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WISCONSIN ACADEMY REVIEW

Published Quarterly by the Wisconsin Academy of Sciences, Arts and Letters.



December 1980 Volume 27, Number 1

THE WISCONSIN ACADEMY OF SCIENCES, ARTS AND LETTERS

The Wisconsin Academy of Sciences, Arts and Letters was chartered by the State Legislature on March 16, 1870 as an incorporated society serving the people of the State of Wisconsin by encouraging investigation and dissemination of knowledge in the sciences, arts and letters.

Is Smaller Better?

Did you think your eyesight was dimming? The *Review* has smaller type this month, one point size smaller, but it is still larger than newspaper type. This is the most noticeable effect of our attempt to trim the budget. With the smaller type, we can give you the same amount of material on fewer pages. However, this is an experiment: if many members write or phone to let us know they are experiencing difficulty reading this size type, we can return to a larger size.

Since the *Review* budget has been reduced at a time of rising production costs, we must explore ways of curtailing costs while maintaining quality. Readers can help us make these decisions by giving us specific criticism and praise of content and format.

-Patricia Powell

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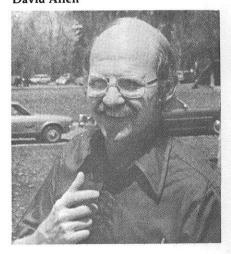
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Authors and Artists



David Allen grew up in Ashtabula, Ohio, a town on Lake Erie in the northeastern part of the state. Behind his house was a gorge about a half mile wide and three-hundred feet deep through which ran the Ashtabula River. He spent a lot of time there, as a boy, catching tadpoles and, as he grew older, searching upstream for the source of that river.

Since then he has taken a Ph.D., married, become the father of two children, taught writing and literature in college. He has kept regular appointments with various trout streams and hiking trails. Now he is teaching at Northland College in Ashland, Wisconsin.

Trained as a microbiologist, **Jim McE-voy** gave up his vocation for his avocation. He is now graphic artist for the Wisconsin Department of Natural Resources.

Cover photographer Ellen Morris Jacobson likes to photograph dolls because "most women carry these icons of femininity around in their unconsciousness. Some images keep them from growing, but some provide an impetus to growth. Female sexual stereotyping is something an individual needs to move beyond rather than reject out-of-hand." Ellen sees dolls as the only inanimate things which carry an image of humanity but which can be manipulated as still life. Loyal Durand, Jr. was an active member of the Wisconsin Academy in the 1930s and 1940s serving as secretary, editor of the Transactions, and a contributing author. When we noticed that Loyal Durand III and his wife Bernice, both professors of theoretical particle physics at UW-Madison, were organizers of the Twentieth International Conference on High Energy Physics, we asked if either or both would be willing to continue the Durand tradition of service to the Academy and write about the conference. Bernice wrote the article, but she acknowledges the value of the critical reading and suggestions by her husband.

Bernice Durand attended Radcliffe and took her B.S. and Ph.D. from Iowa State University. She spent a year at the Institute for Advanced Study in Princeton and several months at the Los Alamos Scientific Laboratory, for which she serves as a consultant. Currently, Professor Bernice Durand is a trustee of the Aspen Center for Physics. Since the Durands own a house in Aspen, she enjoys skiing, hiking, and climbing in the area as well as visiting with physicists from around the world.



Bernice Durand

Jane Fox has lived in Ypsilanti, Jerusalem, Liverpool, and for one month out of time, in Peloponnese. Since 1977 she has been happily living in Madison with her husband and two sons. She writes and edits for the University of Wisconsin-Madison Academic Computing Center and teaches occasional courses in creative writing.



Clarice Dunn and Mae Hara

In September Clarice Dunn and Mae Hara came to the Academy to discuss Clarice's Heart Mountain manuscript and to look at her scrapbooks and memorabilia from Heart Mountain Relocation Center. Clarice taught English and social studies at Heart Mountain in 1942. Mae and her husband Iwao were evacuated in 1942 from Seattle to Minidoka in Idaho where for eight months they worked to keep up other evacuees' morale. The Haras were able to leave the center when the National YMCA created a job for Iwao outside the Western Defense Command.

Mae encouraged Clarice to publish her experiences as a teacher because "so much has been written about the legal situation and the brutality and all. I think a teacher in a classroom shows the human context. The positive things that came out of the experience were these carefully nurtured relationships."

Clarice agreed, saying that her experiences at Heart Mountain deeply affected her and that she learned much more than she taught.

While they were going through the scrapbooks, Clarice lamented that she only had a small Brownie camera to record her stay. Mae noted—with no trace of bitterness—that she doesn't even have snapshots since evacuees were not allowed cameras.

Michael Allen Kriesel lives in Aniwa. Several of his poems have appeared in the *Review*.

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Winter Up North A Personal Report By David Allen

W inter in northern Wisconsin is perpetual coldness. The cold comes about December 15 and stays until March 1, welcome or not. The high temperatures between those two dates are usually around twenty degrees Fahrenheit and the lows for each day are at zero or below. I have seen it as cold as thirty below up here, a beautiful clear day, I recall, when my eyelids would stick a little when I blinked. They would freeze shut just for a moment until my body heat thawed them. But such a day is rare. I suppose the average temperature during these months is probably about zero or maybe even five above.

Such long-lasting cold is no real bother as long as you don't mind putting on and taking off a lot of clothes. During the cold months I simply assume that long underwear and a sweater over a shirt are required whether I intend to go outside or not. Of course, when I go outdoors for longer than a few seconds I add a thick parka, a stocking cap pulled down over the ears, and mittens. If I intend to stay outdoors for very long, I make sure I am also wearing loose wool pants, felt-lined boots, and a large wool shirt under the parka. With this kind of dress, or variations of it which depend on how much physical energy I am exerting, I stay warm all winter. Thus I am free to enjoy the season of winter, to go out into it and live in it as though the temperature outside were seventy degrees.

I usually go to the woods every weekend either to crosscountry ski on the ski trails in the National Forest nearby or to snowshoe. For a dedicated woods-lover, one important advantage of winter days in the woods is the lack of bothersome insects. No black flies hover around my mouth and eyes and ears. There are no mosquitoes. There are no woodticks.

Indeed, in many ways the world seems to be simplified. The complexity of Amazonian summer growth is gone. There is no sense of being closed in by vegetation in the woods. It is open. I can see a long way out there. The deep covering of snow simplifies the land. Instead of the infinite variegation of summer life, there is the allencompassing sameness of the snow. Here and there the snow bulges in a mound. A pile of rocks? A long-forgotten stack of cut firewood? I don't know. The snow has made the land one. I am especially aware of this feeling on cloudy days

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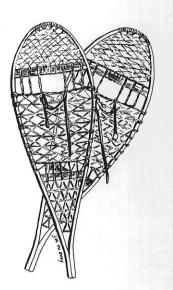
when the sky appears to be gray white. Then both up and down are gray white. If I walk out onto a sizable lake on a day like that, I lose a sense of where I am. I lose a sense of depth in the landscape. Up and down and near and far are the same. The whole world is one.

Often, though, the sun shines during these cold months. On those days the infinite fresh clarity of blue sky sets the snow apart in its whiteness. Then the snow appears to be pure white. The only other striking colors in the landscape are the rich, intense green of pines and a wine red glow that emanates from the outreaching growth of each birch tree. (Smaller birch branches are red.) From a distance, birch trees appear to be bounded by that glow.

hese are the only other striking colors, that is, until the sun begins to set. Then the sky and the world below become a show of extravagant shifting hues. A winter sunset is an incredible overstatement. If my back is to the sun and I am looking across a field at the tree line where the woods begin, the field and the woods are bathed in a warmth the color of rosé wine. As the sun arrives at the horizon, the sky overhead turns lavender moving toward pink and then orange as I look westward. The shadow of a pine is lavender in the snow. If there is a cloud above the horizon, it is a pink puff in the sky. When the sun begins to move below the horizon, the lavender overhead darkens to purple, the orange in the west lightens to brilliant pink.

The changes of color are sudden and silent as though someone were moving colored screens in front of a bright light somewhere offstage. Sometimes, alone, I have stopped breathing to see if I can hear those motions offstage. Surely, there will be a shuffling of feet, the scratch of metal against metal as one colored screen is suddenly replaced by another. But I hear nothing.

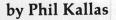
Often I have been there alone at sunset, the temperature ten below zero, the world absolutely silent under the weight and oneness of snow. I have been there alone witnessing the miracle that only comes in the heart of the heart of winter up north.



Courtesy Department of Natural Resources



Images Graven in Stone



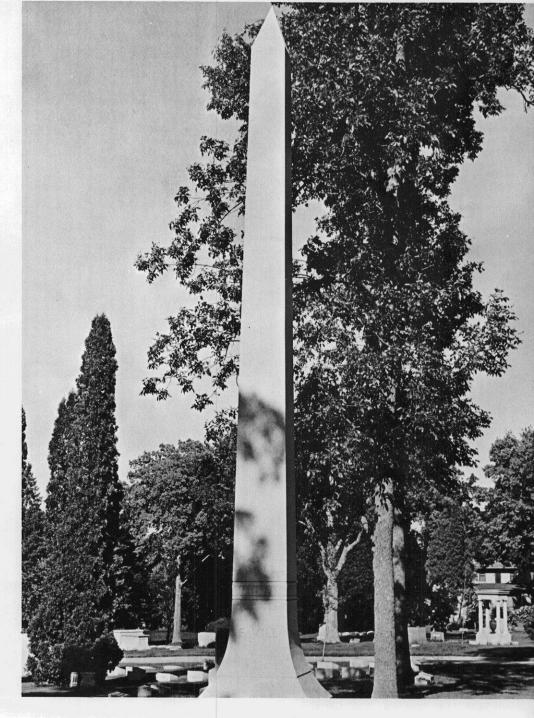
Old graveyards are alluring. They are outdoor museums of art and history, particularly fascinating to artists, photographers, historians, and genealogists. With time and practice one is able to decipher the messages on tombstones.

Coastal Indians of the Pacific Northwest carved totems. The Vikings carved runic inscriptions. As most civilizations commemorated their dead, so too did Americans, with images graven in stone. But gravestones do more than memorialize the dead. They may contain personal information such as membership in fraternal or religious organizations, the deceased's occupation, or family relationships which are invaluable to the historian or genealogist.

Externals, in the past probably more so than now, were important. The gravestone indicated the family's importance, religious belief, or confidence in life after death.

The themes on gravestones are few though the symbolic and decorative forms and motifs are numerous. Prevalent themes are the inevitability of physical death, brevity of life, the ultimate resurrection of the soul, expressed by references to paradise, hell, and the coldness of the grave.

Photographs by Barry Powell



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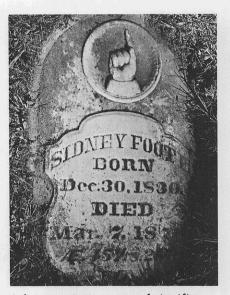
Stonecutting was evolving into a full-time occupation by the early nineteenth century. The mallet and chisel masters probably were not familiar with the origins of the images they utilized except those that came from the Bible. Obscure as the language of the gravestone may seem to us, it was clear enough to our forebears. The images were not only ornamental, but functional as well by commemorating the dead and reminding the living of death and resurrection.

Prior to the mid-eighteenth century, gravestones expressed the Calvinistic preoccupation with death in the graven images of crossbones, coffins, scythes, and Death's Heads, which gave way to soul effigies, winged cherubs, and portraits. Angels, notably cherubs, remained popular while the other images were replaced by mid-century with weeping willows and cinerary urns, the sun, and other astrological symbols.

After the French Revolution the willow and urn motif became overwhelmingly popular, and most Christian symbols were momentarily cast aside. The urn and willow, along with cherubs as portraiture, remained the dominant symbols until the Victorian era when references to God regained popularity. These images of the deity were then forced to compete with faunal and floral symbols, architectural sym-

The weeping willow, a popular midnineteenth-century image, represents a mourning for the loss of earthly life.





A finger pointing upward signifies the ascendance of the soul to heaven.

bols, station-in-life and cause-of-death symbols, in addition to secular, fraternal, and military symbols.

Few Wisconsin markers predate the Victorian era, but these were often incised with the popular urn and willow motif. Christian legends indicate that the willow continues its growth regardless of the number of branches cut, thus symbolizing Christ's immutability in a changing world. The weeping willow represents a mourning for the loss of earthly life.

Urns often accompanied willows but often occurred by themselves either in relief or surmounting an obelisk. The urn was a fashionable accessory of the Federal Period; figuratively, it contained the remains of a mortal existence from which the soul ascended into heaven. Occasionally the soul's rising is depicted by flames issuing forth from the urn.

Stone cutter and patron recognized the winged cherub as a symbol of the soul's flight to immortality and heavenly reward. Cherubs also represent Divine Wisdom and the guardians of Heaven. Their primary function on children's tombs is to indicate that the youthful innocent will be transported to everlasting life.

