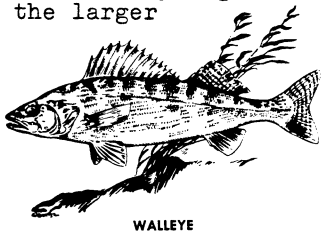


The new Laboratory of Limnology at the University of Wisconsin.

The algal flora of Lake Mendota is of the cyanophyte-diatom type. Large blooms of Gloeotrichia and Lyngbya develop during the summer months; Cladophora is abundant on the shores and festoons the large aquatic plants during June. The larger aquatic plants are mainly of the submerged type; Vallisneria is most abundant, while Ceratophyllum, Myriophyllum and three species of Potamogeton follow in importance.

Lake Mendota has approximately 11 species of limnetic crustacea; the population during one year is likely to be dominated by three cladocerans of the genus Daphnia and, among the copepods, two members of the genus Cyclops, in addition to Diaptomus and Diaphanosoma. Two other cladocerans, Chydorus, a marginal form, and Leptodora, a planktonic predator, appear in considerable numbers. The deep bottom fauna is dominated by Chironomus and Chaoborus. In the shallow zone molluscs and insects are abundant.

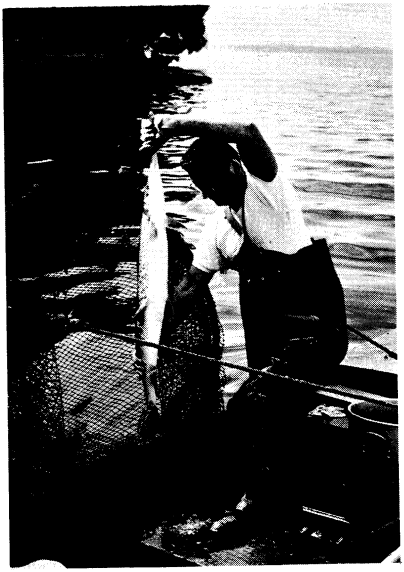
According to a study recently completed by my student, Donald C. McNaught, the fish fauna of Lake Mendota is comprised of approximately 59 species in 21 families; of these, 40 species in 18 families are well documented while the remainder are questionable. Geographically, Mendota is a part of the Mississippi drainage, although the fish fauna exhibits affinities to both the Mississippi and Great Lakes drainages. The families Cyprinidae, with 14 species represented, and Centrarchidae, with a total of 8 species, make the greatest contribution. The yellow perch, Perca flavescens (Mitchill), and the white bass, Roccus chrysops (Raf.), are dominant among the pelagic fishes and provide for an important sport fishery. The cisco, Coregonus artedii LeSueur, formerly an important component of the pelagic fishery, has undergone catastrophic die-offs in recent years and is now a rare species. The yellow perch and the white bass have been studied most extensively, especially as concerns movement and activity, feeding periodicity, reproductive behavior, natural history, population dynamics and homing behavior as related to olfactory and sun orientation. The perch population has been variously estimated at from 4 to 15 million individuals, although the fact that an estimated 1½ million perch were taken through the ice by anglers during the winter of 1956-57 makes the larger estimate more likely.



WALLEYE

Research stations located on Trout Lake, among the small lakes of Chippewa County, and on the Brule River in Douglas County are all within the northern hardwood and conifer forests. Within easy driving distance of these stations

are numerous lakes of varying size and characteristics, ranging from the largest freshwater lake in the world (Superior) to small dystrophic bog lakes. In this area there are two unique lakes, the only known meromictic or permanently stratified lakes in the state - Lake Mary in Vilas County and Stewart's Dark Lake in Rusk County. In addition, a variety of aquatic habitats, including bogs, ponds, and artificial flowages, occur nearby. Local streams drain either into Lake Superior or to the Mississippi watershed. In addition to their resident trout populations, some of the south shore streams of Lake Superior contain migratory runs of rainbow and brown trout. No comprehensive check-list is available for the organisms present in the northern area. Fish of a unique nature whose distributions are limited within the state include muskellunge, Esox masquinongy Mitchill, the lake trout, Salvelinus namaycush (Walbaum), the lake sturgeon, Acipenser fulvescens Rafinesque, and several species of the genus Coregonus.



Investigating Lake Mendota fishes provides extensive information.

Major Research Programs

Today the University offers an integrated program of research and teaching in the fields of physical, chemical and biological limnology. The laboratory has emphasized the study of the orientation of fishes and experimental limnology. However, problems in areas including the physiology, behavior and population dynamics of fishes, as well as basic studies in physical and chemical limnology, of necessity make our program a diverse one. (See Ch. 2, by A. D. Hasler, in North American Limnology, University of Wisconsin Press, 1963).

A number of projects deal with some of the more basic aspects of fisheries biology. One of continuing interest concerns the mechanisms used by fish in homing. The odor of the home stream has been shown to be important in guiding spawning salmon to the river of their birth. Special interest has recently been upon the development

of apparatus and methods of tracking migratory fishes, as a satisfactory solution would help to solve both the problems of homing of white bass in Lake Mendota as well as the study of salmon and other migratory species on the high seas. In addition, it has been shown in this laboratory that the altitude, in addition to azimuth, of the sun affects the directional choice of fish which have been trained and tested in a sun orientation apparatus. Studies of the diel migration of Daphnia and the related feeding of white bass are being conducted by artificially manipulating light intensity and quality in the field. In the laboratory, the hormonal influence of protein synthesis is being studied using rainbow trout.

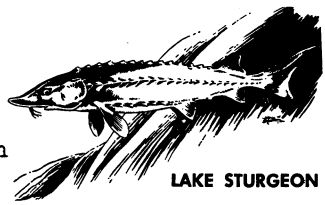
Of a somewhat different nature are programs dealing with the microbiological assay of vitamin B_{12} and the seasonal succession of filamentous algae in Lake Mendota.

Two local fisheries command attention. The rainbow and brown trout of the Brule River are of interest because of their migratory nature. Studies of age and growth prior to migration from the stream, as well as the growth and behavior of fry and fingerling trout are at present in progress. Many lakes in northern Wisconsin are stocked with walleyes. A comparison of the survival of stocked versus naturally spawned walleyes, including the degree of competition between stocked and naturally spawned fishes should provide a basis for future management recommendations. Other fishery problems receiving attention include the ecology and life-history of the white bass, the seasonal abundance of larval fishes, and the winter movements of perch in ice-covered Lake Mendota.

Basic studies in physical and chemical limnology are likewise important in our program. Radioisotopes are presently being used to measure water movements in small experimental lakes; a knowledge of water movements in isolated basins is basic to the problem of the disposal of atomic waste. In collaboration with Profs. Bryson and Ragotzkie, Dept. of Meteorology, work on problems of physical limnology is underway in the Antarctic. In a related area, internal waves and heat propagation in Lake Mendota are studied through the use of a modern system of data acquisition.

Attention has been directed to the Great Lakes as a consequence of a 12-year study by Dr. Mortimer of the Scottish Marine Laboratory, on water movements in Lake Michigan. Dr. C. H. Mortimer, while serving as Brittingham Research Professor at the University during 1962-63, is continuing his study of data collected from water intakes and water-level recording stations around the lake. He has disclosed large fluctuations in thermocline depth,

initiated and largely controlled by wind but also propagated as internal waves move counterclockwise around the lake. The University of Wisconsin-Milwaukee is contemplating an increased research effort on Lake Michigan in collaboration with the Laboratory of Limnology in Madison.



LAKE STURGEON

New interest also centers on chemical limnology, owing to an increased program in water chemistry under the direction of Profs. Rohlich and Lee from the Department of Sanitary Engineering. Studies on the influence of the algae upon denitrification by aquatic bacteria are the interest of Prof. W. B. Sarles of the Bacteriology Department.

The Laboratory's output of research papers and monographs are published in the world biological and limnological literature. Reprints are available upon request and are offered as exchange. A list of publications is available from the Director.

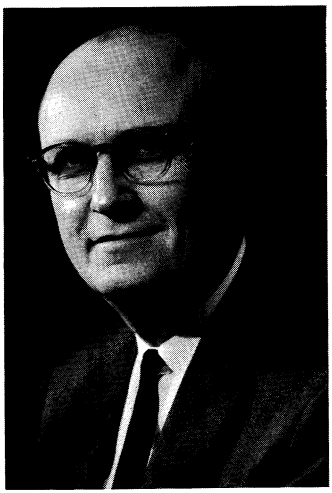
# # # #

LEADERS IN ELVEHJEM ART CENTER FUND RAISING DRIVE

The UW faculty and staff participation in the Elvehjem Art Center fund raising campaign will be directed by Professor MARK H. INGRAHAM (left) and Pres. Emeritus E. B. FRED. They are shown here receiving campaign literature from Miss DOROTHY J. EFFINGER, organization aide and special representative of the U. W. Foundation.

THE FUTURE GOALS AT UW-MILWAUKEE

By Fred Harvey Harrington
President, University of Wisconsin



In ten or fifteen years, if adequate faculty and facilities are provided, the University of Wisconsin-Milwaukee will enroll as many students as now are enrolled in Madison. If the quality and variety of educational opportunities for those students are to be as high as those now available on the Madison campus, research activities in Milwaukee must expand with the growing institution. Achieving these things is the goal of the University Regents and administration. The University of Wisconsin-Milwaukee should reach major university status within twenty years.

Steps toward this end were proposed by the administration and approved by the Regents in February. They involve growing independence of the

* *

In 10 years the children shown in the photograph opposite became part of the staggering increase in college enrollments typified in the group shown below. During the last decade collegiate enrollments in the state of Wisconsin have risen from 39,818 to 73,117. Both public and private institutions have been strained to the utmost to handle this very great increase in the numbers of students. As we look to the future there is every indication that the collegiate enrollments in the state will double those of 1961 sometime in the next 10 to 15 years. It is not probable that the private institutions will be able to maintain as high a proportion of the collegiate students as they now have (which) means that the public institutions will need to increase their enrollments by over 100% during the same period. The qualifying basis for opportunities for leadership and service will more and more include training for a broad appreciation of the best things in life, a mind that penetrates beyond the obvious, and a high sense of values. (From "50 Years of Graduate Education in Wisconsin" and CCHE #56, 1962.)

Milwaukee institution from the Madison campus and encouragement of Milwaukee to strike out on its own to meet the particular needs of its area.

The 1955 state statute which established the University of Wisconsin-Milwaukee by combining the State College and the University Extension Division there provided that it be "operated as an integral part of the University...with the same degree of self-government by its own faculty as is vested in other units of the University," and that its degrees have the "same status" as Madison degrees. During its formative years, the Milwaukee unit was closely tied to the Madison campus through joint committees at many levels, and its development tended to follow Madison examples.

Quick progress resulted. Now it has reached the point where it must develop distinctive programs and approaches, establish more direct outside contacts, build its individual public and academic reputation. This does not mean the splintering of the University. Quite the contrary, it fulfills the idea of a state-wide University formulated as early as the turn of the century.

Madison will remain the center of the state-wide University, the seat of its central administration. The University faculty--the measure of its strength and the power of its progress--will remain state-wide, as will its most important committees. There will be state-wide Extension so far as we can look ahead, and the Graduate School probably will also be, for some years.

But the whole University will advance as its Milwaukee campus moves forward along new lines, as it generates and tests original ideas and approaches in instruction, research, and public service.

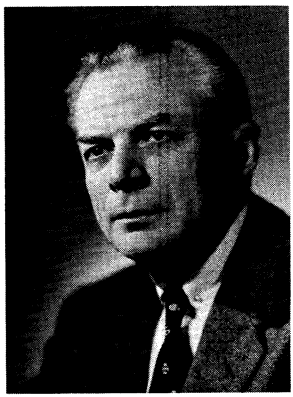
The College of Letters and Science and the School of Education in Milwaukee already are separate from their Madison counterparts. Soon Commerce, Engineering, and Social Work may be on their own, and later Nursing. The future undoubtedly will see the development of additional Milwaukee professional schools.