Children's stones decorated with a lamb evoke innocence and gentleness. The lamb is a symbol of Christ in the Gospel According to St. John 1:29:

The next day John Seeth Jesus coming unto him, and saith, Behold the Lamb of God, which taketh away the sin of the world.

A dove appearing on children's tombs expresses gentleness, devotion, innocence, and constancy. The dove represents purity and according to the Law of Moses was employed as an offering during the purification rite of a newborn. Traditionally it represents the Holy Spirit, and when depicted with an olive branch in its beak, it symbolizes the hope for God's providence as expressed in the story of Noah's ark in Genesis 8:8:

Also he sent forth a dove from him, to see if the water were abated from the face of the ground.

The dove may also express the soul's flight to heaven.

Floral images were often used; some are still seen on current markers though now the traditional symbolism is probably lost. Flowers have long symbolized the beauty, brevity, and frailty of man's earthly sojourn. They are symbols of impermanence as expressed in Isaiah 40:6-8:

...All flesh is grass, and all the goodliness thereof is as the flower of the field: The grass withereth, the flower fadeth: because the spirit of the Lord bloweth upon it: surely the people is grass. The grass withereth, the flower fadeth: but the word of our God shall stand for ever.

The crown of righteousness, won by means of the cross, enjoyed widespread use in the last half of the nineteenth century.



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Vines are probably the most common flora used as decorations. The Gospel According to St. John 15:1-5 states:

I am the true vine, and my father is the husbandman. Every branch in me that beareth not fruit he taketh away: and every branch that beareth fruit, he purgeth it, that it may bring forth more fruit. Now ye are clean through the word which I have spoken unto you. Abide in me, and I in you. As the branch cannot bear fruit of itself, except it abide in the vine, ye are the branches: He that abideth in me, and I in him, the same bringeth forth much fruit: for without me ye can do nothing.

Grape vines are the traditional Christian symbol of Jesus and the fruits of Heaven, while the ivy vine is symbolic of memory, friendship, and perhaps immortality.

Lilies, another common floral image, represent purity and chastity in Christian tradition. The flower of the Virgin often adorns infants' and women's graves. Other flora often depicted include a rose for virtue or the soul attaining its most perfect state after physical death; gourds for the church, scriptures, and ministry; the pomegranate for fruitfulness, resurrection, and the church because of the inner unity of the multitude of seeds; the olive for peace; the laurel for atonement or victory; the fig for prosperity; and holly for rejoicing. Also seen occasionally are grapes and corn—the blood and body of Christ.

For many cultures trees have symbolized either life, verdant and foliated, or death, barren and felled. Christian significance comes from the biblical stories of the Garden of Eden and the Tree of Life and Knowledge. Palms and cedars symbolize the soul's victory over death, as expressed in Psalm 95:12: "The righteous shall flourish like the palm tree: he shall grow like a cedar in Lebanon." The evergreen, connoting everlasting life, with the cones suggesting the regenerative powers of salvation, was frequently used on gravestones.

Crowns (of glory and righteousness) and architectural motifs are symbols of triumphant eternal life. The use of the crown of glory is based on numerous biblical passages, including I Peter 5:4:

And when the chief Shepherd shall appear, ye shall receive a crown of glory that fadeth not away. . .



A favorite late nineteenth-century marker is the cinerary urn atop the keystone of an arch.



The cinerary urn within four columns displays a classic beauty.

This colonnade proclaims that love, light, truth, hope, and virtue are attributes of the person honored.



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and the crown of righteousness in II Timothy 4:8:

Henceforth there is laid up for me a crown of righteousness, which the Lord, the righteous judge, shall give me at that day: and not to me only, but unto all them also that love his appearing.

Architectural motifs included the arch, signifying victory over death, and columns, doors, and gates symbolizing support for the roof of heaven and the passage to a new existence.

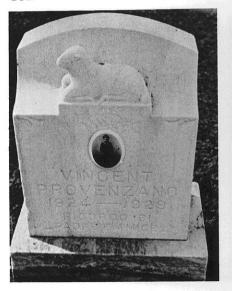
Astrological symbols—sun, moon, planets, stars, clouds, and shafts of light—were used to provide a backdrop for souls or to represent the home of the blessed. The ascending or descending sun represents the soul's resurrection or life's earthly demise. The sun represents Christ's presence as life-giving nourishment.

A combination of astrological elements represents heaven; individually, the moon may represent renewed life or the Savior's death and the stars divine guidance for the soul and the hope for a new life. A shaft of light suggests hope for everlasting life, and clouds suggest a veil concealing God from His congregation. Occasionally a



A family marker may employ different symbols for each family member: here is shown the crown of glory and the interlocking rings of the Odd Fellow.

Children's stones are often decorated with a lamb, which blends images of Christ as the shepherd of his flock with Christ as the sacrificial lamb of God.



The winged cherub symbolizes the flight of the soul to immortality.



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divine hand or finger reaching from a cloud beckoning a soul to heaven was used to decorate a stone.

Masonic emblems—a compass signifying human rationality, a square suggesting moral rectitude, a crescent moon referring to nature's obedience to God, a sunburst connoting His allseeing eye, and interlocking keys emblematic of the importance of Masonic secrets—are common. A checkered keystone prominent in some arches signifies moments of pleasure and pain or prosperity and adversity, while an eight-pointed star indicates the obedience of nature to God. Interlocking rings identify the gravestone of an Odd Fellow.

Other frequently used images include oak leaves signifying the strength of faith, ropes expressing eternity, bells tolling for the dead, and candles referring to life activity burning toward extinction. The hands of the Lord or an upwardly pointing finger signify God's omnipotence and guidance of the soul to heaven. The heart may be used to suggest man's soul in heavenly bliss, the soul triumphant, the Trinity, the soul's love for God, in addition to the common connotations of love, devotion, and contrition.

The Bible stands for the Word and divine revelation, but it may also indicate the deceased was a minister or church elder. The anchor is traditionally a Christian symbol of steadfastness, but since it is also an attribute of St. Nicholas, the patron saint of seamen, the anchor may mean that the deceased was a sailor. Or the anchor may refer to water as a medium of death.

Architectural motifs on stones were common, but in the 1860s and 1870s the stones themselves became architectural styles. Perhaps the most common was a form of the Egyptian obelisk, frequently unadorned but often surmounted by an urn or a cross, which was usually used by Catholics. Imposing in form, the obelisk is mysterious and somber. Some stones were arched or lobed appearing portal-like in silhouette to symbolize the House of the Dead or the soul's passageway to eternal rest.

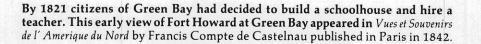
These are a few of the more popular images one may find on gravestones. Gravestones are not only a source of historical and genealogical information, they can also lead to a better understanding of the beliefs and traditions which have shaped our culture.

Education in Wisconsin

Wisconsin Before Statehood

By Shirley Kersey

As in any wild, uncharted country, inhabitants of what was to become Wisconsin faced urgent problems. Survival, adaptation to the Indians, and dissemination of Christianity were time-consuming activities for explorers and settlers in the territory. An early priority was provision of education, in which missionaries played an important role. Although the Wisconsin region was not to become a territory until 1836, the missionaries had begun to educate the Indians long before.







The first academic classes in what is now Wisconsin were held in Green Bay in 1791 in the home of Rachel Law Grignon, wife of Pierre Bernard Grignon.

Records of missionary stations at La Pointe, De Pere, and Prairie du Chien describe the earliest known form of education in the locale of the present state of Wisconsin. As early as 1670, missionaries provided religious education for Indians, but there is no suggestion of the presence of actual schoolhouses before the nineteenth century.

Probably the first schooling of an academic nature was offered in the home of Pierre Grignon at Green Bay in 1791. James Porlier, educated in a Montreal seminary, tutored the Grignon sons and daughters in simple elements of reading and writing. The earliest formal schools opened in 1816 for children of members of the garrison of military posts at Green Bay, Portage, and Praire du Chien. Eventually, children of residents of the community-atlarge were welcomed to these facilities.

Besides education at missions and military posts and in homes, there were early private schools. The first such school opened in Prairie du Chien in 1817. Additional private and religious schools appeared throughout the more settled portions of the region between 1818 and 1836, a period when there were neither free schools nor any fully supported by tuition. Since district and town educational organizations were not yet in existence, small groups of citizens entered into written agreements with teachers. This subscription system was the most common means of engaging schoolteachers. The following contract, dated July 20, 1820, at Green Bay is typical of the arrangements and of teacher fees at the time:

We the subscribers, wishing to encourage the establishment of a good school for the education of our own & other children in this place, to be taught by a Gentleman & Lady, hereby signify our willingness, & give our pledge to contribute to the support of such a School, should proper Instructors for it be sent, the Sums affixed to our respective names, -also to provide for sa. Instructors, free of expense to them, a house & School room, so long as they shall fulfil the duties of their office to the satisfaction of their employers.

M. Irwin, twenty dollars for one child, and quantity of vegetables. M. Bowyer, sixty Dollars for three children.

L. GRIGNON, MR. one hundred dollars for five children and a proportionate quantity of vegetables. (SHSW Col. XII, 455)

When the citizens of Green Bay decided in October of 1821 to have a schoolhouse, they agreed to build it and to pay a tutor by taking subscriptions. In deference to the several religions of the founders, denominational instruction was excluded from the curriculum. General Ellis was hired to open the school the following year in a single room of an inhabited cabin at Fort Howard. Ellis wrote of the enthusiasm of parents and pupils for a formal school setting:

About the twentieth of October, notice was given that a free school would be opened for children without distinction of age, color or condition. It was immediately filled to the capacity of the room; the parents were interested, the scholars kindly disposed and well behaved, and the school, on the whole, all that could reasonably be expected. (SHSW Col. VII, 226)

By the next February, the cabin's owner asked that Ellis and his pupils move elsewhere before her impending marriage. Ellis transferred his classes to a room in an old agency house and continued his teaching. But once again marriage interfered with educational stability. School was dismissed indefinitely after newlyweds moved into the schoolroom in the agency house. Optimistically, General Ellis observed that the nature of learning varies and is not limited to books. He praised the teaching skills of missionary priests who offered religious education to Green Bay children and adults during semiannual visits of two weeks duration.

In the winter of 1823, officers of the Fort Howard garrison established a post school and engaged General Ellis to teach from January to April 1824. After he completed the prescribed term, Ellis was hired for the Episcopal Church school to teach eight pupils, half of whom paid a fee while the other half attended free for their parents were unable to pay tuition. During the same winter, 1824-25, Fort Howard officers and soldiers built a larger post school with improved equipment. A limited number of the children of townspeople were admitted to this school, which was also taught by Ellis. Although it was a successful venture, the school closed in 1827 because the main body of troops was transferred.

he Episcopal Mission Society added a school to the Indian Mission at Green Bay in 1823. Established to accommodate fifty "white and half breed children," the school was on the west side of the Fox River opposite Shanty Town. Indian children boarded at the school. Although two-hundred children attended in a period of one and one-half years, the school closed within three years.

Education abroad was another alternative for the sons of privileged settlers. Reminiscent of Virginia plantation owners who sent their children to Europe for an education, there were wealthy French settlers who sent their children to Quebec, Montreal, Detroit, or St. Louis to acquire an English or French education.

For the majority, European influence, including language, was a part of life in the territory. French missionaries, laboring to Christianize the Indians, taught them the French language, while French fur traders made their own attempt to educate the Indians. Their teachings, aimed at improving the Indians' lot, were in opposition to the British government's intent to keep the Indians" ignorant and barbaric." The British succeeded in thwarting French educational efforts, but several generations of Indians learned to speak fluent French.

C uropean religious societies contributed heavily to the education of both Indians and whites. In 1828, for example, the Boston office of the Scottish Society for Propagating Christian Knowledge established a mission in the region which was to become Wisconsin. The Society's stated objective was "to preach the gospel to the Stockbridge Indians and to establish a good common school among them."

In 1829, Electa Quinney, a Stockbridge Indian who had been educated at a mission school in Connecticut, opened a school near Kaukauna. Quinney modeled her school on successful contemporary New England schools, opening each session with a religious service and a prayer and controlling her students with "moral persuasion, not the rod." Most of her students were Indians, but Quinney conducted classes in English.

In 1830, another Episcopal Mission School opened a day school in Green Bay, charging a fee of two dollars for each scholar under fourteen years of age and two dollars and fifty cents for each pupil older than fourteen. Parents who could not afford tuition were permitted to send their children free of charge. Class sessions were scheduled daily throughout the year except for Christmas Day, New Year's Day, Ash Wednesday, Good Friday, Ascension Day, Thanksgiving, and a one-week vacation following December and June examination periods.

The Episcopal Mission also sponsored a boarding school. Full tuition cost was thirty dollars; here, too, parents with inadequate incomes paid a partial fee or, in some instances, nothing. The general curriculum consisted of reading, writing, arithmetic, and geography. Girls learned housekeeping, sewing, knitting, spinning, and weaving, while boys learned farming.

In July 1833 the Roman Catholic Indian Free School of Green Bay opened. A description of the school, which was conducted by two teachers, reads:

All poor Indians to be admitted gratuitously for all instructions; others on moderate terms. . . . The object of this school is to inculcate industry, morality & Christian piety—and to teach the art of spelling, reading & writing etc. (SHSW Col. XIV, 456-57) By the end of the preterritorial period, schools had been established at the military posts of Green Bay, Prairie du Chien, and Portage. Private schools, forerunners of public schools, had opened at Prairie du Chien, Green Bay, Mineral Point, Platteville, Kenosha, Milwaukee, and Sheboygan with a combined enrollment of 275 pupils in 1836.

The Northwest Ordinances continued to affect the Wisconsin region as it entered its territorial period. The Ordinance of 1785 had allocated land for schools, and the Ordinance of 1787 lent philosophical direction:

Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged.

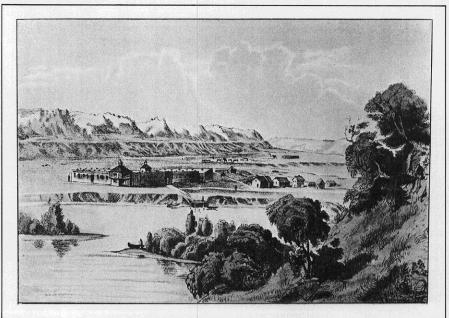
The first Wisconsin territorial legislature in 1836 allowed Michigan Territory laws to continue to function and made no special provision for common schools, a growing interest of eastern educators. Following a different direction, the first Wisconsin Territory school law was intended only to prevent trespassing on school lands. A fine was imposed for cutting down, destroying, or hauling off any wood of any kind, mineral, stone, or stone coal. Revenues from these fines were designated for the use of schools located within the township where the violation occurred.

Although the legislature had not yet acted to form any sort of public or common school system, it is generally believed that the first public school in the Wisconsin Territory opened in Milwaukee during the winter of 1836-37. Edward West taught youngsters in the daytime and adults in the evening.

In a typical pattern for starting a school at that time, one or two publicspirited individuals would arrange for classes to be conducted either in a private home or in a log building erected for use as a schoolhouse. Teachers, many of them educated en eastern schools, taught for three months a year, earning two dollars or three dollars a term from each pupil, similar to the subscription method popular in Wisconsin's preterritorial period.

Teaching was sometimes hazardous, pupil status equally so. In his autobiography (Wis. Mag. Hist., VII,

The first private school opened at Fort Crawford in Prairie du Chien in 1817, while Wisconsin was still part of Illinois Territory. This print from a German book published in 1854 shows the first Fort Crawford; it is a copy from a painting by Henry Lewis.



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In the 1830s and 1840s log schoolhouses, such as this, were becoming more common in Wisconsin Territory.

483) Amherst Willoughby Kellogg described an incident in the Milwaukee school he attended during the winter of 1837-38. A student, larger than the schoolmaster, arrived after the bell had rung. Seeing the master approach with a rawhide, the student armed himself with an iron fire shovel. The master countered by grabbing a big hickory stick. Following a tussle, the teacher lashed the boy, cutting his shirt sleeve and eliciting cries for mercy. The schoolmaster had no behavior problems for the remainder of the school year-but at considerable cost, for he had lost two front teeth during the struggle.

On January 19, 1838, recognizing the importance of higher education, the legislature passed an act to establish the university of the territory of Wisconsin. The university was to be located at or near Madison, the seat of government, and was to have no religious barriers for students or faculty.

Legislators of the Wisconsin Territory passed an act in 1839 to establish common schools. The common school, in the United States, referred to a taxsupported institution affording equal

educational opportunity for all. Influenced by emigrants from the colonies in the Northeast, these legislators took a mighty step in furthering public education. The act stated that every town of at least ten families would constitute a school district and must hire a competent teacher. Each town was mandated to elect five common school inspectors, at least three of whom were to examine teachers and inspect schools. Good moral character and ability to teach were identified as certification criteria. In order for a school to receive its portion of the school fund, classes had to be in session a minimum of three months that year. This law formed the basis for early state school regulations.

Lieutenant Governor Charles Durwin Parker told of his boyhood school near the present Tess Corners in Waukesha County. The small log cabin was heated by a little iron stove his father had brought from New Hampshire in a covered wagon. He mentioned the custom of "boarding round," whereby the teacher lived alternately with various families in the district. One teacher at this school puzzled his students by leaving the schoolhouse for a brief period of time every halfhour. After the schoolmaster returned from one outing, Parker asked permission to go out. Following foot tracks, he discovered a pint whiskey flask hidden in the snow. He concluded his story, explaining,

Then the boys had their fun. As the days passed he used to get rather the worse for the flask before the close of the day, and the boys began to cut up, until father, who was clerk, found out, and told him he must give up the whiskey or resign. It was a little better after that. (SHSW Col. V, 340)

Parker failed to say whether improvement resulted from abstinence or resignation.

An 1841 amendment to the education act of 1839 strengthened local control of schools. Three years later, a law enabled school districts to raise school taxes if a town failed to vote to do so.

One man was preeminent in the drive to establish a free school system in Wisconsin. Colonel Michael Frank began his educational career as a teacher at age sixteen. He espoused a system of free schools at a time when the majority regarded taxation as unjust and oppressive if it required the rich to pay for educating the children of others. Frank courted public support of free schools by publishing articles, speaking to the people, and writing a village property tax bill for the support of public schools. That bill passed in 1845, and a free, tax-supported school was opened in Southport, now Kenosha. Milwaukee, Fond du Lac, and Platteville opened common school districts in 1846.

At the first Wisconsin Constitutional Convention in 1846, the article on education generated debate on appointment of a state superintendent, on appropriation of lands for school funds, and on naming schools 'public" or "common." Article IX, the education section of the document adopted by that Constitutional Convention, delegated to the legislature the decision on whether the State Superintendent of Public Instruction should be elected or appointed and used the term "common schools."

Newspaper editorials strongly supported legislative efforts to establish a public educational system. One editor, promoting acceptance of the constitution, explained that "one of the most important considerations in favor of the adoption of the present constitution is the munificent provisions it makes for the establishment and support of common schools."

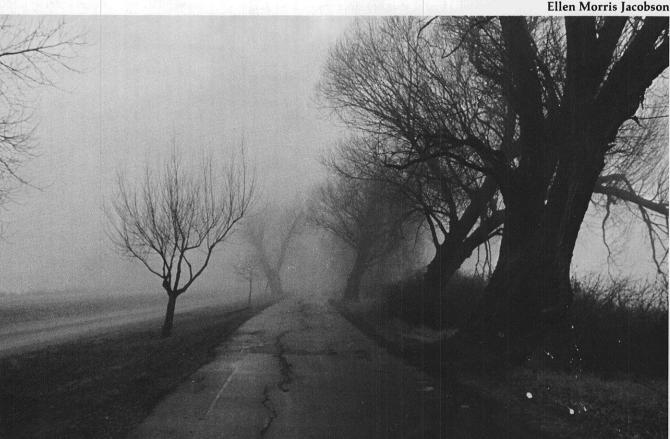
The second Constitutional Convention of Wisconsin met in 1847 to write the State Constitution. Delegates voted in favor of an elective, rather than an appointive, State Superintendent of Schools and agreed upon a superintendent's salary of \$1,500 a year. After debate, legislators consented to allow individual school districts the decision of whether to permit "colored" children to attend classes. In a vote of fiftyseven to two, delegates included the phrase, "and no sectarian instruction shall be allowed in said schools." The convention designated twenty as the maximum age for attending free schools and set a minimum of three months of schooling for a district to qualify for an annual share of state money. The decisions of members of the second Constitutional Convention created Article X, the education article, of the Wisconsin Constitution of 1848. The law provided for a State Superintendent of Public Instruction, prescribed a school fund, allowed for establishment of district schools, called for an annual school tax, gave support for a state university, and provided for the sale of public lands to benefit the schools.

At the time Wisconsin moved from territorial status into statehood. educational efforts were directed. primarily, to the needs of young people. Secondarily, schools served as social centers for the entire community, providing a meeting place for debates, lectures, spelling contests, literary programs, religious sermons, and political speeches.

From the preterritorial through the territorial years, Wisconsin settlers pursued education as a desirable goal. Beginning with the scattered labors of missionaries, personnel of military garrisons, and sponsors of private schools, education developed slowly and soundly, evolving into a useful, democratic common school system. The outstanding public education program in Wisconsin today is the mature product of these early ventures.

Collections of the State Historical Society of Wisconsin (SHSW Col.) provided the major portion of the documentation for this article. In addition, the Wisconsin Blue Book, the Wisconsin Magazine of History (Wis. Mag. Hist.), Laws of Wisconsin Territory, and Statutes of Wisconsin were valuable resources.





AN INTIMATE GATHERING OF 1200

By Bernice Durand

n December, 1950, Robert E. Marshak, then chairman of the Physics Department at the University of Rochester, held a one-day conference of fifty "high energy" physicists. On July 23, 1980, Marshak made the closing remarks at the week-long twentieth "Rochester" Conference, now called the XX International Conference on High Energy Physics, at the University of Wisconsin-Madison. He said, "I don't know how it has been achieved, but I have had the same feeling of excitement, lively debate, and intimacy in Madison with 1200 delegates as I had thirty years ago in Rochester with fifty."

After the first seven high energy conferences in Rochester from 1950-57, Marshak and others felt the conference should "go international." The International Union of Pure and Applied Physics was approached to give official sanction to the conference; and although most high energy results were coming out of the United States at the time, it was decided to rotate every other year between the United States, western Europe, and the Soviet Union. In 1978 the rest of the world entered the rotation when the conference went to Japan. Through 1978, invitations were issued on a quota system, based on the number of high energy physicists in each country. The size of the conference stabilized at about 800 during the seventies. It became the biennial focus of the field and was considered very prestigious in the physics community, with conferences being held in Tokyo, Tblisi, Geneva, London, Vienna, Moscow, San Francisco (Berkely), Chicago (Fermilab), and other major cities.

The Madison Conference

Madison has been well known as a seat of excellent high energy research since the 1930s, when accelerator physics was born. Ray Herb and Don Kerst, both recently retired, were outstanding contributors to accelerator development. Herb invented a linear accelerator, spent his career improving it, and now owns a company in Middleton (National Electrostatics) which makes and sells beautiful and reliable accelerators for a worldwide market. Kerst invented the betatron (an electron accelerator), just when the first cyclotrons were reaching the maximum energies they could produce. The tradition of excellence in particle physics continues.

The Madison conference was the result of a long campaign by our high energy group (made up of eighteen professors, more than a dozen scientists and postdoctoral fellows, and over forty graduate students) to open the conference to any particle physicist who asked to come. It was an experiment, expected by many to fail, in applying the Wisconsin Idea to the world of high energy physics. The result was the most international conference of the series, with about 600 of the delegates coming from 53 countries outside the United States. Countries with previous quotas of zero or two or six sent two or six or twenty delegates. Since many of these are the developing nations, the Madison conference served as a big boost to third world physics research, enabling contacts to be made and collaborations arranged. Young physicists came who never could have under the quota system, which added excitement to the discussions. It was probably true, as Marshak said, that not since the earliest Rochester conferences had there been such spirited debate.

The format of the Madison conference was typical of large physics meetings. There were three days during which the delegates could choose to attend one of four "parallel sessions" which, in effect, constituted smallerscale conferences on specialized topics. For example, there would be simultaneous talks on accelerator techniques, new data pertaining to weak interactions, new data pertaining to strong interactions, and mathematically technical results in theory.

Then there was a day of rest, followed by three days of general or "plenary" sessions attended by all delegates. The plenary speakers summarized results presented in the parallel sessions and put them into context, a difficult task.

Each international conference is remembered not only for the physics but also for the evening programs and the day off. We had tough competition

from the Vienna State Opera, tours of Japanese gardens, and the sumptuous banquets and receptions of most conferences. We scheduled for the evenings a reception at the State Capitol, a concert by the Fine Arts Quartet of UW-Milwaukee, a picnic in lieu of a banquet, a jazz/dance concert, and a session on the future of high energy physics. All were exceptionally well received, possibly because, as one European put it, coming to Madison was "like coming to an underdeveloped country, hot and cheap." The day of "rest" offered tours to nearby attractions such as Taliesin, and a popular canoe trip on the Wisconsin River, oversubscribed long before the conference.

High energy physics is probably the most international of all scientific endeavors. The twenty "Rochester" conferences have both stimulated and sustained that international cooperation. In this article I will discuss some of the current problems in our field, including results presented at the 1980 Madison conference. The problems range from the structure of the tiniest, shortest-lived, most "invisible" constituents of matter to the early history and ultimate fate of the entire universe. These problems drew 1200 physicists, a group constituting more than one-eighth of the world and more than one-fifth of the American particle physicists, to the Madison edition of the biennial "summit" meeting of high energy physics.