Milwaukee will develop a dormitory system to attract a cosmopolitan student body including foreign students, it will have a radio station--perhaps later television facilities, its own alumni association, and the facilities for specialized fund-raising. In short, the University of Wisconsin-Milwaukee will be a distinctive major university contributing fully to its community, its state and nation, and to all mankind, within two decades. It will if it receives the necessary support and encouragement. All signs indicate that it will.

# # #

SIGNIFICANT CHANGES ON THE UW-MILWAUKEE CAMPUS

By J. Martin Klotsche, Provost
and
President, Wisconsin Academy



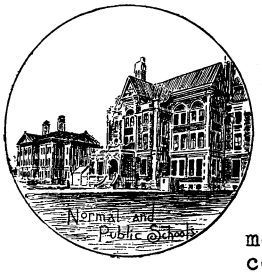
There are, no doubt, a number of formulae for developing major universities. In the preceding article, President Fred Harvey Harrington of the University of Wisconsin sketches in broad outline a picture of how this ambitious goal can be attained by the Milwaukee campus of the University. Here I would briefly mention some recent specific developments--some substantial and significant straws in the "winds of change"--which reflect our determination to forge a program which is at the same time distinguished and distinguishing. We are confident that our future lies in building, always over a sound foundation in the basic disciplines, areas of emphasis which are peculiarly adapted to our institution.

An obvious area in which our resources, both actual and potential, are noteworthy is that of urban affairs. Our location in one of the nation's major metropolitan centers offers numerous challenges and opportunities.

Within past months several substantial steps have been taken by the University's Board of Regents that will help shape University of Wisconsin-Milwaukee progress:

1) A graduate department of urban affairs, under the chairmanship of one of America's finest scholars in this field, Henry Schmandt, will begin operations in the fall of 1963. Its object is to develop urban generalists and urban specialists and to assist in the development of advanced degrees in other areas, such as education, commerce and engineering. Its approach will be unique, and, I think, exciting.

Indirectly related to this new area is the creation of a special University of Wisconsin-Milwaukee program, whose object is to work with the city and its residents in establishing cordial relationships between the campus and its neighbors, both residential and commercial.

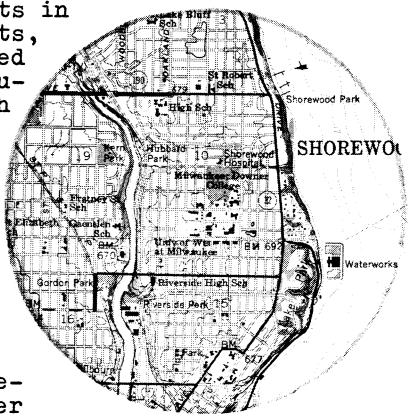


2) A School of Fine Arts, under Dean Adolph A. Suppan, is bringing together the departments of music, art, theatre and the dance. The formation of this complex, we hope, will assist us not only in offering fine arts students an exceptional cross-cultural experience but in further contributing to the cultural development of Milwaukee and southeastern Wisconsin.

Over the past several years Dean Suppan has been largely responsible for welding a Summer Arts Festival in which the entire community has participated and which has drawn the highest praise from Milwaukee leaders. An outgrowth of this festival and one of its earlier-developed parts, the Summer Evenings of Music, has led to appointment of the world-renowned Fine Arts Quartet as University of Wisconsin-Milwaukee artists in residence.

3) Our commitment to international programming was dramatically illustrated in early March with graduation of the first Peace Corps training group in Milwaukee, which after ten weeks of extremely concentrated academic work was dispatched to Peru to assist in building up savings and loan associations. That group was followed by another Peace Corps contingent in late March, this one destined to help work out cooperative and agricultural problems in Colombia and Panama.

The location of these projects in Milwaukee owes much to the experience gained by the University's Institute for World Affairs Education, headquartered on the Milwaukee campus. The Institute's director, Donald R. Shea of our political science department, and a core of area and technical specialists in various university departments, have successfully demonstrated the competence of our institution to undertake such "crash programs" as the Peace Corps requires.



Moreover, the Institute for World Affairs Education has, in three short years, established a sound reputation for working with community leaders in education toward world citizenship through conferences, discussion programs, radio and television, and a variety of other approaches.

Our School of Education, too, is engaged in several reciprocal projects with Latin American universities.

4) A new graduate program in anthropology will concentrate on two areas where demand for trained people has developed faster than the available supply: applied anthropology, which deals with attempts to alter social structure and social behavior through use of principles established by scientific research, and museology, which has to do with museum work.

The museology program has another significant aspect. It is being undertaken with the close cooperation of the Milwaukee Public Museum, the fourth largest natural history museum in the country and one which will soon move into impressive new quarters. Museum Director Stephan Borhegyi and its curator of anthropology, Robert Ritzenthaler, will have important teaching responsibilities in the new program.

5) As staff and facilities permit, an extended four year program in electrical and mechanical engineering will be developed.

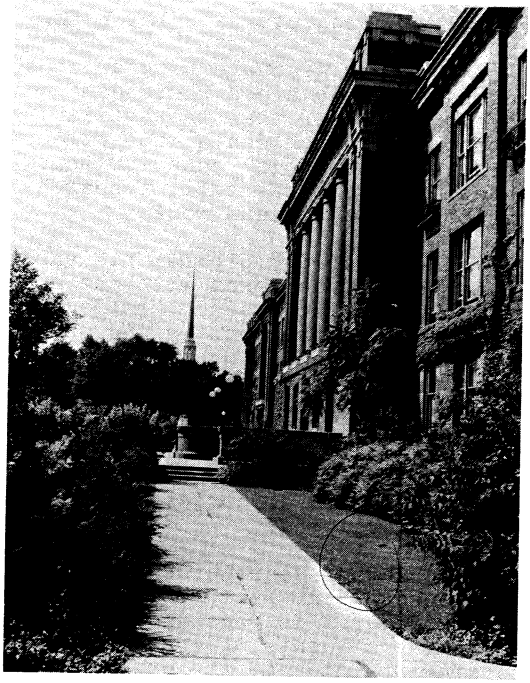
6) A four year nurses training program also is being developed. Next fall registered nurses may enroll to work for bachelor's degrees under a special program and soon beginning students will be able to receive all of their nursing training at the University of Wisconsin-Milwaukee.

7) The establishment of a department of comparative literature will offer further opportunity to strengthen and augment our faculty in various foreign language departments.

8) Inclusion in the University's 1963-65 budget of a request for funds to establish a four year undergraduate school of business administration on the Milwaukee campus. This will provide wider opportunities for business students and provide an invigorating climate for developing a curriculum particularly responsive to the needs of our metropolitan area. (Currently our division of commerce, which does offer a full four year curriculum, has very close administrative ties with the School of Commerce on the Madison campus. Masters degree programs in business administration are also offered in six major fields.)

These are eight new developments on the University's Milwaukee campus, which will welcome many of you in early May. Pride in our accomplishments, and in our ambitions, urges me to continue, to dwell upon such things as the increasing number of research grants being won by our faculty members; the increasing success we are finding in recruiting top rate faculty members who see in our future

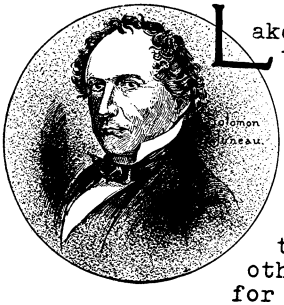
a challenge to their talents; the fine results in terms of new concepts, approaches, and techniques, growing out of our School of Education's close liaison with southeastern Wisconsin school systems--through such agencies as the Lakeshore Curriculum Study Council, for example; the heartening response of our various publics to two private fund raising drives, one for $200,000 to furnish a new union community center which will go into use next fall; and our growing participation in all-university extension and public service activities, particularly one new agency, the center for programs in government administration.



Main Building - Kenwood campus

But the editor's space is limited...and we in Milwaukee know just what this problem is. Let me close with a warm invitation: come and visit us, soon.

# # # #



Lake Michigan and its access to the Atlantic was a "talking point" in praising the harbor in "Industrial History of Milwaukee" (1886). "The first vessel that ever landed goods at Milwaukee was the 'Chicago Packet'...chartered by Solomon Juneau...in 1823...As far back as 1859 a Milwaukee merchant consigned the cargo of the 'Hanover' of this city for Hamburg, Germany...and other ships have cleared from this port for Europe with wheat cargoes. ...the U.S. government is at present engaged in the construction of a breakwater some distance off shore." (see page 23 and Acknowledgments).

ACADEMY MEETING WILL STRESS URBAN PROBLEMS

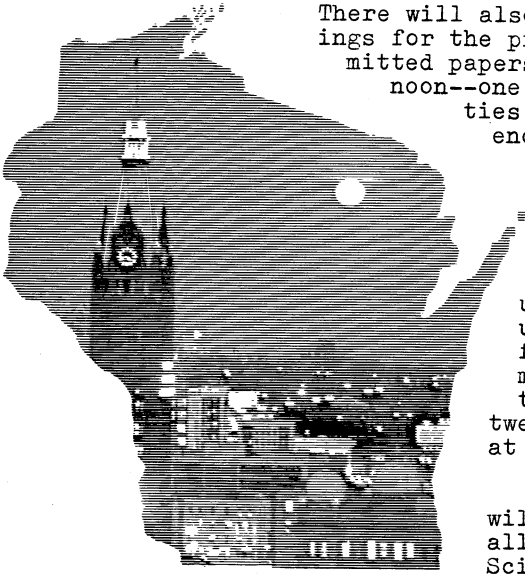
By Professor Aaron J. Ihde
Dept. of Chemistry, UW
and President-elect, Wisconsin Academy

The twentieth century shift in Wisconsin's population, from primarily rural to predominantly urban, has not taken place without creating imbalances of various types. These problems will be placed under the Academy's microscope for examination during the three-day Annual Meeting on May 3-5. The University of Wisconsin-Milwaukee acts as host and the program should provide a full fare for Academy members and their guests.

On Friday evening, registration will be followed by the keynote address, to be delivered by Robert Wood, Professor of Political Science at Massachusetts Institute of Technology, and nationally known expert on urban affairs. This address will set the theme for two symposia on Saturday, in which panels of invited speakers will undertake an examination of various phases of urban problems.

During the Saturday morning symposium, four speakers will deal with The Developing Metropolis. Frank P. Zeidler, former mayor of Milwaukee and recently appointed Director of the Department of Resource Development for the State of Wisconsin, will discuss "The Role of Government in the Development of the Metropolis." G. Coleman Woodbury, Chairman of the Department of Urban Planning, University of Wisconsin, Madison, has as his title, "Civic Influences and Forces in the Growth of the American City." Jack Wilson, Senior Scientist of the Harnishfeger Corporation, Milwaukee, will deal with "The Role of Industrial Research in the Development of the City." Joseph Mangianele, Department of Sociology, University of Wisconsin-Milwaukee, who has just returned from a period of European study, will discuss European patterns in dealing with growth of cities.

On Saturday afternoon five participants will continue further examination of the Urban theme, as follows: Frederick I. Olson, UW-M, "Milwaukee's Socialists as Urban Reformers;" John Alexander, UW-Madison, "Recent Changes in Wisconsin Urbanism;" Loyal Durand, Jr., Univ. of Tennessee, "The Landscapes of Rural Retreat in Milwaukee County;" Sprague Vonier, WTMJ-TV, "The Role of Radio and Television in Urban Communications;" and Adolph Suppan, UW-M, "The New Climate for the Arts in American Cities--the Growth of Art Centers." Generous discussion time is being scheduled so that there may be interchange between panel members and members of the audience.



There will also be sectional meetings for the presentation of submitted papers on Saturday afternoon--one each for the humanities and the social sciences, and two for the natural sciences. A very fine selection of papers scheduled for these meetings, which will run concurrently with the urban symposium, will undoubtedly cause frustration for some members who will have to make a choice between papers presented at the same time.