A Desert to Cross?

At a special session the last night of the Madison conference, five distinguished physicists were asked to comment on the future of our field. The five panelists were Abdus Salam of Pakistan, professor at Imperial College (London), director of the International Center for Theoretical Physics (Trieste, Italy), and 1979 Nobel laureate; Murray Gell-Mann, professor at Caltech and 1969 Nobel laureate; Leon Lederman, director of the Fermi National Accelerator Laboratory (Fermilab) in Illinois; Leon Van Hove of Belgium, direct-general of the European Center for Nuclear Research (CERN) in Geneva; and Yuval Ne'eman



The author introduces panelists Murray Gell-Mann, Leon Van Hove, and Yuval Ne'eman, who speculated on the future of high energy physics on the last night of the conference in the Madison Civic Center.

of Israel, professor at Tel Aviv and an active politician and military man who got started in physics around the age of forty.

One of the more startling comments was Salam's: "The field may be dead in 25 years." He was not referring to lack of ideas for better theories or experiments but to the lack of new ideas for higher energy accelerators at reasonable prices. Accelerators have always been the main tool of high energy physics. Already much new physics is coming from nonaccelerator experiments, such as Fairbank's free quarks, Reines' oscillating neutrinos, and the proton decay searches discussed below. In the past, as each type of accelerator reached its limit of energy, a new idea or technology came along to spawn a new type of accelerator. Salam urged theorists to turn some of their efforts to machine design.

Lederman, the only experimentalist on the panel, claimed that theorists are overconfident and asked them to explain "the Force" (as in *Star Wars*). He made remarks similar to Salam's, that high energy physics has led to many technological advances for the whole society but that the field is faltering, both for lack of funding and lack of graduate students choosing particle physics. Lederman is a frequent and eloquent spokesman for basic research.

A few theoretical ideas discussed in the special session were "preons," the

highly speculative possible constituents of guarks and leptons (which are themselves the constituents of all familiar matter), different versions of unified theories of all the forces known to physics, and the "desert" which may lie just above the energies of the yetto-be-seen particles, the top quark and weak bosons. "Desert" is a buzz word coined to point out that if our current ideas are confirmed, there are only a few particles left to discover, and physics at higher energies could get very boring. We like to think that our theories are coalescing nicely, but the five panelists, picked for their proven intuition, doubt that there will be a desert.

A Particle Primer

High energy physics is also called particle physics, after the elementary particles which we are trying to understand. There is a little blue pocketsized booklet called "Particle Properties" which most high energy physicists carry with them (like Mao's little red book?). The booklet is revised every two years, and the 1980 edition has forty pages of lists of particles. We do not regard all of these hundreds of particles as elementary! At the moment, we regard six "quarks," named up, down, strange, charm, bottom, and top; six "leptons," named electron, mu, tau, electron neutrino, mu neutrino, and tau neutrino; and four types of "bosons," named graviton, weak boson, photon, and gluon, as elementary.

"Quark" is a whimsical name given to the strongly bound constituents of protons and neutrons. "Lepton" means "lightweight." Since the electron is the lightest massive particle (some particles are massless), it was called a lepton. The mu and tau are (self-contradictory) "heavy leptons." "Boson" refers to the spin of the particle, indicating that it has integer multiples of a fundamental unit of spin. Quarks and leptons have only half a fundamental unit of spin, so they are not bosons. Half-integer spin particles are called fermions.

The bosons act as agents of the four forces of nature: gravity, the weak nuclear force, electromagnetism, and the strong nuclear force. Quarks can interact via all four forces. Leptons do not interact via the strong interaction and neutrinos also do not interact electrically. The bosons are varied. In addition to being the agent of one of the interactions, each of the boson types may intereact via other allowed forces. Gravitons "carry" gravity and have no other allowed interactions. Photons carry electromagnetism but may not interact with each other via that force; they may interact with electrically charged particles via electromagnetism, and in general via gravity. The weak bosons carry the weak force and may also interact via the weak force, gravity, and electromagnetism if they are electrically charged. Gluons carry the strong force and interact via gravity and the strong force.

TABLE 1: The Quarks									
name	mass	<u>flavor</u>	<u>electric</u> charge	<u>color</u> charge	interactions				
up	lightest	u	+ 2/3e	red R, blue B, or yellow Y	all four				
down	heavier	d	- 1/3e	red R, blue B, or yellow Y	all four				
strange	heavier	S	- 1/3e	red R, blue B, or yellow Y	all four				
charm	heavier	c	+ 2/3e	red R, blue B, or yellow Y	all four				
bottom	heavier	b	- 1/3e	red R, blue B, or yellow Y	all four				
top	heaviest	t t	+ 2/3e	red R, blue B, or yellow Y	all four				

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TABLE 2: The Leptons								
<u>name</u>	mass	flavor	lepton number	<u>electric</u> charge	interactions			
electron e-	very light	e	$L_{e} = +1$	⁻e	gravity, weak electromagnetic			
electron neutrino v _e	~0	ve	L _e = +1	0	gravity, weak			
muon µ_	medium	μ	$L_{\mu} = +1$	⁻ e	gravity, weak electromagnetic			
muon neutrino v _µ	$\simeq 0$	$ u_{\mu}$	$L_{\mu} = +1$	0	gravity, weak			
tauon <i>T</i> ⁻	heavy	τ	$L\tau = +1$	⁻e	gravity, weak electromagnetic			
tau neutrino ν ₇	≃ 0	ν _τ	$L\tau = +1$	0	gravity, weak			

Every elementary particle has a companion antiparticle, which is not included in the "six quarks." The way we tell one particle from another is by properties called "quantum numbers"; for example, electric charge or spin. The quantum numbers of a particle determine which interactions it will undergo.

All of the above definitions are summarized in Tables 1, 2, and 3, where I list the quarks, leptons, and bosons and the quantum numbers relevant to their interactions, together with some numbers on the relative strengths of the interactions. In these tables I introduce the symbols for particles where appropriate and also two important quantum numbers (also whimsically named), flavor and color charge. Flavor is the property necessary to feel the weak interaction, and color, which I will return to, is necessary for the strong interaction. The names of the quarks are their flavors. That is, there are six quark flavors. Similarly, there are six lepton flavors. Table 2 has an extra column, called lepton number, which is similar to lepton flavor but which reflects the pairing of each neutrino with a massive lepton partner; e.g. the v_e with the e⁻.

Tools

The tools of experimental particle research are giant accelerators, which accelerate particles to very high energies, whence the name "high energy physics," and huge detectors used to observe the debris when energetic particles collide with targets and "break open." By observing these collision products, we infer the properties of the particles and their interactions. The tools of theoretical particle research are mathematics, computers, and lots of talk, chalk, pencils, and paper.

The "high energy" of high energy physics is redefined with every new accelerator. What was high energy at the first Rochester conference in 1950 is very low energy today.

There are facilities at some accelerators for storing high energy electrons or protons by trapping them in a circular path using a magnetic field. When enough particles have accumulated in such a storage ring, they are allowed to collide with a counter-rotating beam of particles, greatly increasing the effect of the accelerator. A low-energy storage ring facility is heavily used at the UW Physical Sciences Laboratory (PSL) in Stoughton, Wisconsin. PSL housed an accelerator built in the 1960s as a test model for one of the larger accelerators. The conversion of that accelerator for low-energy use in early 1970s gave a new tool to condensed matter (or solid state) physicists.

These storage rings and colliding beams are the most powerful manmade tools used now by experimentalists. Major colliding beam facilities are in Geneva, Hamburg, Stanford, and Cornell (the newest). Other major accelerators are near Chicago (Fermilab), Novosibirsk (Siberia), Brookhaven (Long Island), and Serpukov (Russia). All of these accelerators, plus the lower energy accelerators scattered around the world, are used by experimentalists from every country with a high energy physics program.

Rules

By "understanding" the elementary particles, we mean understanding their fundamental interactions with each other. Part of this understanding definitely involves defining "elementary" and "fundamental." Until recently, the four interactions (gravity, weak, electromagnetic, and strong) were

		TABLE 3:	The Bosons		
name	interaction carri mass by this boson		property needed to have this interaction	<u>strength of</u> this interaction	interactions which this boson may itself feel
graviton	0	gravity	mass or energy	$\sim 10^{-40}$	gravity
weak boson W [±] Zº	very heavy	weak	flavor	~ 10-4	gravity, weak, electromagnetic
photon γ	0	electromagnetic	electric charge	1/137	gravity
gluon g	~ 0	strong	color charge	~1	gravity, strong

considered to be distinct and fundamental, with some particles feeling all of them, some just one. Now there has been a successful "unification" of the theories of weak and electromagnetic interactions, and theorists hope someday to have a single theory treating all observed interactions as manifestations of just one fundamental interaction.

The rules of particle physics change as our understanding of the particles progresses. In 1950 there were few enough "elementary particles" that they could be classified by their weights, or masses, into heavy baryons, middle-weight mesons, and light weight leptons. The baryons were the p+ and n (proton and neutron); the mesons were the π^+ , π^- , π^o (pions); and the leptons were the e^- and v_e (electron and its neutrino) and their antiparticles (e⁺ and $\overline{v_e}$). The muon, or heavy electron, was already an anomaly, being of meson weight but not acting like pions. A few mesons other than pions were known, which acted "strangely" and were thus called strange mesons. Now we know these particles contain strange quarks.

Now there are hundreds of baryons and mesons and six leptons. Higher energy physics long since obliterated the "light-heavy" distinctions. Baryon now means "composed of three quarks or three antiquarks, each of a different color." Meson means "having a quark and an antiquark, with their colors cancelling." Leptons do not act as if they are composite, and they do not carry color.

Two rules govern the construction of baryons and mesons from quarks. The first rule, that observable particles such as baryons and mesons must have three quarks or a quark and antiquark, is easy to understand from Table 1. Observed particles have electric charge of +e, -e, or 0 (as do the leptons and bosons). Thus the "electric charge" column for quarks, together with one for antiquarks, both of which have fractional electric charge, allows one to write down all possible combinations, i.e. baryons and mesons, filling at least forty pages. If a baryon or meson has any flavor of quark other than up or down, it is referred to by that flavor: whence strange mesons, the discovery of charmed particles, and "bare bottom" mesons.

The second rule for combining quarks is that observed particles must carry no color charge. The name color was used for this property to describe the fact that each flavor of quark appears to come in three types (*red* R, *blue* B, and *yellow* Y), but quarks are never seen free. Thus the bound states are referred to as "white," the combination of R + B + Y in the case of baryons or $R\overline{R}$ (red and antired), etc., in the case of mesons. A proton, for example, has two up quarks and one down quark, each in a different "color." Since we are for some unknown reason "colorblind," we can't tell which quark or antiquark is carrying which color.

The two previous rules about quarks were related to the strong interaction. There is a rule which applies to flavor and thus to the weak interaction. There are six quark flavors. A particle containing quarks, except the proton (maybe!) may decay to lower mass particles containing quarks of different flavors by the weak interaction. For example, a meson containing a strange quark may decay to mesons containing only the lighter up and down quarks and may even decay to leptons, which contain no quarks. *Quark flavor may change; it is not conserved*.

On the other hand, although the six lepton flavors may also change as heavier leptons decay into lighter ones by the weak interaction, leptons are subject to a constraint: the *lepton* number, L_e , L_μ , or L_τ , may not change in an interaction. The lepton number column of Table 2 shows that each negatively charged massive lepton or its partner neutrino has a special lepton number of +1. The antiparticles, e.g. the e+ and $\overline{v_e}$, have lepton number -1.

In any reaction, the sum of L_e or L_μ or L_τ values must be the same in the initial and final systems. An example is $n \rightarrow p^+ + e^- + \overline{v_e}$ (left side $L_e = 0$; right side $L_e = 0 + 1 - 1 = 0$). This is the famous "beta" (electron) decay of the neutron n into a proton p+, discovered by Henri Becquerel in 1896.

Free Quarks?

The unsolved problems in high energy physics cannot be divided neatly into experimental and theoretical categories. There is too strong an interplay between the two. For example, since 1963, when Murray Gell-Mann and George Zweig (both of the California Institute of Technology) independently explained the growing number of baryons and mesons by inventing quarks, many experimenters have searched for a free quark, i.e.,

a quark not bound into a baron or meson. Until very recently, all of these experiments had negative results. Quarks seem to be confined by a very strong "glue" into combinations of only qqq (three quarks or $q\overline{q}$ (quark, antiquark). Color was invented to describe quark confinement, and recent theories called lattice gauge theories have probably explained confinement. If, however, a quark hunt were successful, the considerable effort which has gone into confinement theories would have been wasted. A new theory would be needed which allowed (rare) free quarks. As we shall see, a recent quark hunt may have been successful. Thus quark confinement is one of the biggest problems, both theoretically and experimentally.