The Junior Academy will carry out its usual all-day program with Science Project finalists presenting their papers. Jack Arndt feels that the projects are better than ever.

The Annual Business Meeting is being moved up this year to follow the Saturday luncheon. In the evening there will be the traditional banquet. President Klotsche's address will be followed by a musical comedy, "The Fantastics," offered by the UW-M Theater Group.

The Sunday activities will be restricted to a single field trip, again dealing with the conference theme. A bus trip is planned which will enable participants to see at first hand the various aspects of the large city which have been discussed on Friday and Saturday. Included will be a visit to the new Milwaukee Art Center and the new Zoo. Plan now to join your fellow Academy members in Milwaukee the first week-end in May.

# # # #

The Milwaukee scene on a state map (above) is from an advertising circular for one of the State Historical Society's Wisconsin Calendar photo annuals.

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ATTEND THE 93RD ANNUAL MEETING, MAY 3-5, 1963
UNIVERSITY OF WISCONSIN-MILWAUKEE
General Theme: "The Urban Scene"

A NATURALIST'S OBSERVATIONS ON PHENOLOGICAL EVENTS

By George J. Knudsen
Wisconsin Conservation Dept.

GEORGE J. KNUDSEN recently transferred to the new position of Park Naturalist in the Wisconsin Conservation Department. He has been with the department for over 13 years and previously was biologist in charge of research on fur bearing animals and also did considerable work on bear. He is a graduate of the UW in the fields of zoology and wildlife management and is a native of Wisconsin Dells. This paper summarizes a talk presented before the Wisconsin Phenological Society during Farm and Home Week at the University, January 28, 1963.

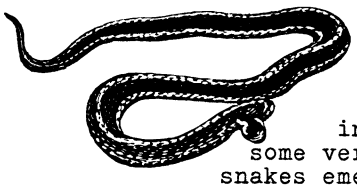
The black bear "hibernates" during the cold winter months. I have, rarely, found bear tracks in the snow during January and February thaws. Black bear begin to leave their dens as early as late March and in an average spring are out of their dens by mid-April. Since they usually have a good store of fat at this time and since they are able to find winter-killed animals, well preserved, they move about very little and their tracks do not show up often on roads and trails during most of April. As May approaches, the weather becomes warm enough to disintegrate their animal food larders and they begin to move about in search of food. Thus, in early May tracks appear much more frequently on roads, trails etc., almost as if by magic. Bear will now graze on marsh grasses and young succulent herbs, quite commonly, until by late May they begin to tear apart logs and stumps in search of ants and the great heaps of ant eggs that become available at this time.

As the wild strawberry crop appears by mid-June a shift to this food source is immediately noted. In July and early August the bear begin their visits to the wild red raspberry and blackberry patches. By mid-August and into September black cherry, pincherry and chokecherry trees become a prime target for attack by black bear. In September and October the local oak species furnish abundant food for bear.

By mid-November of the average fall the majority of bear are in their winter dens for during our typical deer-bear seasons, just

after mid-November, huntere shoot the majority of these animals in their dens. In exceptionally warm, extended falls bear will delay going into their dens and the vast majority are then killed by hunters while still abroad. This animal is relatively hard to observe; however, certain observers living within our bear range and knowing of a good local bear population might be able to add some interesting observations to his phenological notes, and certainly see some correlations.

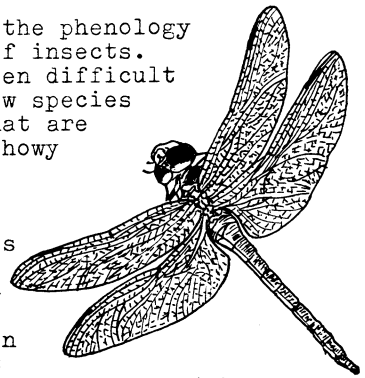
Reptiles and amphibians are good phenological indicators. They do not migrate; many species are very abundant and they are often densely concentrated at wintering dens or ponds, year after year. A wintering den of common gartersnakes can often be found in rocky outcroppings, old building foundations, etc. and since they are very abundant, and the first snakes to appear in spring they are good indicators. Individual garter snakes have been observed on south slopes during winter thaws, but generally speaking they begin to emerge from dens in force by early to mid-April. In some very early springs many garter snakes emerge in late March.



Larger snakes such as bullsnakes, fox snakes and blue racers (common in hilly, rocky country) emerge later than garter snakes, beginning sometimes by mid-April but usually not until after April 20. My observations indicate May 10 to 20 as the period when the largest numbers are found at good denning sites.

Our common painted terrapin (mud turtle to many) is very abundant in most ponds, rivers, lakes and drainage ditches and it can be easily observed. Spring emergence occurs very shortly after the ice has completely left the local bodies of water and this turtle is then eager to climb to the sunny side of muskrat houses, floating logs, large rocks and shoreline areas. From mid-April on, depending on the melt phenology of local waters, this animal can be used as an indicator.

As a prelude to terrapin emergence we have a very vociferous pair of amphibians that I feel are excellent indicators. These are the spring peeper and chorus frogs and among the cold-blooded vertebrates of the pond areas they are the earliest harbingers of spring break-up, often singing from the shallows among weeds and honey-combed ice! As the water slowly warms the frog song picks up in speed, volume and total rendition until it becomes almost deafening to a nearby observer.



Volumes could be written on the phenology of our vast and confusing array of insects. Since their identification is often difficult I would like to suggest only a few species that are easily identified and that are large enough, common enough and showy enough to be of possible use in phenological work.

Tiger swallowtail butterflies are very showy, and begin to appear in early to mid-May becoming more abundant as the month progresses. In northern Wisconsin they can be seen by the dozens at rain puddles on rutted roads in mid-June at which time they are at their peak of abundance.

Cecropia and promethea moths are readily attracted to lights at night and in forested areas they may be readily observed at night. Or--cocoons can be collected in winter, placed at the same outside spot each year and the dates of emergence can be recorded.

The common cabbage butterfly, known to all, can be recorded yearly as it is very abundant and easily seen as it flies over open fields, almost in swarms at the peak of emergence.

The arrival dates of the first monarch butterflies migrating to Wisconsin from the south may be recorded, but here as with all migrant species, the first arrivals are difficult to spot.

Certain very large species of dragonflies are quite easily identified, and are often very common on local ponds. They may help to reflect the advance of the general phenology of a given pond area.

# # # #

GIFTS TO THE WISCONSIN ACADEMY are appreciated as additional funds always are needed to augment the limited income from dues. Recent cash contributions of $50.00 and $20.00 are gratefully acknowledged from Sustaining Member C. M. GOETHE of Sacramento, Calif. and the late D. J. STEWART, Rockford, Illinois (see In Memoriam, p. 47). At present the Junior Academy of Science is anxious to supplement its Scholarship Program awards and Chairman JACK R. ARNDT of the Junior Academy Committee (Univ. Extension Division, U.W., Madison 6) would appreciate cash gifts of any size.

FARM AND CITY MEET IN THE GOVERNMENTAL ARENA

By Professor Ruth Baumann
Political Science, UW Extension Division

Professor BAUMANN holds degrees from the University of Wisconsin in political science and regional planning. She served on the staff of the Council on Intergovernmental Relations in Washington and the Advisory Council on the Virginia Economy in Charlottesville. She has done many studies of state and local government problems and at present is assistant director of the Bureau of Government and assistant to the Dean for the Wisconsin Urban Program in the UW Extension Division. This paper summarizes a talk presented at the UW's Farm and Home Week, Jan.29,1963.

The theme for this year's Farm and Home Week is "Where Farm and City Meet." Farm and city do meet in the governmental arena, for it is in the political arena that national, state, and local policies are thrashed out, compromised, settled for a time; and progress or stagnation result from decisions reached in this arena.

What do I see as some of the major governmental problems in Wisconsin? First, I would say we will see an increase in the number of tasks that we expect our governments to perform and services we expect to be provided for us. Consequently we will have more governmental employes. Government will be more expensive and more complex.

Next, there will be an increasing interdependency of local-state-federal governments. Accompanying this trend there will be whirlpools and eddies of popular support for major changes in governmental programs or for new ones, as well as pressure group activities for and against them. Citizens and legislators will have to face such questions as the following: Which government--town, city, county, state, national--shall provide which services? For example, should the state take over more welfare functions, or should the county retain most that they perform today? How can local units of government retain autonomy and yet overcome the breakdown of government in our complex metropolitan areas? How shall local governments in rural areas cope with decreasing populations and the problems that come with this decline? Are these not matters of state-wide concern?

I would say the third most obvious governmental problem is that of the increasing obsolescence of governmental machinery. The town form of government cannot cope with complex urban problems; and in the rural areas there is scarcely anything left for the town to do except conduct elections and collect taxes for other units of government. The organization of county government needs to be overhauled. The fragmentation of power among hundreds of local governments prevents orderly solutions to area-wide, regional, and even state-wide problems. The rivalry between central cities and suburbs may well contribute to depressing the economy of an entire region, to the strangulation of traffic, to inequalities in opportunity to progress up the social ladder, and so on. Add to this depressing picture the fact that we have an increasing number of uncoordinated federal programs such as in highways, housing, and urban renewal.

Everyone is aware of the fourth problem--an increasing gap between local tax resources and rising municipal and county expenditures. Tax rates soar in the suburbs. Local government debt mounts. How can local units get out of this bind when their taxing power is limited by state policies?

Relatively few people are aware of the increasing failure of our urban governments to attract and retain quality personnel. Do you realize that we will need more administrators, professionals, and technicians in a host of specialized fields than we are now producing? There are and will be shortages of planners, city managers, recreation directors, social workers, librarians, and many more specialists. Moreover, our governmental structure, public attitudes toward administrators, professionals, and technicians, and lack of resources conspire to prevent municipal personnel from doing the job demanded by their professional standards and their personal motivations. We must not overlook the fact that local government practices for the recruitment, compensation, and career development are unequal to the task of getting and keeping the number and caliber of professional personnel that are and will be required.

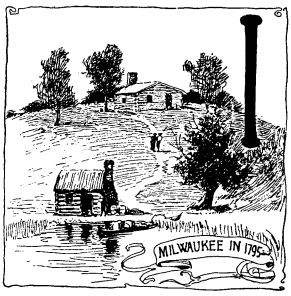
Finally, (and I saved this for the last because I believe it to be the most important) there is a dismal lack of public understanding and education about all of these problems and questions I have raised. We fail to educate youth at the elementary and secondary levels

about the urgency of tackling these problems. In fact, even many of the graduates of this university lack an elementary notion of their existence. Of equal importance has been the failure of our own university to educate enough of our young people to fill administrative, professional, and technical positions in government, and its failure to counsel students as to what positions will be open to them for careers in specialized fields in local and state government.

Again, the public image of this type of employment is low only because we permit it to be so. If we look around us we see a great lack of professionalization in local government positions due mainly to the large number of small and medium-sized cities in the state. Think of the progress we could make in the professionalization of governmental services if groups or clusters of communities would band together so that they could afford them.

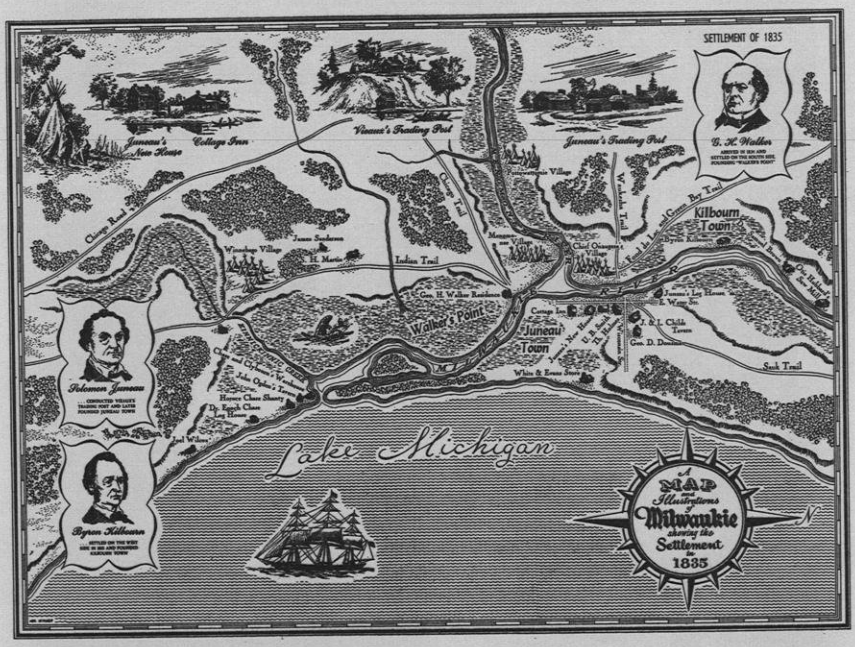
Beyond the years of formal schooling there is a tremendous need for the continuing education of everyone if we are to prevent the breakdown of democracy and democratic institutions. This becomes a difficult thing to do when we view the tremendous competition of international affairs, defense and space activities for the citizen's attention. It is imperative that we use every device at our command to inform people about local and state governmental affairs if local and state governments are to function effectively in this whirlpool of government and politics. Only through education and continuing education can Wisconsin create a climate for a thorough examination of our existing governmental structure, and a climate that will induce experimentation and innovation that has been sadly lacking in this state for about three decades.

# # # #



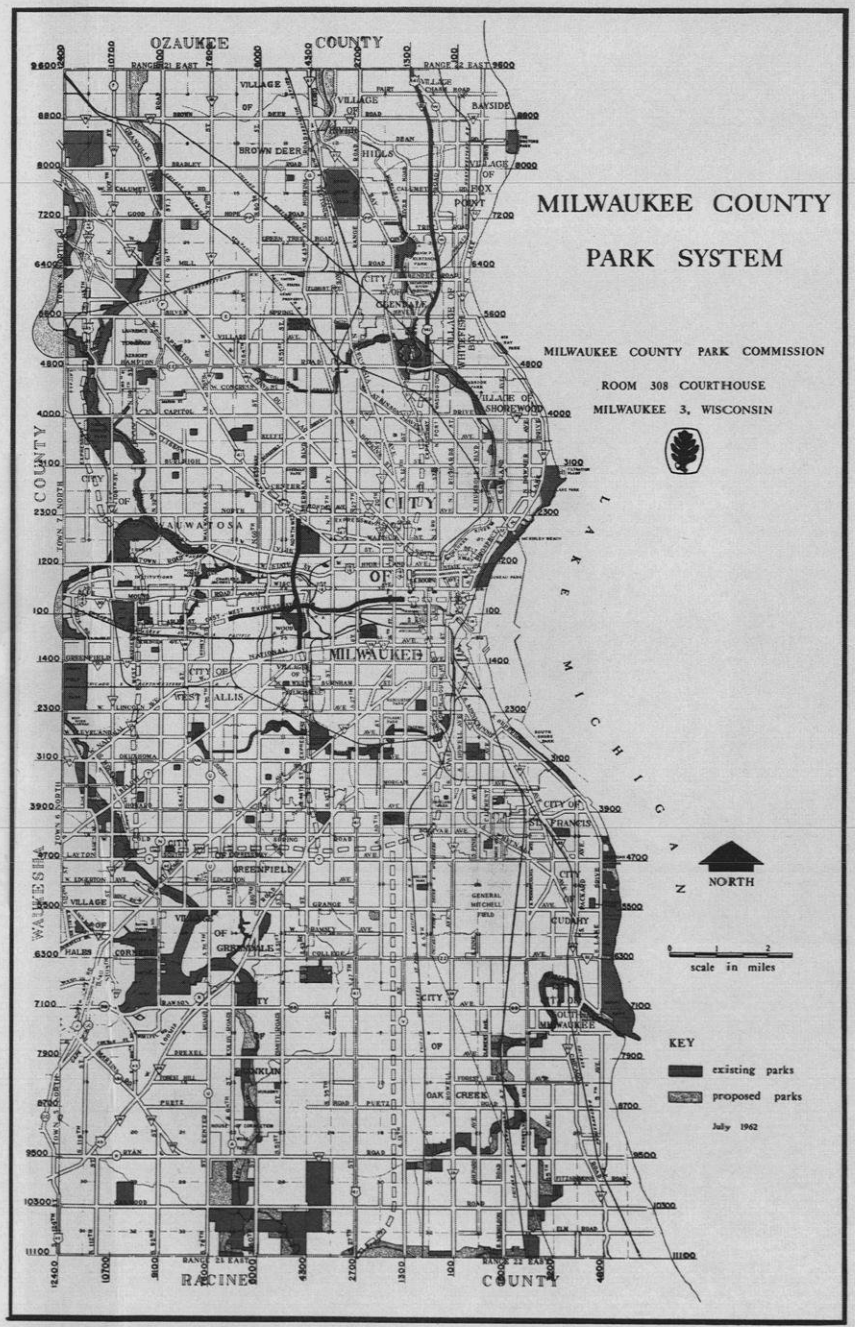
ILLUSTRATED MIWAUKEE

Development of Milwaukee and its harbor are shown in the series of illustrations on the next four pages. Highlights of settlement in 1835 and early harbor activity appear opposite. The aerial photo taken from a C-119 Flying Boxcar, 440th troop carrier wing, AFR, shows shipping lanes in the ice leading to the seaway harbor in 1963. A west wind had pushed the ice field toward the Michigan shore and piled it as much as 15 feet thick. Infrared film penetrated the haze to bring out many details in the city. Greenbelts and parks surround the metropolitan area as shown on page 26.


SETTLEMENT OF 1835
B. H. Weller
Juneau's New House
College Inn
Vieaux's Trading Post
Juneau's Trading Post
Kilbourn Town
Juneau Town
Walker's Point
Lake Michigan
Solomon Juneau
Byron Kilbourn
A MAP Illustrating Milwaukie showing the Settlement in 1835


NORTH OF THE HARBOR IN 1885


SEAWAY PORT IN 1963
(Clarence P. Schmidt, Milwaukee Journal Photo) ©


OZAUKEE COUNTY
MILWAUKEE COUNTY
PARK SYSTEM
MILWAUKEE COUNTY PARK COMMISSION
ROOM 308 COURTHOUSE
MILWAUKEE 3, WISCONSIN
NORTH
scale in miles
KEY
existing parks
proposed parks
July 1962
WAUKESHA COUNTY
RACINE COUNTY
LAKE MICHIGAN
MILWAUKEE
WEST ALLIS
WAUWATOSA
GREENFIELD
GREENDALE
BROWN DEER
BAYSIDE
FOX POINT
SHOREWOOD
CUDAHY
OAK CREEK

WHAT RURAL ART HAS DONE FOR OUR COMMUNITY

By Mrs. Lela Smith
Lancaster

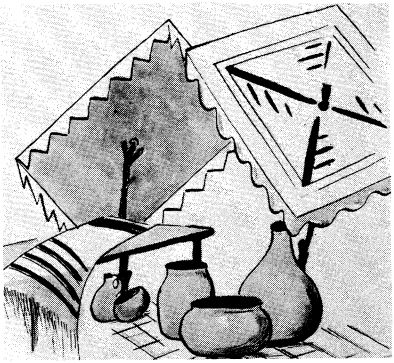
Mrs. Smith's urge to create pictures led to a "self-help by demonstrating to others" plan many years ago. Though without formal art education, she organized and has directed the Lancaster Art Club for 23 years. From 1956 to 1958 she was president of the Wisconsin Rural Artists Assn. and for five years was on their board of directors. She is now circulation manager of their quarterly "Contour" after assisting in editing it for some years. A recipient of the John Steuart Curry silver medal for outstanding service in Wisconsin Rural Art, in 1963 she was written up in the University Extension yearbook as a typical Wisconsin rural artist. This talk was presented at Farm and Home week at Madison, January 29, 1963.

Amateur painting by a group of twelve housewives began in Grant County in 1939, the same year that the University Rural Art program was taking shape. We had not heard about the rural art program in 1940 when the first State show was held, but two of us had the courage to enter our first original paintings in the second State show in 1941. We came and saw our pictures on the gallery walls, and that day we took Rural Art back to Lancaster--and Grant County and Southwest Wisconsin.

With nothing more than tremendous enthusiasm we continued our weekly meetings, hungry for knowledge and opportunities to show our work. There were only the annual State Rural Art shows for us to look forward to in the early years, and we went home from each show inspired to promote paintings and make opportunities for ourselves.

Individually we earned small recognition from time to time through the local newspapers. Our enthusiasm knew no bounds and once we made up our minds to show our community that we were really civic minded, we held arts events of public interest. We arranged programs and painting demonstrations for woman's clubs, Kiwanis clubs, church circles and other organizations in towns throughout the county.

We held an auction sale of paintings on a Saturday evening from the bandstand in our Court yard. We engaged an auctioneer of long time prominence in Grant County, but despite the excitement and the artists' enthusiasm, people were not art conscious enough yet to want our pictures and four dollars was the highest bid of the evening. We painted back drops for the theater home talent shows and made program covers of all sorts.



Then one Saturday evening in August we put on our own entertainment--a Mexican Fiesta with a forty-foot market street scene painted on sisal-Kraft and stretched between trees in the Court yard. We made our own clay pots, jugs, woven baskets and mats for atmosphere in the booths. We painted floral designs on costumes and serapes. We fashioned booth awnings from mattress cartons and perched them on crooked tree branches stuck in the ground. We had lolly-pop, pinwheel and flower venders--a magician and fortune teller --a vagabond singer and street dancing.

The crowd was huge. It was acclaimed the greatest entertainment to ever hit Lancaster. Two weeks later we repeated the performance at the Grant County Fair and got paid for it!

Gradually interest in art grew. The regional Rural Art Shows were set up to give us our first chance to learn new things about painting. In 1950 we took twenty new members into our club. By now we were begging for help from the University extension division, and in 1951 we held our first extension painting class with 45 members. It proved to be such a tremendous success that two succeeding classes were held that year.

Then we, with the Rhinelander group and Aaron Bohrod's studio, were featured in a movie which was circulated through western Germany by the United States Department of Agriculture, to show those people the desire of people in the United States to take part in creative arts.

By now our community had come to regard art as something to be desired and we gained recognition throughout southwest Wisconsin. Art clubs sprang up in Boscobel, Cuba City, Prairie du Chien and Platteville. We were all friendly and had many get-togethers. Since 1951 Lancaster has sponsored annual Grant County art shows.

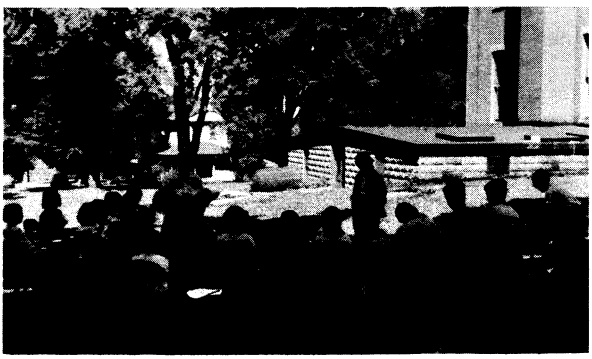
It was through the efforts of our club that painting was taught to classes of 25 to 50 children during two summer recreational programs---children who would rather learn to paint than take part in other playground activities. Art had never been taught in Lancaster schools and delegates from our group attended annual school board

meetings in the interest of art in the schools. Now we've had full-time art teachers for the past three years. Over a period of twelve years we have held ten extension rural art classes in painting and drawing. These classes have drawn members from Crawford, Lafayette and Iowa counties as well as Grant.