At the Madison meeting, positive results were announced for a quark search experiment at Stanford. These results will be controversial until someone else has repeated the experiment, but William Fairbank, George La Rue, and their collaborators have been working on this quark search for several years and so far no fault can be found in their technique or analysis. Thus free quarks *may* exist. (Other current quark searches give negative or very weakly positive results.)

Lee Pondrom, cochairman of the conference, greets Vernon Hughes of Yale in the lobby of the Madison Civic Center, where three days of plenary sessions were held. The parallel sessions met in the Humanities Building, Memorial Union, and Elvehjem Art Center on the UW-Madison campus.



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The Fairbank et al. experiment is a sophisticated version of a classic experiment taught about and performed in high school and college introductory physics courses: the Millikan oil drop experiment.

In 1909, Robert Millikan measured the unit (quantum) of charge on an electron by suspending very small oil drops between two electrically charged plates so that the drops experienced an electric force. If the oil drop had no excess charge, it would fall due to gravity. If it had excess negative charge, it would be attracted to the positive plate, while an excess positive charge would draw it toward the negative plate. By measuring the mass of the drop and how much voltage between the plates it took to hold it still or have it fall at a certain rate, Millikan could measure the charge on the drop. He fine-tuned his experiment until he detected quantum differences in charge equal to the charge on an electron, called simply e.

Quarks, with charge $\pm 1/3$ e or $\pm 2/3$ e, are rare in their free state, if they exist at all; but they can be observed by a similar, though more careful and sophisticated, experiment. Oil drops are replaced by tiny niobium balls, coated with tungsten. (Early in the Fairbank experiment, bumper stickers appeared in the Palo Alto area saying, "You need tungsten-coated niobium balls to find quarks.") Instead of balancing electrical and gravitational forces, a different electrical effect is looked for. The Fairbank group, noted for doing difficult experiments very carefully, reported seeing several events of 1/3 fractional charge.

If we have free quarks, then we must dump parts of our current theory of the strong interaction, called QCD for Quantum Chromo (Color) Dynamics. We are all anxious to know whether to believe the Fairbank et al. result!

Bare Bottom

The success of the quark model, from its invention when only up, down, and strange flavors were known, has been its ability to predict the masses and quantum numbers of baryons and mesons which had not yet been seen. In 1974 the fourth quark charm was found. It had been predicted from properties of the weak interaction by Sheldon Glashow, which was a theoretical triumph. (Glashow, of Harvard, shared the 1979 Nobel Prize with Steven Weinberg, also of Harvard, and Salam for their successful unification of the weak and electromagnetic theories.) A new flavor of quark makes its appearance at accelerators when the blob of energy created in a collision, usually of an e+ and e⁻, is energetic enough to produce the quark and its antiquark, bound together into a meson.

In 1977 Leon Lederman discovered a fifth (bottom) quark in a particle he named the upsilon (Υ) . (Upsilon was one of the few unused Greek letters in the particle zoo, but Lederman's colleagues claim he named this "white" bb particle the "oops-Leon" after himself.) The upsilon does not itself carry the quantum number bottom, since b cancels b. Immediately, theorists predicted that the T should have two very similar, more massive siblings, the T' and Υ'' , which would have long life-times. ("Long" in our language is around 10^{-16} seconds. "Short" is around 10⁻²³ seconds.) Then there would be an Y" which was energetic enough to decay quickly into lighter mesons which would carry the quantum number bottom. The Υ' and Υ'' were seen soon after the T. The hunt for the T''' decay products was referred to as the search for "bare bottom."

This year a new electron storage ring (called CESR) started operating at Cornell. The CESR group announced at the Madison conference the discovery of the Υ''' , at the predicted energy and with the predicted properties. The significance of this result is that it confirms our theoretical understanding of particle physics.

To complete the quark picture predicted theoretically, theorists are eagerly awaiting the discovery of the top quark, which cannot happen until the next higher energy storage ring is operating.

Glue

Only one of the fundamental bosons, the photon, had been observed as a free particle until 1979. Photons are massless quanta of light, heat, radio waves, x-rays, etc. Experimentalists have looked for direct evidence of the gluon and weak bosons in many accelerator experiments. In 1979 a storage ring opened at a laboratory in Hamburg, Germany, called DESY (Deutches Elektronen Synchrotron). There, evidence for the gluon was found in early experiments. By the 1980 XX Conference, this evidence had been confirmed. (Professor Sau-Lan Wu of



Loyal Durand, cochairman of the conference, sets a good example for canoeists on the day off. It is a common phenomenon, reported by mathematicians and physicists at least, that activities such as this are conducive to problem solving: answers spontaneously occur during or after relaxation.

UW-Madison was a principal investigator in one of the collaborations at DESY which first announced and later confirmed the gluon evidence.)

The footprint of the gluon is called a "three jet" event. When the e+ and ecollide, they annihilate into a blob of tremendous energy. Out of this energy, a quark-antiquark pair is created. The q and \overline{q} both still have extra energy, and they proceed through the laboratory "dressing" themselves with many more qq pairs which all eventually condense into "white" mesons and baryons and are observed in the detectors around the accelerator. The original energetic q and \overline{q} have a trail of mesons and baryons going in roughly the same directions as the q and q were going when they were created. These trails are called jets. Any fast quark leaves a jet of high energy particles in the laboratory. At a high enough collision energy, an energetic gluon g can be formed in the blob along with the q and q. The gluon, which binds two colored quarks via the strong interaction, carries double color and therefore is not white and cannot be free. It dresses itself in the same way the quarks do, by spewing out pairs of $q\bar{q}$ and more gluons. Thus three jets will be seen if a sufficiently energetic gluon was created in the e+ e- collision. Enough three-jet events have now been observed to confirm that the gluon has integer spin and to study its other properties. The properties are just as predicted by current theory, so the result is viewed as an important confirmation of our understanding of the strong interaction.

Neutrino Oscillations or The Future of the Universe

As well as we could measure, until very recently, the three neutrinos were massless. They also have no charge and no color charge. This is why neutrinos pass through town, and through the earth, and even through the sun, silently, tracelessly. They have a very low probability of interacting and leaving a mark. (For some time, the citizens of West Chicago, Illinois, worried about the Fermilab neutrino beam passing through their town: no damage has been reported!)

One of the two uses for neutrinos, and the only reason to have three instead of one, is to enforce the lepton number conservation law discussed under "Rules."

Conservation laws such as $L_e \text{ or } L_\mu$ or L_τ remaining the same during an interaction are related by physicists to "symmetries" of the interaction. Symmetry principles are clean and elegant, but there are very few exactly obeyed symmetries. One is conservation of electric charge. As mentioned before, flavor is one of the quantum numbers which is not conserved.

The unification of weak, electromagnetic, and strong interactions, as it now stands, predicts two new phenomena which have cosmological implications and which are the subject of much discussion and several new experiments. Observation of the first

Panelists Abdus Salam and Leon Lederman warm up before the special session on the future of their field.



new phenomenon was reported at the Madison conference by Frederick Reines of the University of California at Irvine and his collaborators. Working at nuclear reactors, they claim to have observed one kind of neutrino changing into another, such as $v_e \rightarrow v_T$, breaking the previously sacred rule of lepton number conservation. This announcement by Reines is the subject of much controversy, and other groups are questioning some aspects of the analysis.

The result is called a neutrino oscillation (there is a probability that $v_T \rightarrow$ v_e can also occur). Because this flavor change can only happen if neutrinos have mass (hitherto unmeasurably small), it carries implications for the closure of the universe. The universe is now expanding rapidly and will continue to expand indefinitely unless it has enough mass/energy for gravity to slow its expansion and "close" it. There is not enough visible matter to close the universe and cause it to contract eventually. Massive neutrinos could provide the needed extra mass for this closure.

Confirmation of neutrino masses and oscillation would be front-page news in physics. Although both ideas depart from the traditional picture of leptons, evidence for "unbalanced" flavor changing among the leptons would bring the leptons closer to the quarks in terms of weak interaction behavior. This more symmetrical view of quarks and leptons is present in the latest prototype unified theories, which makes neutrino oscillations very exciting to theorists. (Professor Vernon Barger of UW-Madison is one of the leading theorists making predictions on neutrino oscillations.)

Proton Decay or The Past of the Universe

Another piece of front-page news you may read about in the next year (unless your newspaper decays) is the decay of the proton. The predicted lifetime of the proton is around 1032 years! This means that to see one decay in one year, 10³² protons would have to be watched. (There are around 10⁸⁰ protons in the universe, which is "only" 1010 years old.) Don't hold your breath! The reason proton decay is being looked for also has to do with the latest attempts at a unified theory, which predict that quark flavor should be allowed to change to lepton flavor, with very low probability, by the weak interaction. This process would complete the quark flavor-lepton symmetry, which is appealing theoretically.

It has been dogma that the only allowed weak interaction quark processes were ones in which either a quark annihilates an antiquark, to become a bundle of energy called the weak boson, which then decays into a lighter pair of quarks or into leptons, or a quark changes to another quark. If the end result was leptons, lepton number had to be conserved. The proton decay reaction most likely to be seen is $p^+ \rightarrow e^+ + \pi^0$. In terms of guarks and leptons two quarks inside the proton become a single lepton and an antiquark. Such processes used to be forbidden! Lepton number is "violated," among other things.

Experiments deep in mineshafts, where the earth shields the detectors from most false signals, are underway looking for proton decay. (Professor David Cline of UW-Madison is a principal investigator in such an experiment in a mine under the ski hill at Park City, Utah, which is one of three United States proton decay searches.) To observe the footprint or "signature" of a single proton decay in 1032 protons during a year, about 300 tons (or 300 cubic meters) of water are observed. When the proton decays, half its rest energy goes "forward" with the e+ and half goes "backward" with the π^{0} , which converts to two energetic photons. Both the positron and the two photons interact in water to leave a trail of light. The experimentalists are thus looking (roughly speaking) for two trails of light going in opposite directions, each of whose total energy adds up to half the proton rest energy. This in a roomful of water six or seven meters to a side, with flashes of light going through continuously from cosmic rays, radioactivity in the rock surrounding the water, and other "background" sources! (Even deep in mines, there can be false signals.)

There are two cosmological implications of proton decay. One is that if the universe continues to expand and "live" forever, eventually all familiar matter, which depends on the existence of protons and neutrons, will be gone. The neutrons can decay, similarly to protons, into mesons and positrons or antineutrinos. "Soon" (around 10³³ years) positrons and electrons will be the only massive particles left, and they will annihilate each other to leave photons. The universe will contain only photons and neutrinos and antineutrinos, and not much will be going on!

The second and probably more interesting though less apocalyptic sounding implication is that we would have an explanation for the dominance of matter over antimatter in today's universe. In the Big Bang, and for a few split seconds after it, matter and antimatter in the form of very heavy bosons (much heavier than anything in Table 3) should have been formed. "Eventually" (within 10-38 seconds or so) these bosons would have decayed as the universe expanded and cooled, leaving behind protons, antiprotons, electrons, positrons, and more energy in the form of photons and neutrinos. There would be equal amounts of matter and antimatter unless three technical conditions held during those early split seconds. And if there were equal numbers of particles and antiparticles then, there should be now. One of the three conditions is the decay of protons, neutrons, and their antiparticles, technically called nonconservation of Baryon number. The second principle, technically called nonconservation of CP (where C stands for changing the sign of the charge and P stands for an operation called parity), is the well established fact of the weak interaction allowing more atoms and electrons to be produced than antiprotons and positrons, for which Val Fitch of Princeton and James Cronin of the University of Chicago's Brookhaven Laboratory received the 1980 Nobel prize in physics. This, of course, is what we see: matter dominates the universe. Antimatter comets would then be strictly ruled out except as artifacts of science fiction!

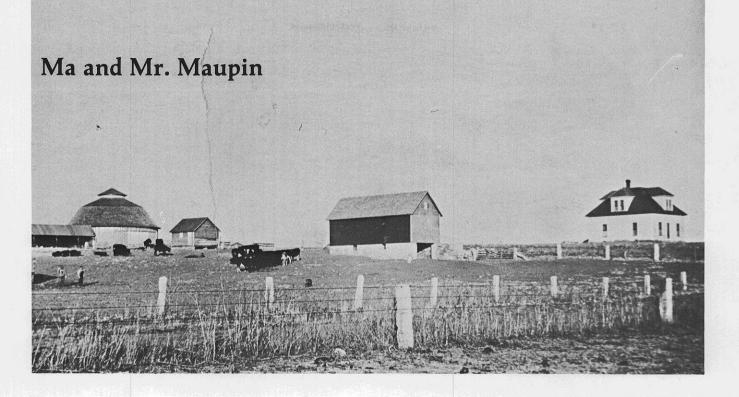
Expectations

The next United States high energy conference in the Rochester series will be in 1988. What physics should we know by 1988? We should know by then with certainty whether quarks can exist in a free state, whether protons ever decay, and whether neutrinos have mass. Knowing the latter two facts, we will know much better both the past and future of the whole universe. We will have found the sixth quark, whose family should all exist at energies we can now predict (or else our theories will have changed!); and we should have seen the footprints of the weak interaction bosons, the W+,



W-, and Z^o. Perhaps gravity will be better understood relative to the other interactions and perhaps there will be a beautiful unified theory of three or even four of the interactions. And we will know what surprises the next eight years have in store. Should we happen to host the 1988 conference (unlikely, once the euphoria wears off), we will change one thing: we will rent enough canoes to take the entire conference canoeing-spread out with some here and some there, to keep up an illusion that physicists pass through Wisconsin like neutrinos, happily, silently, and tracelessly.

In lieu of a banquet, physicists enjoyed a picnic. In the foreground are Maurice Goldhaber, Ling-Li Wang, and Giacomo Morpurgo, illustrating the international character of the conference.



A Story by Dale O'Brien

Outside the window in the shimmering heat was an endless flatness of land, golden land rippling in long waves as the wheat bent to the steady wind. Ma, fresh from a bath, her black hair in a bun at the back of her head, her white apron over her floral print dress, peered through the window, her eyes searching the landscape for a sign of Pa and the new hired man.

The table in the dining room was already set: the white linen cloth and napkins, the everyday silver, the everyday chinaware (it was Limoges, brought from Chicago), some cut glass bowls for the vegetables and condiments, silver candlesticks. The roast, keeping ready in the oven, was done; pots of water for the vegetables were boiling, the cherry pie cooling on the counter.

As always, the boxy, little house, a brave, white thing sitting apart in spirit more so than location from everything else on the Kansas farm, was immaculate. My mother was rabid about cleanliness. Every floor of that house was washed and waxed weekly by the hired woman on her knees. The children were bathed daily, as were their clothes which, in the summer, retained the scorching heat they absorbed on the line even after they'd been put away in the drawers for days. The country school that my brother and I and, later, for a while, our sister attended was supplied from the day of our enrollment with toilet paper my mother provided to supplant the catalog pages that were traditional. This citified affectation not only was the gossip of the countryside but caused my brother and me some bloody noses, considered by our schoolmates to be necessary therapy for our alien ways. But my mother was not to be deterred. There were inviolable rules for a civilized life on the Plains, rules dictated by her Chicago upbringing. By virtue of our very isolation from that distant and precious civilization they were the more rigorously to be upheld.

In those days before we moved to town, Ma lived in an invariably frustrated hope that she'd make friends with some kindred soul, but there weren't any such to be had. At least, she never found one in the countryside. Her heart did do a quick leap one day when Mr. Brozek, a Bohemian who had immigrated with his family to a nearby farm, came to see Pa. He knocked deferentially at the door and when Ma opened it he bowed low and made a sweeping arc across his waist with his tattered straw hat.

"Hullo missus," Mr. Brozek said. "I come to see Doc."

"I'm sorry, Mr. Brozek, I expect him any minute. Won't you come in and wait? I'll make coffee. Would you prefer tea?"

"No missus. I come back."

But Ma relished the moment anyway. The other farmers she had met never doffed their hats. Most of the time, they never removed them even in the house. And they would say things to Pa like, "Your woman told me you'd be here in an hour." Always "your woman," as if she were one of the livestock. Her remaining hopes for the Brozek family-I don't recall that she ever met Mrs. Brozek-were irretrievably dashed one day when she learned from Pa that the Brozeks had had their tenth child. That was fine news, of course, but Pa disclosed that Mrs. Brozek had been following a horse-drawn plow when her labor had started. She made herself as comfortable as she could under a nearby cottonwood tree, fearing she couldn't reach her distant home in time, and had the baby without assistance right there. "Animals!" was Ma's tight-lipped comment. It would be thirty more years—after Pa had died and Ma moved back to a Chicago she no longer knew and found hostile and inhospitable—before, in retrospect, she would admit to an understanding and sometimes even a love for the ways of the West.



Ma, about two years before the time of this story. The author is at right. At left, his brother Gordon, now a professor of English at the University of Minnesota.

It was about 6:30 when they trooped in through the kitchen door, Pa smiling and saying, "Smells good!" and Gerald, the hired man, saying, "Evening, Ma'am; howdy, kids," and patting me on the head. Ma kissed Pa, said, "Good evening, Mr. Maupin," to Gerald, who pronounced his name with a hard G. "Hurry and wash up now. Supper's ready." She eyed their footsteps on the linoleum with concern, calculating whether she'd have time to run a mop over the floor before we sat down to supper.

hey were down from the bathroom in a few minutes, Pa with a fresh white shirt on, one of a stock of white shirts Ma bought for him at Marshall Field & Company whenever she went to Chicago. Gerald's face and hands were scrubbed and his greased hair was combed straight back and flat against his head. But down around the base of his neck was the line where he had stopped scrubbing and below it the dampened dirt of the day still reposed. Gerald's heavy boots threatened to drop another clump of barnyard soil on the floor. Ma wrinkled her nose but she held her tongue. Hired man or not, Gerald was still a guest in her house and entitled to all courtesies.

In those days on the farm there was a tiny house, about fifty yards removed from our home, which was used by the hired man or couple as the case might be. Gerald had driven his flivver up to it the day before, when he moved in, and stowed his gear inside. Tonight was the first and-as it turned out—the only occasion that Gerald, a stocky, outgoing, and amiable young man with glittering teeth, would ever visit our home. Modest it was, but to Gerald it was Versailles. His astonished eyes swept in the furniture (bought right out of Marshall Field's windows), the paintings, the worn Oriental rugs, and especially the table service. However, self-possessed young man that he was, Gerald was happily at ease. His big, muscular hands on the table, each nail exhibiting a black crescent of earth, he leaned forward and with intensity examined each dish that Ma brought from the kitchen. He scrutinized the individual dishes with such lustful concentration and such joyous anticipation that I salivated for him, swallowing frequently to keep pace with his developing passion.

"My Gawd, Ma'am," Gerald sighed reverently. As he spoke he began helping himself to foothills of buttered green beans, fresh, whole beets, cauliflower au gratin, and potatoes boiled with the skins on. Pa carved the roast, but While he hunched to his eating, Gerald would lift his eyes now and then, fix Ma with a worshipful gaze and say, "My Gawd, Ma'am!" wipe his mouth with the back of his hand, and readdress himself to his joyful task. The rest of us even Pa—sat silent and transfixed as if we had unkowingly welcomed some extraplanetary creature to our table and so were regarding him in awe as he revealed his unearthly capacities to us.

Gerald finished eating long before the rest of us. He let out a wet and melodious belch, patted his belly, smiled a look of unalloyed love at Ma, managed another "My Gawd, Ma'am," slid back his chair and, without ado, sat down on the floor beside the table.

"I'm glad you enjoyed your dinner, Mr. Maupin," said Ma, trembling.

"My Gawd, Ma'am, shore beats fried steak and cream gravy. What you call that kind of cooking, Ma'am? I'd shore like to get me a woman what could cook that way. My Gawd, that's good eatin'!"

Ma hesitantly began an explanation of why she preferred roasting and baking meats to frying them, not at all sure, complimented though she secretly was by Gerald's explosions of adoration for her dinner, that such pearls wouldn't be wasted on this creature from the barnyard. Her uncertainty was justified, for she stopped in midsentence to admit the intrusion of another "My Gawd, ma'am" and to stare with incomprehension at what Gerald was doing.

He kept talking, repeating such things as, "Shore wish I could get me a woman like you," but preoccupied now with unlacing his dusty boots and peeling off his sweaty cotton socks. Boots and socks removed and talking all the while about the good life at Ma's table, Gerald pushed his right leg forward along the carpet, leaned back, and fished in his right pants pocket for something. He withdrew a big bonehandled jack knife and opened an authoritative blade. I could feel Pa tense. Ma, ashen and stupified by the madness of the scene, stared at the weapon. I, for one, didn't think that Gerald had anything malign in mind, and I'm sure the other children didn't either. Gerald was an amiable Hereford bull of a man, and there couldn't be any reckless insanity in such a healthy personality, so unaffectedly generous in his praise of Ma's cuisine. But we were nonetheless bemused. Not every day did a dinner guest comport himself so informally in Ma's home.

Limited though his vocabulary was, Gerald continued his panegyric for the magical things he had so recently engorged. While he talked, and oblivious of the astonished stares fixed on him, he brought his bare right foot back over the other leg, drawing it as close as he could to his lap. And then, grasping the bone handle with the easy assurance of the experienced countryman, he began paring his toenails.

"You got the receipts for these dishes, Ma'am, in case I get me a woman who'd like to learn?" Off came a nail paring onto the carpet, and then another. here was no reply from Ma. There was indeed no response from any of us, not for a while, anyway. Ma left the table and walked quickly toward the kitchen, grasping the kitchen door frame to keep from collapsing. We children, troubled by what we knew would be Ma's sobbing outrage later on, ran from the house to the yard. Pa remained to oversee Gerald, fearing, I know, to step into that kitchen.

There was an electric silence in the house when we came back in. Gerald had strolled back to his own place down the path, no doubt to relive his unearthly experience and to calculate which of the unmarried ladies of his acquaintance might possibly be capable of learning the arcane arts he had seen and savored. Pa was reading, or pretending to read, the paper. I knew that if there had been no tension in the house, he would have been playing solitaire at the cleared table. He played at least a half dozen games of solitaire every evening when he didn't have anything heavy on his mind. Ma was still in the kitchen, uttering no sound but, in her distraught state, being reckless with the Limoges.

No word was said that whole night, so far as I can remember, until Ma and Pa had gone to bed behind their rarely closed door. I was in bed, still reflecting on the events of the evening, and I could hear the swelling tides of outrage coming from across the hall. "I can't stand any more of this. I'm taking the children and going back to Chicago," were about the only words I could distinguish. No sound at all came from Pa. At last the house was quiet.

Retirement

Boots slow with mud I come across the pasture— Cold before the frost outlines the uncut, sentinel thistle, stark as barbed wire. Abandoning to crows the darker grey rain has stained the fenceposts, I go inside to warm myself for winter.

-Michael Alten Kriesel

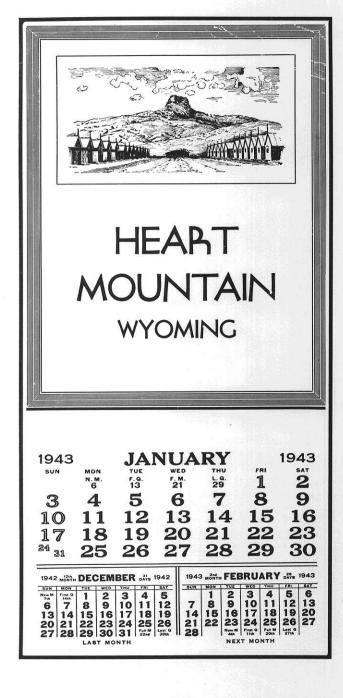


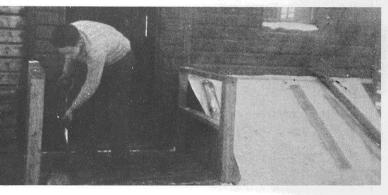
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Heart Mountain Relocation Center

Winter 1942-43

Pages from a scrapbook



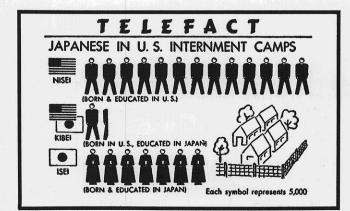


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Heart Mountain: A School Behind Barbed Wire

By Clarice Chase Dunn

When I arrived in Cody, Wyoming, grimy and exhausted, my reception was less than cordial. I approached the desk clerk at the hotel which Buffalo Bill had named after his daughter Irma and asked, "Can you tell me how to get to the Heart Mountain Relocation Center?"

The middle-aged woman held a pack of mail in mid-air and glared at me.

"You mean that Jap camp?"

"Yes, I was told that it was half way between Cody and Powell."

"You can't go there," she snapped. "Why would you want to anyway?"

"I have a job there," I explained. "Is there a bus?"

She gave me a scornful look, turned her back, and began sorting mail.

As I sat down in one of the overstuffed chairs in the lobby to ponder my predicament, two young men, who had been watching, introduced themselves and asked if they might join me. They told me that since they would soon be entering the armed services, their parents had given them a farewell gift, a trip through Yellowstone National Park.

"We passed that camp you were asking about," the lanky one said. "Black tar paper shacks. Pretty bleak looking."

"Barbed wire fence all around it," added the other. "Did you know you would be working behind barbed wire?" "Yes," I answered. "I know what I'm getting into. I'm a teacher. The camps need teachers."