Regional Rural Art shows have done more than anything else to create interest and give opportunities to amateur painters. But we in southwest Wisconsin did not sit back and wait. Knowing what rural art means to the whole state and country, we have kept on promoting. A few years back we brought the three Gimbel Art collections to Lancaster, and a portion of the University rural art collection. We held a series of Creative Arts meetings over a period of two years giving more than 75 people a chance to show their talents to the public. We arranged one-man shows in our city library for a year. Boscobel painters keep pictures hanging in their city hospital rooms. The Platteville art group purchases paintings every year from our Grant County show to hang in their municipal hospital. People want original paintings in their homes now.

Several of our rural art people took art seriously enough to enroll in Wisconsin State College-Platteville. Some who never painted until their association with our group have majored in art and are now teaching in high schools. Many people have turned to crafts and become potters, weavers, rug makers and gem cutters. The small town of Potosi held a most successful arts and crafts show last spring with entries from all Grant County and some from Dubuque, Iowa. They expect to make it an annual event.

No more do we want for opportunities and recognition. The University Rural Art program has done all this for our community.



One of the children's art classes held outdoors

A NOTE ON THE COVER

GERRIT V. SINCLAIR is Milwaukee's most notable artist of the urban scene. He painted other subjects, but he loved the city--all of it. The canvas from which the cover picture is photographed is one he completed in Paris in 1929 from sketches he took with him from Milwaukee. This was a life-long practice with him, the constant drawing and the return to the material thus gathered as sources for paintings when, and wherever, the spirit moved.

It is regrettable that cities of wealth and stability such as Milwaukee, do not have places to show permanently work like Gerrit Sinclair's. The panorama of time and place which the city of Milwaukee is and has been is shown in Sinclair's work. Many other artists have work which contributes, when one can see it, to an emotional recognition and recall of what Milwaukee city is. Yet there is no collection of more than just a few of these urban aesthetic documents. Many of the works will be scattered, lost to sight and destroyed in the course of the years.

Sinclair's city paintings, evocative as they have become of the past, were of the current scene. He ranged from the tree-shaded streets of the east side, to the downtown squares, from the factory-studded valley to the Milwaukee river bank, from the harbor view to the hurly burly of a crowded street car transfer corner. Essentially he was a poetic viewer. Though his subject matter was in the crowded city, his expression was not rough, tough or muscular, but quiet and contemplative.

He was one of a small, devoted group of art teachers who among them taught or influenced a host of young people in the decades from 1920 to 1950. He was a member of the Layton art faculty, a pillar and irrepressible critic of the Wisconsin Painters and Sculptors, and a conversationalist about painting with any interested passerby. For this reason Milwaukee gallery viewers who did not know Gerrit were scarce. His children, Peter and Barbara, are artists. Peter is a member of the art faculty at the University of Wisconsin-Milwaukee. ---Frederick M. Logan

# # # #

THE BACK COVER

The greater metropolitan Milwaukee area shown on the back cover was interpreted by ARTHUR J. ANDERSON, who has been associated for about nine years with Slater-Rost Studios of Milwaukee. Prior to that he was a free-lancer in Chicago, and also had experience with studios in Cincinnati and Pittsburgh and with a Los Angeles department store. One of his hobbies is the collection of first editions on Western Americana.

PURPOSE AND FUTURE PLANS — WISCONSIN SOCIOLOGICAL ASSOCIATION

By Prof. Hugo O. Engelmann, President
Dept. of Sociology, UW-M

HUGO O. ENGELMANN is professor of sociology at the University of Wisconsin-Milwaukee. He attended the University of Vienna Law School and received a B.A. degree in political science and a Ph.D. in sociology from the University of Wisconsin. After teaching for three years in Basic College-Michigan State University, he joined the Wisconsin State College-Milwaukee faculty in 1948.

The Wisconsin Sociological Association (WSA) was founded in 1959 to provide informal, personal contacts among Wisconsin residents interested in sociology. The relaxed atmosphere of the association's annual meetings has drawn an ever increasing number of people. Members include academicians from different departments and from every type and kind of college and university, clergymen, welfare workers, researchers affiliated with governmental bureaus and community agencies, as well as interested laymen with diverse occupational affiliations. Because there are only a few of each type, fact finders, theorists, and men of action intermingle freely and exchange stimulating ideas. A number of interesting projects have developed from such casual discussions at our annual meetings. Between times members keep in touch through a Newsletter, published at least four times a year.

A large and important segment of our membership consists of undergraduate students in sociology. At every annual meeting, they present and discuss research papers, thus getting a taste of professional performance at an early stage in their careers. Another annual feature is a presentation, by experts from various fields, of occupational opportunities for sociology graduates, especially for those who will not continue beyond the B.A. Special sessions are provided at the annual meetings for presentations by senior members. Our meetings being restricted to one day, we are facing some problems in balancing diversity of interest with the need for minimal coherence in the program. However, the general format of our annual meeting appears satisfactory for the time being. Addition of an outside luncheon speaker, last year, was generally enjoyed and will be repeated.

In cooperation with the University of Wisconsin-Milwaukee, the association also published a semi-annual journal, The Wisconsin Sociologist. All articles appearing in it are abstracted in the Sociological Abstracts. This is the area in which we expect most future expansion,

and where we feel the WSA can make its greatest contribution. Although social science is undergoing fundamental changes, public discussion of new approaches is severely limited by a dearth of publishing facilities. Small, relatively inexpensive journals are vitally needed, and a number have been established in the last few years. Some, in fact, have already attained highly respected positions. However, the full need has not yet been met.

We envisage the Sociologist as a journal in which social scientists generally will publish shorter papers presenting challenging new concepts, methods, or data. That is, we want new, even undocumented and untested ideas for their suggestive significance. A period of intellectual reorganization requires public discussion of such ideas. For the continued health of our scientific discipline it is essential that we break through the de facto censorship engendered by the lack of publishing media. Our model is the seventeenth century Royal Society of London. In a period of great scientific turmoil communication among scientists was made possible through the medium of the society. Small journals, such as ours, can play a similar role today.

It would be useless to pretend that The Wisconsin Sociologist today has reached this eminent position. We have just started. However, the journal is a going concern, and we have great hopes for the future.

This coming November, the WSA will hold its fifth annual meeting. In a small sort of way, we can be happy with what we have achieved thus far. Many individuals have had a hand in getting the society going. But perhaps the greatest single contribution in the organizing of the association was made by its first president, Albert Blumenthal of Wisconsin State College-Eau Claire.

# # # #

ACKNOWLEDGMENTS not otherwise mentioned are as follows:

Photos: UW Ext.Div.Photo courtesy CAPITAL TIMES, p. 7; from "50 Years of Graduate Education at Wisconsin," p. 8; UW News Service, Harold N. Hone photo, p. 9, and p. 42; Platz Studios, p. 11; Alfred Univ.,N.Y., p. 41; UW-M News Service, p. 40 and p. 46 (Walker).
Sketches: From "Wildlife, People and the Land," pp. 2,4, 7, 17, 18, and 19; from "Story of Wisconsin" by Thwaites (1890), pp. 14, 22, and 12 upper, and map section from Milw. Quadrangle, USGS; Soil Cons. Teachers Guide 1949, p. 21; map by Mel Kishner courtesy Marine Nat'l Exchange Bank, Milwaukee, p. 23 upper, and lower, from "Industrial History of Milwaukee," E. E. Barton, Pub., 1886; map courtesy Milwaukee County Park Commission, p. 26.

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LILAC BLOSSOMING AND WISCONSIN WEATHER

By Prof. Malcolm N. Dana, James Zimmerman and Katharina Lettau

Each of the authors "wears two hats" so far as this article is concerned, since each is an officer in the Wisconsin Phenological Society, as follows: Prof. DANA is in the UW Dept. of Horticulture and vice-president of the Society; Mr. ZIMMERMAN is Naturalist with the Madison Board of Education and president; and Mrs. LETTAU is a project associate in the UW's Dept. of Meteorology and secretary.

Weather conditions in Wisconsin have been measured by meteorological instruments and recorded by various observers for many years. These records which span nearly a century at some stations present accurate observations of daily and sometimes hourly conditions. Although useful, the observations do not provide a simple method of determining the precise influences that integrated weather factors have on the recurrent biological activity (phenology) in an area. Through careful observation of selected phenological phenomena, a useful means of measuring climatic variations should be possible. This report summarizes a three-year program designed to measure geographical progress of a single phenological event and to correlate the resulting information with meteorological data.

A widely grown and familiar plant, the common lilac, Syringa vulgaris L., was chosen as an observation plant in order to gain opportunity for the maximum number of observations by interested but untrained reporters. The lilac is fully hardy to winter conditions in all areas of the state and blossoms late enough in the spring to be generally free of late frost injury. For these reasons, it was thought that dependable observations could be expected over a period of years. It should be noted that Caprio's work in Montana and the Western Region of the United States also used common lilac as the main plant for observation. The North Central Region study led by Coville at Nebraska is based on observations of common lilac although further development of his work will use the Chinese lilac, Syringa sinensis as the test plant.

The date of opening of the first flowers on the plant was chosen as the stage of development on which observers should report. The first flowering is an easily noted change in plant development and one that called for a minimum of judgment on the part of the observer. To report full blossom or end of flowering calls upon the observer to make a judgment and thus introduces a chance for much variation in reporting. Although these additional data would be useful we did not feel that our program was justified in asking for such information.

In 1960 members of the observer network of the Wisconsin Phenological Society were asked to report on any of several phenological events, among them the opening of the first flower in a lilac cluster. From the many reports received, 25 reporters had made an observation on common lilacs. In the next two years a program was planned in which the observer network was asked specifically to observe the lilac blossoming date and to

report this information on a postal card sent to them with the request for cooperation. In 1961 we received 106 and in 1962, 204 usable returns. A few additional returns were received but they reported on other lilac species or were otherwise considered to be unreliable.

The observer reports were used to construct solid lines connecting locations of equal flowering dates, isophanes, on the maps (Fig. 1, 2 and 3). For comparison purposes the mean temperature isotherms for the month of May for each year are shown as broken lines on the figures. (United States Dept. of Commerce, Weather Bureau, Climatological Data - Wisconsin: Vol. 65(No. 5), Vol. 66(No. 5), Vol. 67(No. 5).

In 1960 (Fig. 1) the earliest flowering date was reported as May 6, in Rock County, and the latest date was May 28, in Oconto County. No reports were received from the counties bordering on Lake Superior, a section which probably had a somewhat later flowering date. In 1961 (Fig. 2) the earliest date of flowering was May 10, in Jefferson County, and the latest report was June 5, in Iron County. In 1962 (Fig. 3) the earliest blossoming was May 3, in Rock County, and the latest was May 25 in Bayfield County. A close look at the three maps shows that 1962 (Fig. 3) was the earliest spring, 1960 and 1961 (Fig. 1 and 2) were comparable. As might be expected, there was a tendency for spring to come a little earlier in the western part of the state than in the central counties and for a definite retardation of spring along the shore of Lake Michigan. The isophanes tend to run in a northwesterly-southeasterly direction with an upward sweep in the northwesterly region and a sharp dip at the southeasterly end. Two comparatively early regions in the southwestern corner and south central section of the state are apparent (Fig. 1 and 2). The northward sweep of the isophanes in the Fox River Valley reflects a warmer condition here than occurred in the Wisconsin River Valley.