I could see that they still didn't understand.

"Don't you see?" I continued. "It's precisely this situation which challenges me to work in the camps. These kids are in a tight spot. They've grown up in a democracy, and behind barbed wire their faith in democracy will be shaken up. They've got to have teachers who realize this."

We talked about Executive Order 9066 issued by President Roosevelt on February 19, 1942, which had authorized the removal of the West Coast Japanese from their homes and their dispersal and resettlement in ten camps located in wastelands of Arizona, Arkansas, California, Colorado, Idaho, Utah, and Wyoming. We talked about minorities in general and the inherent danger to society when the rights of democracy are not available to all of its citizens.

Finally, the sandy-haired one gave his summation.

"Yes, İ know all that stuff. I got A's in sociology in college. But, this is different."

That statement coming from this intelligent young man shocked me into the realization that democracy proclaimed is not necessarily democracy practiced.

When after two days I managed to get to Heart Mountain with some other War Relocation Authority (WRA) employes, I was further shocked by the knowledge that I too had ingested prejudice.

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We couldn't start teaching until school barracks were completed, and housing for evacuees naturally took precedence. In the meantime, teachers were assigned clerical work in the administration building and a variety of other tasks. Between assignments we were on our own.

One day as I sat in the back of the mess hall reviewing some of the textbooks I had brought with me and making tentative lesson plans, an elderly Japanese cook brought me a cup of tea and piece of cake. I froze. The ugly posters, the signboards depicting a Japanese face and a rat's body which I had seen all the way from Washington to Wyoming flashed before me. The concern of acquaintances, "Will you be safe out there with the Japs? Why don't you stay here and work where you'll be safe?"

The moment of terror passed. A kind, gentle man was inviting me to share a mid-morning snack. I smiled my gratitude.

That same day, I met my first Japanese friend, Lafayette Noda. Together we organized an evening class on cooperatives, which gave me an opportunity to work with adults, both Issei and Nisei, and to acquire a wider knowledge of the camp community.

After the first meeting with my adult study groups, the orientation material put out by the WRA began to take on meaning in human terms. This civilian agency created to administer the centers had issued bulletins detailing the background of relocation and explaining terminology.

I learned that Japanese aliens, those born in Japan and thus ineligible for American citizenship were called Issei. Their children, born in the United States and therefore citizens, were Nisei. Third generation toddlers were Sansei. The Kibei were Nisei who had spent considerable time in Japan.

And—I saw references to Caucasian personnel. Except in a textbook category, I had never thought of myself as a Caucasian. Somehow being classified made me feel uncomfortable.

About two weeks after my arrival at Heart Mountain, the schoolroom barracks were ready for use. Ready? Well, each small barrack was equipped with rows of rough wooden benches, a pot-bellied army stove, and a chair for the teacher. No books. No blackboards. No toilet facilities or drinking fountains. No study halls. The gable areas connecting the individual rooms of the six barracks were as yet unfinished.

The Heart Mountain area had once been known as "Wide Open Gulch," a pocket of sand, sagebrush, and buffalo grass. In the distance loomed the Gibralter-type prominence which gave the camp its name. The sparse vegetation had been practically eliminated when housing for 10,000 people was erected in a period of six weeks. The result was one big dust bowl.

On that first day of school, an October rain, sand, and sleet storm raged around the tar-paper shacks which would become Heart Mountain High School. Students, many unaccustomed to this type of weather and inadequately clothed, stood huddled against the buildings waiting for classes to begin.

When I entered my classroom, fifty sophomores were waiting for me. Those in the rows near the army stove were wiping the perspiration from their foreheads. Away from the stove they were shivering with cold.

All eyes were upon me. I tried to read them. Expectation? Foreboding? I couldn't tell. I thought of the usual first day of school. Excitement. Noise. Laughter. Reunion. Nothing here but a silence which only intensified the howl of the wind outside the barracks.

The usual teacher-to-student greeting wouldn't do, but what should I say?

"Students. This is not the type of school we are used to. We're used to brick buildings, libraries, blackboards, green lawns. That's what school means to us, doesn't it? I wonder if we've been wrong in our definition. If we don't have a comfortable, well-equipped building, can we still have a school? If we change our definition, perhaps we can. Let's say that a school is a teacher who wants to teach and students who want to learn. OK?"

Hollow words, spoken to reassure myself as well as my class. I went on telling them about the strolling classrooms of ancient Greece and about the primitive pioneer schools of early America. Students had managed to learn sitting on wooden benches with only a few ragged books and a slate for equipment.

When I thought I saw a flicker of response, I switched to the personal and told them about growing up on a Wisconsin farm during World War I, feeling guilty because of my half-German heritage and not knowing why. I asked them to tell me about themselves. Timidly, a few hands went up, a few brief introductions, but most remained silent. Then I passed out paper and pencils and asked them to write letters of introduction to me.

Because I couldn't think of anything better to do, I followed the same procedure in all of my classes.

That evening as I sat in my barrack room reading the introductions, one item of similarity caught my attention.

"My name is Matsuo Nitta. I am an American citizen." "I, Mary Wada, am a Japanese American citizen of the

United States." "I am Mariko Ono. I was born an American citizen on

June 8, 1927, at Wapato, Washington." During my previous four years of teaching, no student had ever mentioned American citizenship as an item of identification. Nor had I!

My freshmen were more articulate than the sophomores. In their letters of introduction they told in simple poignant terms just what evacuation had meant to them: the puppy given to a Caucasian friend to care for; the pony ridden alongside the departing trainload of evacuees by the towheaded lad who promised not to let Ranger forget his Nisei master. As the days passed, they also spoke up more in the classroom. Occasionally they would request that I just talk to them a few minutes before starting class.

"What shall I talk about?"

"About Wisconsin. What does it look like way out there? Are there any Quakers in Wisconsin? After we went to the assembly center, we thought all Caucasians hated us, but the Quakers didn't. They talked to us through the fence and brought us things we needed. Like soap. Can you sing 'On Wisconsin?"

I sang it off key and out of tune. How I wished I could carry a tune well enough to open each class session with a rousing song.

These youngsters came to school straight from the crowded family barracks where fear, confusion, and despair were a part of the very air they breathed. Group singing would have relieved tensions far better than a ten minute chat.

In Civics 9 when we studied the constitutions of Wyoming and the other states the students had come from, Tomokichi suggested that we study Wisconsin too. He wrote for a copy of the state constitution. I grew fond of all my students but especially fond of Tomokichi. After the first week of class he waited until his classmates had left the room and then asked anxiously, "Do you think we look like the cartoons?"

The cartoons! Those ugly evil caricatures. The faces of a Japanese male, buck toothed, slant eyed, leering out of the body of a rat, the most detested of all vermin. And here stood Tomokichi, with his wide eyes and little boy face, needing reassurance that he looked like a human being.

I looked him over, slowly and carefully, full face and profile, tilted his chin in my hand and said seriously, "No, Tomokichi, I really can't see any resemblance between you and the cartoons."

"Call me Tomo," he said and stood there a minute grinning.

My seniors in Social Problems class talked not about the pony left behind but about their present situation and the reasons for it. Some blamed their parents. Why had they segregated themselves into Little Tokyos? Why hadn't they become a part of greater America?

But how could they, others asked. The cards had been stacked against them. They were the personification of the "yellow peril." Since the turn of the century that battle cry had been used by every power-seeking group on the West Coast to unite in fear those they could not reach by rational argument.

I learned of the age barrier between Issei and Nisei. Most Japanese had married late. They came to America alone, worked hard for even minimal security, and sent back to Japan for picture wives. There was almost a grandfathergrandchildren relationship between some of the Issei and their children.

When students spoke of Nisei problems, I asked, "Why do you always speak of Nisei problems. Don't Issei have the same problems?"

They looked at me in surprise.

"There's a big difference," they explained. "Our parents aren't citizens. They're helpless to do anything about their future. Because we are citizens, we can. Nothing will be done for them unless we do it."

Role reversal. What a bitter pill it must have been for the Issei to swallow!

When I discussed these interpretations of Issei versus Nisei problems with the young adults in my evening class, I was told of the tremendous sacrifices parents had made to give children the best education possible. They knew that the citizenship status of the Nisei was a valuable asset but that it did not guarantee full acceptance. Education was the key.

After that discussion I understood why so many of the Nisei in camp were intent upon entering the professions despite innumerable obstacles. Parental expectations did not die behind barbed wire.

Eventually, we received a few textbooks, but by the time they arrived, it was apparent that these Social Problems students didn't need a book to provide topics for study. Their social problems were all around them. Together we structured our curriculum and chose the topics to be investigated. One committee organized a speakers' bureau and invited Caucasian and Japanese residents to our classroom to speak. My students were really teaching themselves. I acted as their guide and learned with them.

Perhaps the saddest lesson we learned was that oppressed people sometimes imitate their oppressors. While we were



Sign posted in army mess halls shows wartime government caricature of Japanese.

discussing the tremendous property loss suffered by the evacuees, one student remarked, "The Jews really sold us out!"

"The Jews?" I asked in surprise.

"Yes, we'd get a telephone call saying we should sell everything we owned right away because they had it on good authority that within a week all our property would be confiscated. Ten mintues later they came to the door and offered us \$25.00 for all our living room furniture."

"How did you know they were Jews?"

"Well, a Jew will cheat you every chance he gets."

I asked Sadako to go to the piece of tar paper which we had tacked up as a blackboard. As several students told how Jews acted, she wrote the charges on the board. Several of the students showed considerable embarrassment at this procedure, but I asked them to hold their rebuttal until later. When our list was complete, I asked, "Did any non-Jews ever cheat you?"

"Well-yes."

"Orientals? Christians? Buddhists?"

"... I guess so. Sometimes."

"Then Jews aren't the only people who sometimes try to cheat others?"

When all the items had been discussed in a like manner and erased, there was an uneasy silence until Teruo exclaimed, "We've done it too!"

That incident led us into the problems of minority groups in general. Soon we were discussing world problems, and our horizons expanded immeasurably.

Most tragic was the plight of the Kibei students. Many had been sent to Japan to stay with an aged relative, to take advantage of educational scholarships, or to prepare for careers involving trade with Japan. When they returned to their homes on the West Coast, some were more Japanese than American. With few exceptions they were more like Issei in behavior and interests than the members of their own age group and were deeply resented by many Nisei.

One day I saw that resentment in action. The Heart Mountain Boy Scouts had tried for months to obtain a large flag and flagpole for their celebration of national holidays. Before the camp director could act in their behalf, a woman from neighboring Powell, Wyoming, presented the boys with a beautiful flag.

The first public flag-raising ceremony was held in subzero weather. As both grade school and high school students stood at attention, I heard an angry shout from one of my freshmen:

"Get that damned Kibei cap off."

The startled boy hastily and guiltily complied.

Most Kibei had to carry their Japanese-English dictionaries with them to class and use them in preparing every lesson. With classes of more than fifty students, I couldn't give the extra help they needed.

The generosity of the flag donor was reassurance that not all area people were as hostile as the desk clerk at the hotel. Stanley Yoshida, a senior, came to me the first day of school and asked if I had a book, any book, he could read. He told me that he thought he could stand anything if only he could read. He could have endured the heat, dust, and lack of privacy at the assembly center if only he had had enough books to read. He walked back to my barracks with me, and I gave him the few nontextbooks I had brought with me. I promised to share each Book-of-the-Month-Club selection as it arrived. When other students begged for books, I went to the library in Cody, told the librarian my problem, and borrowed 100 books for my classroom. Months later I learned that the husband of this kind woman had been one of the first casualties of the war in the Pacific. She didn't tell me

As the school term progressed, conditions improved. The gable areas of the school barracks were finished off so that the sounds of Spanish being taught on one side and math on the other did not distract my students. As additional barracks were completed I no longer had to teach fifty freshman English students in one-half of a room while the history teacher taught fifty seventh graders in the other half, facing the opposite direction. School desks replaced the wooden benches. Textbooks arrived, but never enough so that each student could take one home to study. When 250 students had to use forty texts, the books had to be collected at the end of each class period and passed out to the next class. In time there was a school library of sorts.

My colleagues on the teaching staff came from the Rocky Mountain area, the Great Plains, the Midwest, and even from New York and New Jersey. Many did excellent work under great difficulties. Others who were attracted to the camps because of the higher salary scale lived in fear of the "Japs" whom they never really got to know.

As labor needs accelerated throughout the nation, selective resettlement of evacuees likewise accelerated. Nisei after Nisei left camp for jobs or to continue an education. We celebrated each departure with a farewell party: Mr. Hatchimonji always sang "A Ruined Castle" in Japanese and with a committee of Issei served tea.

As some of my Nisei students walked me back to my barracks after one of these parties, I remarked, "The Issei always provide refreshments for our class parties. Why don't we Nisei bring snacks and make tea for the next farewell?"

They looked at me in surprise.