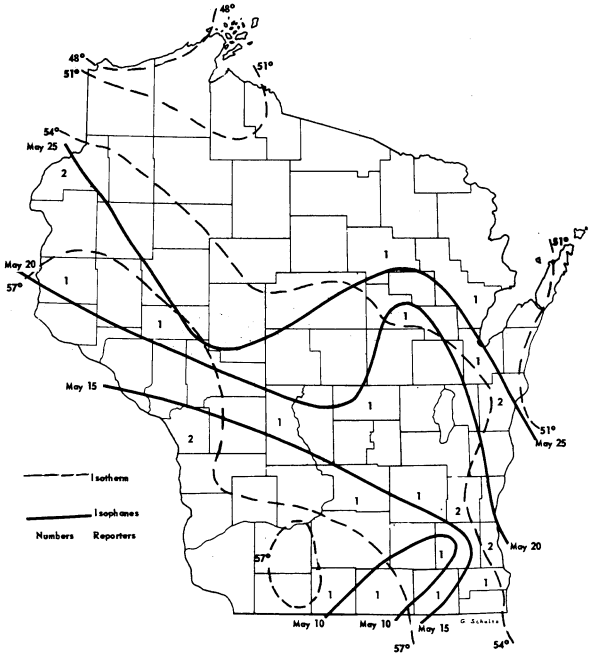

Fig. 1 - Lilac Flowering and Mean Temperature for May Wisconsin 1960

The 1962 map (Fig. 3) with a wide spacing between isophanes reflects

the warm weather that occurred the second week in May and the consequent rapid development of lilac flowering over much of the state. A ten-day period, May 10 to May 20, saw the advance of flowering from the southern tier of counties to an area approximately 50 miles from Lake Superior and upper Michigan. An additional week was required for the flowering to occur in the extreme northern section of the state. Weather records show that the warm weather enjoyed in southern and central Wisconsin did not reach this restricted area near Lake Superior. The isophanes are closer together in Figures 1 and 2 indicating a more gradual warming of the state.

A comparison of the flowering date isophanes with the May mean temperature isotherms shows the close relation between these two methods of measuring weather. Of particular interest is the parallelism on all three maps of the May 25 isophane and the 54° isotherm; at the extreme northwestern corner of the state in Figure 3 and toward the central part of the state in Figures 1 and 2. Other isotherms and isophanes follow the same general pattern of development but do not show the consistency of this one comparison.

This preliminary phenological study is helpful as a foundation for further effort. Obviously, there are many people around the state who are willing to furnish observations to a central office provided the proper encouragement is given. A program of observer training under the direction of a qualified leader would, no doubt, improve the accuracy and, perhaps, the volume of responses to information requests. Improvement in volume and accuracy would aid materially in locating areas of earlier or later than "normal" spring season development and would increase the general reliability of the data.

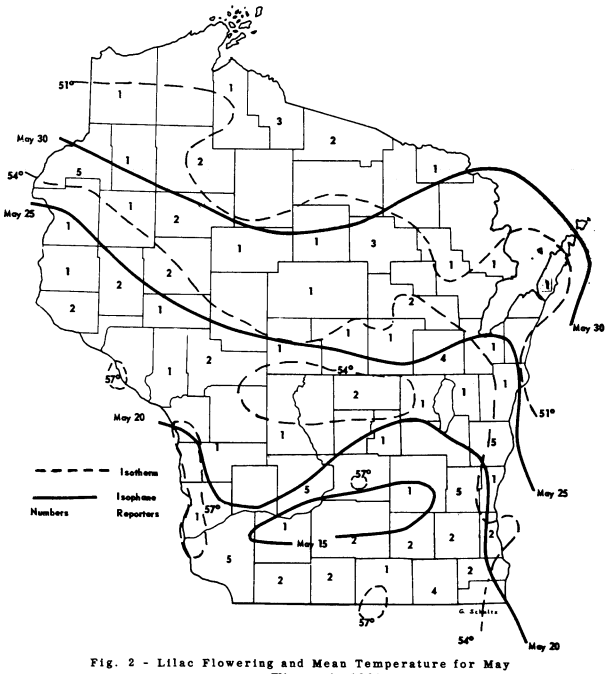

Fig. 2 - Lilac Flowering and Mean Temperature for May Wisconsin 1961

The sparsity of observers in the northern and northwestern sections of the state indicates that special efforts need to be made to encourage greater participation by residents of these areas. A low population density in the northern area suggests that

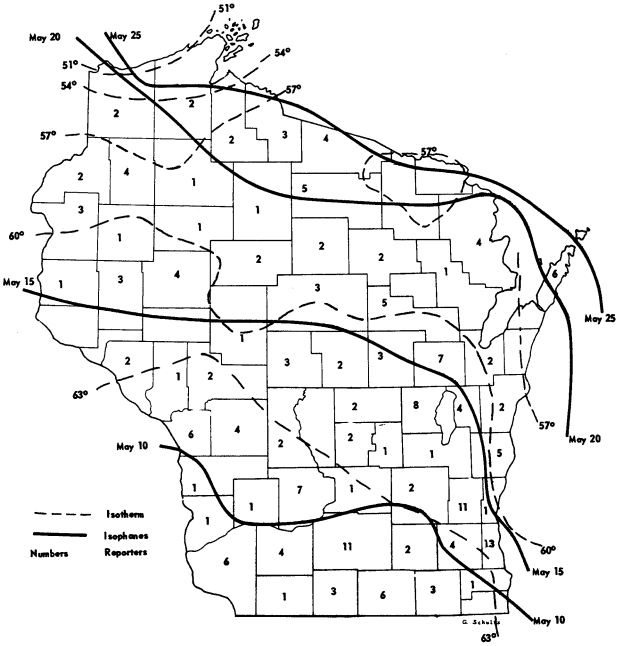

Fig. 3 - Lilac Flowering and Mean Temperature for May Wisconsin 1962

it may be difficult to find avid volunteer reporters with interest sufficient to support a program. It is our belief that there is sufficient interest, but thus far knowledge of our program has not reached these people and, therefore, we are not receiving data from them. Further expansion of this type of study should include provision for more public relations activity particularly in the sparsely settled region of the state.

Observations reported in this paper were made on the lilac specimens available to the reporters. The age and clonal derivation of these plants, the site exposure and aspect, and the soil conditions were not used in the interpretation of the data. We recognize that these factors may have marked influences upon the flowering date of plants. The selection of a single clone for planting on selected sites would aid materially in providing data that could be subjected to more detailed analysis. Until such a program is initiated, the full potential of the phenological measurement of climatic changes cannot be realized.

The blossoming date of common lilac in Wisconsin is closely correlated with heat unit accumulations as expressed by the mean temperature for May. The lilac flower date observations for three years show the general trends of spring advancement in the state and confirm the usefulness of this method of measuring temperature accumulation. Further expansion and refinement of the phenological method could provide a valuable means for determining proper timing for various agricultural practices.

# # # #

JUNIOR ACADEMY NEWS

JUNIOR ACADEMY REPORT

By Jack Arndt, Chairman
Junior Academy Committee

Junior and senior high school students will have an opportunity to make oral presentations of their research at the various district and regional meetings to be held throughout the state this spring. A complete schedule of meetings, including name of the chairman, is listed below. Plan to attend the meeting nearest you. Each research presentation will be judged and three delegates will be selected to represent each district at the Statewide Meeting. Students will be competing for scientific periodical Subscription Awards at the district and regional meetings, and financial scholarship credit at the Statewide Meeting.

Senior High School District Meetings

March 30, 1963

Northeast District - Lawrence College, Appleton
ROBERT DAVIDSON, Kimberly High School

Southeast District - John Marshall High School, Milwaukee
CAMILLE CLIVER, Washington H.S., Milwaukee
SISTER M. EVELYN, Messmer H. S., Milwaukee

April 6, 1963

Northwest District - Rice Lake High School
THOMAS RITZINGER

Southwest District - Wisconsin State College, Platteville
LAVERNE G. WEIDLER

West Central Dist. - Aquinas High School, La Crosse
SISTER M. AGNESE

April 20, 1963

Kenosha-Racine Dist. - Badger High School, Lake Geneva
DONALD W. CARTER

North-Central Dist. - Wisconsin State College, Stevens Point
ROLAND TRYTTEN

May 4, 1963

Statewide Meeting - University of Wisconsin-Milwaukee
JACK R. ARNDT

Junior High School Regional Meetings

May 18, 1963

Green Bay Region - Franklin Junior High School, Green Bay
ANTONY NUSKIEWICZ

Madison Region - Cottage Grove School
RAYMOND B. STALEY

Wausau Region - UW-Marathon County Center, Wausau
AMOS H. YONKE, H. Mann Jr. H.S., Wausau

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22nd Annual National Science Talent Search

ROGER DEAN WHITNER, 17, a student at Beaver Dam Senior High School, has been awarded Honors in the 22nd annual National Science Talent Search. Whitner's research report was entitled "Theoretical Investigation of the Oblique Telescope."

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National Science Seminar Series

The Wisconsin Junior Academy of Science has been invited to select high school students and teachers as representatives to the National Science Seminar Series to be held in Albuquerque, New Mexico, May 7-9, 1963.

The Science Seminar Series is an excellent scientific program sponsored by the New Mexico Academy of Science and is an opportunity greater than any which has been offered up to this time. Students and teachers from all parts of the United States will be participating. A partial list of leading scientists who have agreed to take part in the Science Seminar Series includes Wernher von Braun, H. Bentley Glass, Paul DeH. Hurd, Addison Lee, Randolph Lovelace II, Adm. Hyman Rickover, Gen. B. A. Schriever, Glenn T. Seaborg, William Shockley, Verner E. Suomi, Edward Teller, and Stanislaw Ulam.

Transportation to and from Albuquerque will be the responsibility of the individual. Once in Albuquerque, only incidental expense money will be required. Each student will be the guest of an Albuquerque student of the same age and sex and of similar interests. The host will furnish sleeping accommodations, breakfasts, and transportation to the seminars and related activities. Similar hospitality will be provided the science teachers attending.

Seminar topics will deal with all phases of basic and applied science and mathematics. Participants will also have an opportunity to "take in" the 14th National Science Fair-International and the National Science Education Exposition also being held in Albuquerque during that week. Application materials may be obtained from the Junior Academy Office.

# # # #

MOOD ETRUSCAN

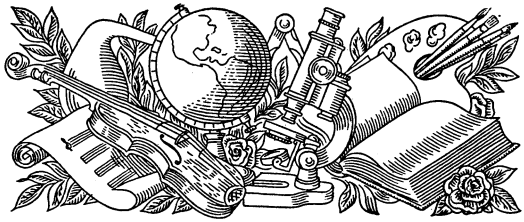
It is an ancient loneliness.
It springs from rocks hewed into filigree
By the wild artistry of Tyrrhenian seas.

It springs from pine trees forever chasing
Golden ginestra shrubs
In the warm breeze.

It springs from terraced hills where olive branches
Shimmer like silver in the bright moonlight--
Bejeweled arms of gay Etruscan women
Waving their farewell into the night.

--Corinna del Greco Lobner

The author of Mood Etruscan, a participant in Academy activities and special lecturer on art themes, is also a language teacher. She is gifted with practical insights that have won her the esteem of pupils and colleagues as well.



STATE AND ACADEMY NEWS

WISCONSIN ACADEMY COUNCIL MEETING

By Ted J. McLaughlin
Secretary

PRESENT: From Madison - Jack R. Arndt, Robert J. Dicke, Aaron J. Ihde, Frederick M. Logan, Walter E. Scott; from Milwaukee - Joseph G. Baier, David J. Behling, Goodwin F. Berquist, Jr., J. Martin Klotsche, Ted J. McLaughlin, Katherine G. Nelson, George Richard, Adolph A. Suppan, Alvin L. Throne; from Whitewater - Henry A. Meyer; and from Beloit - Carl Welty.

Following are the summary highlights of the Council meeting held February 9, 1963 at Milwaukee:

After approval of the minutes of the previous meeting, Treasurer Behling distributed copies of the financial report as of February 7, 1963 and noted an anticipated budget balance at the end of the fiscal year if expenditures continue to be held to the adopted budget limitations. A budget for the next fiscal year will be adopted at the next Council meeting on May 3, 1963.

Other actions taken include the following:

1) Secretary McLaughlin reported on membership matters (see list of new members on inside back cover) and noted a contribution of Sustaining membership by E. B. FRED, who is a Life member. It was voted to confer Life membership on Prof. R. A. BRINK of the UW Genetics department at Madison as a 40-year member. President Klotsche will invite Prof. Brink to be present at the 1963 annual banquet to receive the certificate.

2) (a) President Klotsche called attention to Vol. LI of the TRANSACTIONS as the last editorial task of Prof. STANLEY D. BECK. It was voted to direct the Secretary to express the appreciation of the Council to Prof. Beck for his devoted and valued service as Editor of the TRANSACTIONS. In accepting Prof. Beck's resignation as Editor, President Klotsche announced that a special committee composed of Dean Joseph G. Baier, Prof. Aaron J. Ihde and Prof. Merritt Y. Hughes as chairman had been appointed to make recommendations concerning the editorship of the TRANSACTIONS. Because of Prof. Hughes's absence due to illness, Dean Baier reported the committee's recommendation that Prof. GOODWIN F. BERQUIST, Jr., (UW-M) be appointed as Editor, effective immediately, and it was so voted.

(b) An advisory editorial board was created to assist Editor Berquist (see details elsewhere in introductory statement about the new editor).

3) Editor Scott distributed copies of the Fall 1962 Review and discussed plans for the Winter 1963 issue. It was agreed that surplus copies of back issues may be used in membership promotion.

4) Chairman Arndt of the Junior Academy of Science reported on their various activities and (a) it was voted to recommend to the membership at the annual meeting on May 4, 1963 that By-Law VII, Standing Committees, Section 7 be amended to read: "A committee on the Junior Academy of Science shall supervise the activities of the Junior Academy of Science. The chairman of this committee shall be designated by the Council."

(b) Mr. Arndt and Prof. Dicke were appointed as a special committee to prepare an appropriate citation certificate for use by the Academy in presentation of honors. It was voted that at the next annual meeting the following honors be presented: to MARY DOHERTY (Kenosha) and ALFRED HORNIGOLD (Wisconsin Rapids) for their service to the Junior Academy of Science, and to WALTER FRAUTSCHI (Madison) for his generous contributions to printing of volumes of the TRANSACTIONS.

5) In the absence of Librarian Shenefelt, Mr. Scott reported on the disposal of back volumes of TRANSACTIONS and noted the continuing need for a complex and complete index. Mr. Arndt reported that he has approached the National Science Foundation for financial support in preparation of such an index and it was voted to affirm the support request and Mr. Arndt was designated as coordinator.

6) As respective chairmen of the Program Committee and Local Arrangements Committee for the 1963 annual meeting at the UW-M, President-elect Ihde and Dean Suppan discussed plans and program arrangements (see page 15).

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INTRODUCING GOODWIN F. BERQUIST, Jr.

On Saturday, February 9, the Academy Council named GOODWIN BERQUIST to succeed Stanley D. Beck as the new editor of the annual TRANSACTIONS. An assistant professor in the department of speech at the University of Wisconsin-Milwaukee, he received his B.A. degree from Ohio Wesleyan in 1952 and the M.A. and Ph.D. degrees from the Pennsylvania State University in 1954 and 1958 respectively. Before coming to Milwaukee, Berquist spent three years on the staff of the department of speech, Ohio State University.

The new editor has published articles in both regional and national speech journals. Academy members may recall his study of Charles Kendall Adams in last year's TRANSACTIONS and of oral decision-making in Shorewood, Wisconsin this year. (The latter article was co-authored by Ted J. McLaughlin, present Secretary of the Academy.) Prof. Berquist is primarily interested in the nature of public discourse, the history of speech education and British public address. He is currently completing a three-year term as debate coach and director of forensics at UW-M.

To assist the new editor, the Council created a four-member advisory board including a representative of the biological sci-

ences, the physical sciences, the social sciences and the humanities. In addition, the Council empowered the new editor to appoint a series of anonymous reviewers in consultation with the editorial board. For the time being, the editorial policies governing the annual TRANSACTIONS will be the same as those outlined in the Winter 1962 issue of the Academy Review. Manuscripts of original work bearing upon Wisconsin problems and interests are especially welcome. Articles should be sent to Prof. Goodwin Berquist, University of Wisconsin-Milwaukee, 3203 N. Downer ave., Milwaukee 11, Wisconsin. Those received prior to July 31 will be considered for publication in the current volume.

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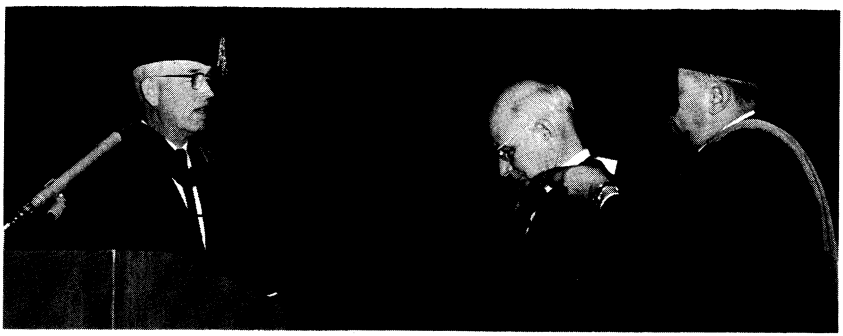
RETIREMENT PROFILES

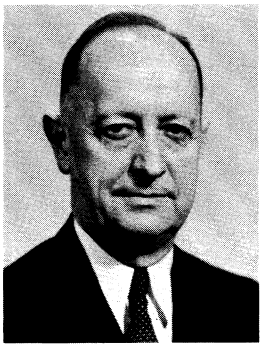
PERCY L. DUNN, Educator



PERCY L. DUNN, president of Milton College since 1954, will retire from that post in June and later in the summer will become director of the expansion program for Wesley Foundation of Wisconsin at Madison. He will be primarily concerned with raising funds for the anticipated remodeling of the Foundation's facilities serving about 2,200 students of Methodist preference at the U.W. An active layman in his church, he has spent his life in youth activities. Graduating from Cornell University, he spent several years with the extension service of the College of Agriculture there. In 1925 he became a Boy Scout area executive and after 27 years of work at the local level was appointed Director of Registration for the National Council of Boy Scouts of America. He has served as a leader at several national and international Jamborees. In 1962 the BSA awarded him a Forty-five Year Veteran Certificate.

In the same year an honorary degree of Doctor of Laws was conferred on him by Alfred University, Alfred, N. Y. The citation honored him for his "significant role in the preparation of many generations of American boys for responsible citizenship" and added that his presidency at Milton College had been marked by "vision, vitality, and a high order of educational statesmanship." At ceremonies on October 9, 1962 President M. Ellis Drake of Alfred University stands ready to present the citation and diploma as Prof. James R. Tinklepaugh adjusts the hood for President Dunn.

# # # #



DR. WILLIAM S. MIDDLETON

DR. WILLIAM S. MIDDLETON, former dean of the UW Medical School, "retired" for the second time in March, 1963. He completed eight years as medical director of the veteran's administration in Washington, D.C. and returned to Madison to prepare for a one-year stay at the University of Oklahoma as visiting professor of medicine. Coming to the UW in 1912 as an instructor of internal medicine, after taking his M.D. at the University of Pennsylvania, he became professor of medicine in 1933 and dean two years later. In 1955 he was made dean emeritus, but instead of returning to research and clinical teaching, he was persuaded to take the job of medical director with the VA. During his active teaching career he lectured at the medical schools of several universities. A distinguished educator, he has been awarded honorary degrees by his alma mater and four other universities--Cambridge, Temple, Franklin and Marshall, and Marquette. In his eight years with the VA, he visited all of their 171 hospitals and 93 outpatient clinics in directing the staff of 130,000 including 4,600 doctors and 15,000 nurses. Dr. Middleton is a great believer in research and feels that the VA has made its greatest medical contribution in the treatment of tuberculosis. Also, he is proud of the fact that undergraduate medical students now are included in the VA educational program through the cooperation of 75 medical schools. He still regards himself as an internist and as a teacher.

# # # #

WISCONSIN STATE COLLEGE-WHITEWATER was featured in The Milwaukee Journal (3-31-63) in a story titled "College Booms, but City Naps." President WALKER D. WYMAN'S speech to the local Chamber of Commerce was quoted with the prediction that the college's enrollment will rise to 7,000 or 8,000 by 1970 and then will be double the size of the town. At present nearly 43% of Whitewater's population is either enrolled or employed at the college.

President Wyman's study revealed that impact of the college on the community totaled more than $5 million a year of which about $3 million was payroll from the college and related firms servicing it. Recently, the college's new student union has absorbed the expansion shock somewhat. During the week of February 24-March 2 it served 14,138 meals and handled 10,008 cash customers at the snack bar.

At the present time, WSC-Whitewater has 2,784 students attending classes on campus (1600 men and 1184 women) for a 19.4% increase over the second semester of last year. This includes 239 students from out-of-state plus 13 from foreign countries. Liberal Arts curriculum has 1021 students, secondary education 915, elementary education 733, business education 357, and the non-teaching pre-professional division 115. # # #

THE BOOKSHELF

THE LIFE OF BIRDS
By Joel Carl Welty

W. B. Saunders Company
West Washington Square
Philadelphia, Pennsylvania
1962 550 p. 300+ illus. $9.00
Bibliog., index

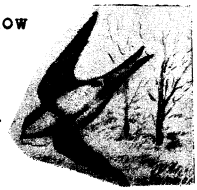
The Wisconsin Academy has reason to be proud of this book produced by its recent past-president, Carl Welty. It is truly the result of a lifetime "labor of love" and achieves the goal he set for himself: "to make the book both scholarly and interesting for the general reader." At once, it also is a delightful book to read and an accurate reference guide to every fascinating facet of the life of birds. It contains well chosen examples from species throughout the world.

Professor Welty has been a member of the Wisconsin Academy since 1935 and Chairman of Beloit College's Biology Department since 1938. For many years he served as a member of our state's pioneering State Board for Preservation of Scientific Areas. The book is dedicated to his wife, Susan, who also is a member of the Wisconsin Academy and who helped develop the extensive bibliography of over 800 titles including references in the text. Beautiful pen sketches of birds are by the late Norman Tolson (samples herewith all by him except swift and swallow by Charles Schwartz) and well selected photographs, maps and drawings illustrate the 23 chapters. Margaret Morse Nice and Alexander F. Skutch reviewed the entire text while other experts served as advisors on special sections.

It would be much easier to tell what isn't in this book than what it contains. About 8,000 sources were searched in its preparation over the years. Moreover, it is up-to-date with the latest discoveries and techniques of bird study, including the use of radar for studies of migration and consideration of astro-navigation by night-migrating birds. From chapter I on "Birds as Flying Machines" to the last chapter on "The Origin and Evolution of Birds," all of their body functions, habits, and ecological characteristics are considered. Many of the yet unsolved mysteries of migration, cycles of population and physical attributes are cited in a way that is an interesting introduction to ornithology.

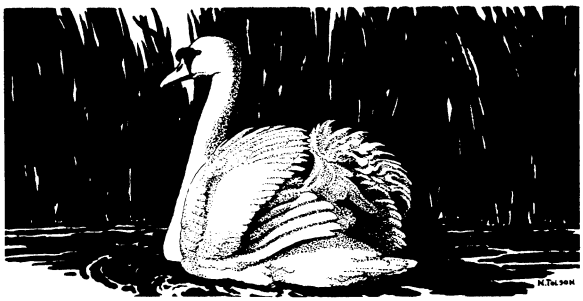
Two features of this volume were especially appreciated: the short preface by Professor Welty and the choice illustrated prose-poems at the head of each new chapter. Welty's observation that "many of the most fundamental principles and theories in modern biology have been discovered by ornithologists through researches on birds" is a refreshing thought. However, he also explains why ornithologists have, at the same time, suffered the disdain of other zoologists. Interestingly, he speaks of the "joys in writing a book" and recognizes the many people with whom he worked on this monumental task. As to the chapter-heading vignettes, these were exceptionally well suited to the text with the first one from Proverbs 30:18, 19, "There be ... things which are too wonderful for me ... The way of an eagle in the air..." This led the reviewer into a moment of nostalgia with a verse he wrote 32 years ago---

"I'd like to be a swift or swallow
Banking on each wind-formed
hollow,
Gliding on against the breeze--
Swooping down to brush the
trees."



Anyone interested in birds will be stimulated and better informed after even a brief contact with this book. The advertisements call it the "most comprehensive one-volume reference book on bird life" and one reviewer says it is a "long-needed bible on birds." The only serious criticism this reviewer has to offer is that more might have been said about man's influence on birds in recognition of the many pressing bird conservation problems so evident most everywhere. But maybe that's something which is best relegated to another book.

The author states in his preface that both he and his wife "hope for a healthy, lively hatchling that will provide instruction and pleasure to every student and every reader." This reviewer, who now more than ever before would "like to be a swift or swallow," feels certain that their hope will be fulfilled.
---Walter E. Scott, Administrative Assistant to the Director,
Wisconsin Conservation Department



MINERAL POINT by George Fiedler and **NEW DIGGINGS ON THE FEVER: 1824-1860** By Margaret S. Carter	Mineral Point Historical Society & Iowa County Democrat-Tribune $4.50 Available from author at Benton, Wisconsin $1.25

It always interests and pleases me to see local history set down in print for future generations. Mr. Fiedler's detailed account of Mineral Point, and Mrs. Carter's memoir of New Diggings add a dimension to the history of the southwestern corner of Wisconsin, and do so both informatively and entertainingly. Mr. Fiedler is a native of Mineral Point, though a resident of Illinois today; Mrs. Carter is a native of New Diggings now living in Benton, and it is manifest that their books represent a labor of love as well as of historical concern that these aspects of life and history shall not be forgotten.

Mineral Point is straightforward history, with ample attention to state background, from its founding in 1827 to the present day, though Mr. Fiedler's emphasis is necessarily on the more colorful earlier years, about which less is available and known. There is, too, a very good chronology for ready reference, there are some interesting illustrations, with end-paper drawings and a jacket by Max Fernekes--but I find myself, as a research student, annoyed by the fact that, though there are footnotes and bibliographical listings, there is no index.

Nevertheless, Mr. Fiedler's account is presumably the most complete history extant of Wisconsin's foremost Cornish settlement, and one of the most colorful villages in the state even today. I know of none other so comprehensive or lucid, and recommend it to lovers of local history.

Mrs. Carter's chapbook is an affectionate memoir--also footnoted, also minus an index. Mrs. Carter has crowded a good deal of history and lore into the 112 pages that make up her fascinating account. One could wish that her account had carried on beyond 1860 to the present--a century is unaccounted for--but it was clearly her intent to set down primarily the history of a mining community. There is some duplication of event--understandable--between Mr. Fiedler's book and Mrs. Carter's, but the perspectives are sufficiently different to warrant reading both, and, in any event, duplicated events occupy only a minority of each book, and are bound to occur in any even cursory inclusion of background events influencing the course of local history.

New Diggings on the Fever is illustrated, too, and with some nostalgic photographs, which bring back occasionally the warmth and good living of past years. Mrs. Carter's little book deserves the attention of everyone interested in the way of life in a mining community over a century ago.

Both Mr. Fiedler and Mrs. Carter are to be commended for their care with detail and their manifest goal--to record history, not legendry (unless it is so specified), and to afford the student of local history such information as is available.
---August Derleth, from THE CAPITAL TIMES, January 24, 1963.

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THE WISCONSIN SOCIOLOGIST is now being published in a new series 6x9" booklet format with Wisconsin Academy Member JURIS VEIDEMANIS (UW-M Dept. Sociology) as Editor for the Wisconsin Sociological Association.

# # # #

In Memoriam

Ruth I. Walker
1896-1962

RUTH I. WALKER was born at Dansville, Michigan in 1896 and died at Milwaukee on December 16, 1962. After undergraduate study at the University of Michigan, she received a master's degree (1924) and a Ph.D. (1926) in botany from the University of Wisconsin. Before coming to Wisconsin in 1923 she taught in an Indiana high school and at North Carolina College for Women. She became chairman of the botany department at the Milwaukee extension division in 1931, retaining that position at UW-Milwaukee until 1960. She held an AAUW fellowship at Radcliffe College in 1937-38 and received a WARF grant at the University of California, Berkeley in 1957-58. A member of several national professional and educational societies, she had been affiliated with the Wisconsin Academy since 1927.

As announced in the Fall 1962 Review, a memorial fund has been established by colleagues and friends which will provide loans and scholarships for needy students and encourage research in which Prof. Walker long was active. Several Academy members are on the committee of the perpetual fund--Peter J. Salamun, chairman, and Joseph G. Baier, Alvin Throne, and Philip B. Whitford. Contributions may be sent to the Cashier of the UW-Milwaukee, 3203 N. Downer avenue, Milwaukee 11, Wisconsin.

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Arthur G. Barkow
1910-1962

ARTHUR G. BARKOW was born at Milwaukee in 1910 and died at his home there on December 20, 1962. He received his academic degrees in physics from Marquette University, the Ph.D. in 1944 after graduate work at the University of Chicago. Joining the Marquette faculty in 1935, he was made full professor in 1959. Beginning his research with x-rays, of late years he worked in the field of high energy nuclear physics under a series of NSF grants. In 1953 he was a Ford Foundation Fellow at MIT and a Research Participant at Oak Ridge National Laboratory. Last summer was spent at the University of Hamburg and at CERN doing research on elementary particles. He was affiliated with several professional physics societies and joined the Wisconsin Academy in 1956. ---Adapted from "Physics Today"

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Duncan J. Stewart
1899-1963

DUNCAN J. STEWART was born on Feb. 10, 1899 and died at Rockford, Ill. on Jan. 14, 1963. He received degrees in physics (B.A. 1920) and electrical engineering (B.S. 1921) from the University of Wisconsin and in 1924 joined the Barber-Colman Company of Rockford. In 1952 he became president of the firm, a post he filled actively until his death.

Mr. Stewart held over 40 U. S. patents in the engineering field, mostly relating to electric control systems. In 1950 he was presented a Distinguished Service Citation by the UW College of Engineering. He was a veteran of the first World War and served on national science and engineering committees during World War II. Not all his achievements appear in the patent literature. An important contribution in developing a complex automatic machine switching system for telegraphic communication invented by his associate, Howard Colman, undoubtedly inspired the area code system of automatic station selection which American Telephone is now using. Mr. Stewart had an active interest in the Machinery and Allied Products Institute of Washington.

Not only the industrial world benefitted from his work. One of his principal civic interests was Rockford Memorial Hospital, where he was chairman of its building committee. He was a keen observer of Nature and kept accurate bird migration records for his home area and others in Wisconsin from 1913 to 1962 as well as nesting records in the Brule River area of northern Wisconsin. He supported a UW fellowship for fishery research on the Brule River and permitted use of a small meromictic lake on his property for study of water movements with radioisotopes. In addition, he was a member of the WARF Board since 1961. He had been a member of the Academy since 1948 and contributed funds to further its work. --From statement by Arne Salli

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Mrs. A. W. Schorger
1890-1962

MRS. A. W. SCHORGER was born at Fox Lake, Wisconsin on August 12, 1890 and died at Madison on December 16, 1962. She attended Milwaukee Downer College and graduated from the UW School of Journalism in 1911. A well known civic leader in Madison, she was a past president both of the Wisconsin Federation of Women's Clubs and the Wisconsin League of Women Voters, and of the Madison Civics Club. She was a member of the Wisconsin Council for Social Action, the Madison Attic Angels Association, and other social

welfare organizations. Her husband, emeritus professor of wildlife management at the University of Wisconsin, has long been affiliated with the Academy, becoming a Life member in 1944. A son, Prof. W. D. Schorger of Ann Arbor, Michigan also is a Life member. She became a member when family memberships were introduced in 1952 and assisted in arrangements for several local annual meetings. Mrs. Schorger shared her husband's interest in several ornithological societies as well as in the Academy.

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Ray P. Hussong

1900-1962

RAYMOND P. HUSSONG was born at Seymour, Wisconsin on Nov. 24, 1900 and died at Green Bay on Nov. 14, 1962. He was superintendent of equipment for Standard Oil Company at Green Bay for many years. His hobbies of nature study and photography led to untiring efforts in developing a very active bird club in that city in 1935. He and his wife photographed nature subjects throughout the United States and he presented many illustrated lectures. His principal interest lay in Wisconsin and the Wisconsin Society for Ornithology benefitted from his leadership as vice-president in 1957-58 and as president the next year. He was on the board of directors of the Brown County Historical Society for years and was secretary of the Historical Buildings Commission as well as a member of the Neville Public Museum Corporation. He was active in the Green Bay Shrine Club and a member of the Tripoli Shrine and the Northeastern Wisconsin Consistory. He and his wife joined the Wisconsin Academy in 1956.

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Director LESLIE H. FISHEL, Jr., State Historical Society of Wisconsin, recently appointed two members of his staff to new positions. As Associate Director, RICHARD A. ERNEY will administer the library, museum, archives and manuscripts, and the state relations division of the Society. He formerly was a field representative and state archivist in charge of the division of archives and manuscripts.

Miss KATHRYN SCHNEIDER will be in charge of a newly created Publications Office and will be responsible for editorial policy, coordination, layout and production of all printed materials and periodicals except books and the Wisconsin Magazine of History. This includes the publications Badger History, 30th Star, Exchange, Museum Monthly, and Wisconsin Teacher Newsletter. She has been assistant supervisor of the Office of Public Information and editor of Wisconsin Then and Now, which will continue under her supervision.

In addition, Miss JOAN FREEMAN has been named Acting Chief Curator of the Society Museum and will continue in charge of the anthropology department. (Photos courtesy State Historical Society) # # #

NEW MEMBERS

Life:

Mrs. MARGARET BERGSENG, Albany, California

Sustaining:

E. B. FRED, Madison (is a Life member)
CARL and Mrs. STEIGER, Oshkosh (family)

Family:

RUSSELL S. and MARIE S. WENZLAFF, Madison

Active:

WARNER E. BARTRAM, Milwaukee
KURT W. BAUER, Madison
RUTH BAUMANN, Madison
MALCOLM N. DANA, Madison
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KIMBALL T. HARPER, Madison
LINCOLN LaPAZ, Albuquerque,N.Mex.
J. F. MANGIAMELE, Milwaukee
HENDRICK J. MEYER, Whitewater
EUGENE C. NOWICKI, East Troy
RICHARD W.E. PERRIN, Milwaukee
GEORGE RICHARD, Milwaukee
WILLIAM W. RUSSELL, Madison
JAMES A. SCHINNELLER, Mequon
JOSEPHINE STAAB, Madison
WILLIS G. SULLIVAN, Milwaukee
MELVERN F. TESSENE, Whitewater
WILLIAM WAHLIN, New York, N.Y.
ROBERT L. WALL, Waukesha
CHARLES G. WILSON, Milwaukee

Library:

WISCONSIN STATE COLLEGE, Superior
UNIVERSITY OF MISSISSIPPI

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UNIVERSITY OF WISCONSIN-MILWAUKEE
General Theme: "The Urban Scene"

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Fences and boundary lines disappear in this aerial art interpretation of Mighty Metropolitan Milwaukee, leaving only the natural unity of people who live, work and play together. Appearing in color on the cover of TORCH for Sept. 1958, it is reproduced here by permission of that publication and the artist, ARTHUR J. ANDERSON of Slater-Rost Studios, Milwaukee.