"Welcome to the Nisei ranks, Clarice," Teresa Honda laughed. When I realized what I had said, I felt absolved for my moment of bigotry in the mess hall that first day in camp.

Although our school cultural environment improved, health problems became acute. Fifteen-hundred students were housed in fifteen barracks of six small rooms each. Teachers and students had to move each period to go where the textbooks were. The entire area became a furrow of slush and mud. Mud from our boots dried and flaked off onto the floor and was ground into dust. When the stoves smoked, we opened the windows only to let in the sand and sleet. There was no drinking water in the school area that first year. Although we drank liquids in the mess hall at lunch time, dry rasping coughs became endemic.

I had planned to teach at Heart Mountain as long as I was needed, but respiratory problems plagued me from the beginning. Three times I was hospitalized: for bronchitis, pneumonitis, and flu. Several teachers and office personnel left camp with impaired health. As the year progressed, I tried to hold out, but in March I was again taken to the hospital, this time critically ill. Later I learned that Dr. Irwin had given instructions that the person in least danger should be sent back to the barracks in order to free a bed for me.

When I had recovered sufficiently to receive visitors, I realized the depth of the friendship offered me by my evacuee friends: the huge bouquet of flowers delivered to my room in the dead of winter; the tiny blue flower which Mr. Hatchimonji had found in a sheltered spot while working with a crew to complete the irrigation ditch which Buffalo Bill had started from the Shoshone canyon. The little flower had survived the rigors of a Wyoming winter and become a symbol of hope. Mr. Hatchimonji brought it to my sick room. Another of my Issei students picked up an interesting stone and polished it to a thing of beauty as his farewell gift.

It was six weeks before I was well enough to travel, and I wondered if Dr. Irwin was being too cautious in urging me to leave camp before the onset of another serious respiratory infection. Common sense prevailed, and I left Heart Mountain for Washington, D.C., in late April. When the day of departure arrived, John Kitasako borrowed a jeep from the motor pool and with a delegation from the co-op class drove me to the camp exit. I had already said goodbye to my Caucasian friends at a farewell coffee in the mess hall. My high school students were there en masse.

As the bus approached, John carried my suitcases outside the fence and placed them next to the road.

The author with her class in front of the schoolroom.



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"Sorry," he said. "This is as far as I can go."

He rejoined the others inside the fence. As I rode off, I saw them, my friends, waving from behind the barbed wire, and I wanted desperately to go back.

The *Heart Mountain Sentinel* and a flow of correspondence kept me informed in Washington, D.C., of camp affairs. A more satisfactory school building was erected before the next term. Evacuees were leaving the camps for jobs and reintegration in society despite continued agitation from the West Coast and widespread pockets of hate.

Away from it all, I recalled the good times as well as the grim, the hours of camaraderie, the joy of small triumphs, the wry humor arising out of adversity. With the Nisei in the 442nd Army division fighting in Italy, I became increasingly reluctant to read the *Heart Mountain Sentinel* as scarcely an issue appeared without reports of casualties.

Then one day I read of the death of Ted Fujioko from my Social Studies class. I recalled his summation of the Nisei dilemma and what had to be done in the postwar period.

"We have to win over America," he had said. "Not only for ourselves but for the Issei and Sansei as well. We have to earn our acceptance just as every other immigrant group has had to do."

His good friend Albert Saijo agreed.

"It'll take time," concluded another student.

It has taken a long time. Through the efforts of the Nisei, the Issei did gain citizenship in 1952. But it was not until the Bicentennial year of 1976 that Executive Order 9066 was revoked with an apology from the President of the United States for the suffering it had caused.

The Irma Hotel still stands in Cody, Wyoming, a reminder of the era of Buffalo Bill. Heart Mountain Relocation Center is likewise history. Barracks and barbed wire are long gone. The only monument to its existence are the memories of those who were there.

Government action affecting Japanese Americans

- First Japanese workers arrive in San Francisco in response to American labor needs 1860 Period of major Japanese immigration 1900-8 1905-6 President Roosevelt recommends Congress legalize naturalization of foreign-born Japanese (Issei) Gentlemen's Agreement between US & Japan, Japan voluntarily to restrict immigration and halt influx of 1908 unskilled Japanese labor 1910 US Immigration Commission study shows 72,157 Japanese in US; over half engaged in farming in California California Alien Land Laws prohibit further purchase of agricultural land by Japanese aliens (Issei) 1913 Supreme Court decides that the law limits naturalization to "free white persons, aliens of African nativity, and 1922 persons of African descent" 1924 Immigration Act totally excludes "aliens ineligible to citizenship"; also known as the "Oriental Exclusion Act"; end of Gentlemen's Agreement 1940 Federal census shows 126,947 persons of Japanese ancestry, .09% of total population; 112,353 in Pacific Coast States; 79,642 citizens by birth (Nisei), 47,305 aliens denied citizenship by law (Issei)
- 1941 Japan attacks Pearl Harbor on December 7
- 1942 Feb. 11, Secretary of War Henry Stimson authorizes evacuation of Issei and Nisei from strategic military areas on West Coast (no evacuation from Hawaii)
- 1942 Feb. 19, Executive Order 9066 authorizes evacuations of "any or all" persons from "military areas"
- 1942 March 11, Wartime Civil Control Administration (WCCA) formed to handle evacuation of Japanese
- 1942 March 14, First evacuation by Army of Japanese off Terminal Island across the channel from San Pedro, California, after one month's notification
- 1942 March 30, Evacuation of Japanese from Bainbridge Island across Puget Sound from Seattle; one week's notice to settle affairs and leave
- 1942 April 28, First of 15 WCCA assembly centers (mostly fairgrounds and racetracks) occupied
- 1942 June 5, Ten sites selected as camps: Manzanar in eastern California; Poston in Arizona; Tule Lake in northeastern California; Minidoka in southcentral Idaho; Heart Mountain east of Cody, Wyoming; Granada in southeastern Colorado; Topaz in central Utah; Gila River southeast of Phoenix, Arizona; and Rohwer and Jerome in Arkansas
- 1942 June 17, Dillon Myer appointed director of War Relocation Authority (WRA)
- 1942 Mid-June, Movement from assembly centers to WRA camps begun, 500 persons at a time by rail with military escort
- 1942 July 20, Dillon Myer announces program to get Japanese-American citizens (except Kibei) out of camps and into jobs outside the Western Defense Command (West Coast)
- 1942 Nov. 1, With last trainload of evacuees, more than 107,000 men, women, and children moved from WCCA assembly centers to WRA camps
- 1945 Jan. 2, Supreme Court decides that confinement in camps violated constitutional rights of Japanese
- 1948 July 2, President Truman signs into law Japanese American Evacuation Claims Act; evacuees have until Jan. 3, 1950, to file claims against government
- 1952 Walter-McCarran Immigration and Naturalization Act repeals the Oriental Exclusion Immigration Act of 1924, eliminating race as barrier to naturalization
- 1952 California Supreme Court strikes down Alien Land Law
- 1965 President Johnson signs Public Law 89-236, eliminating race as barrier to immigration

1976 Executive Order 9066 revoked by President Ford

Selective chronology prepared by Pat Powell with the help of Mae Hara, based on information from Dillon S. Myer's Uprooted Americans (Tucson 1971), Frank F. Chuman's The Bamboo People: The Law and Japanese-Americans (Del Mar, Cal. 1976), and Bill Hosokawa's Nisei (New York 1969).

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ACADEMY REVIEW FICTION



Legal Ladies Lunch

By Jane Fox © 1980

"No shop talk, ladies. Remember, no shop talk."

"Then it'll have to be my hysterectomy."

"Twenty years ago we talked of obstetrics, then came the turn of pediatricians, now it's hysterectomies."

"Twenty years ago we were young; fifteen years ago our children were young; the next stage is geriatrics."

"Not yet, not yet. It's too soon for hysterectomies."

"For hysterectomies it's always too soon. Maybe your doctor is a geriatric case."

"What makes you think he's old."

"The young ones try to tie your tubes. The old ones want to cut it out."

"Womb envy."

"Womb envy?"

"Makes more sense than penis envy."

"How so?"

"What use is a penis back when you're three years old and forming your neuroses?"

"What use is a womb?"

"You grew in a womb. Under your mother's heart you grew in a womb."

"You got started by a penis."

"What three year old believes that story? The old boys want to cut out what they always wanted and could never have."

"Poor boys. Poor men."

"They may be poor doctors but what doctors do you know who are poor men?"

"Or women."

"They have a lot of pressure to make money. It'd be awful to be a doctor and not rich."

"Harder than being a poor lawyer?"

- "She's not a poor lawyer."
- "No. But she's poor and a lawyer."

"Have the hysterectomy and we'll sue the doctor. Why should doctors make all the money?"

"Which would you rather have, ovaries or money?"

"Say money. We can't share your ovaries."

"Nor I yours, when mine are gone."

"If he hasn't told you the alternatives, we're sure to win."

"Ladies, ladies, we're officers of the court."

"There speaks our newest judge."

"Anyway, it's shop talk. No shop talk. One lunch a week no shop talk."

"Okay, okay. Let's talk about getting my car fixed."

"When the garage messes it up, I'll take the case."

"Ladies! Next time we go to a fashion show."

"What about male strippers?"

"I hear they raided that place."

"Ladies, no shop talk!"

"The court has spoken. Call for the check."

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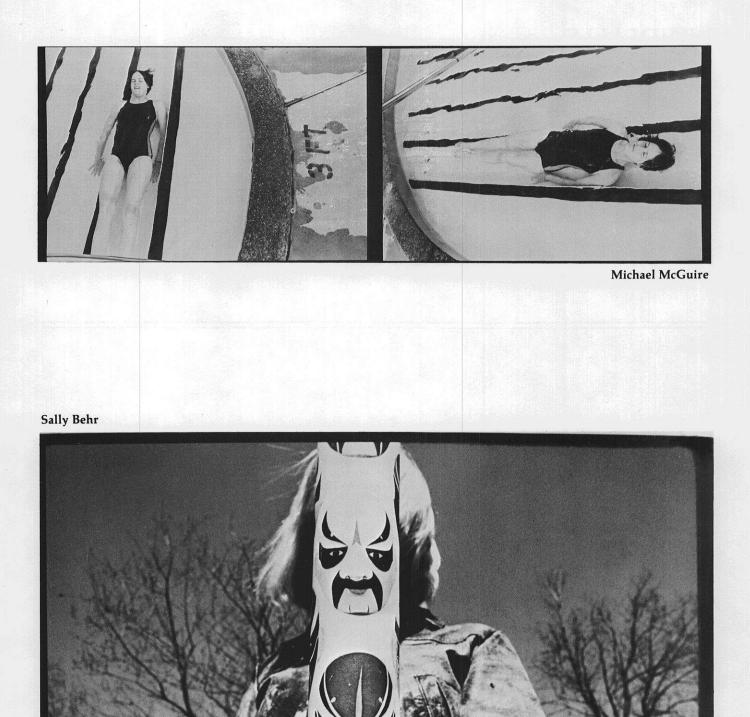


Sally Behr

Michael McGuire



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WINDFALLS



On Being Tough

By Arthur Hove

The meek are seldom blessed these days. The likelihood of their inheriting the earth under the present circumstances is small. The forces of evil show more convincing signs of ascendancy.

This is an era when being tough invites admiration. According to some, the reason we are in trouble as a nation, losing our grip on the international scene, is because we are not tough enough. We have lost our national resolve.

Such a conclusion is not incongruous with our history. Since the founding of the American Republic we have been conditioned to believe that toughness is a basic component of our national psyche. The concept began with the yeoman soldier, the citizen patriot fighting heroically against a superior force to defend his rights and property. The archetypal strain continues through Natty Bumppo, to the Mountain Men, and onward to the settling of the frontier.

The stereotype was not lost on those who sensed it as an opportunity to make commercial hay out of a belief that was part of our national collective unconscious. The first to take advantage of the situation were the dime novelists whose pulp fiction gained a substantial popularity during the latter part of the nineteenth century. Among the widely read authors of the time was Edward L. Wheeler, creator of that memorable American frontier hero, Deadwood Dick. As Henry Nash Smith notes in his Virgin Land: The American West as Symbol and Myth:

Deadwood Dick fully illustrates the principle that Merle Curti found to be central in the dime novel. Overcoming his enemies by his own efforts and courage, he embodies the popular ideal of the self-made man. Such a hero, presumably humble in his origin and without formal education or inherited wealth,"confirmed Americans in the traditional belief that obstacles were to be overcome by the courageous, virile, and determined stand of the individual as an individual."

The idealization of western toughness continued from the pulps into the movies. It was in the silent movies that we became familiar with the original men in the white hats, the good guys represented by William S. Hart and Tom Mix. These men meted out frontier justice to the desperadoes and outlaws who were considered impediments to the opening of the West. A later generation of good guys—this time men who could talk, thanks to the coming of sound motion pictureshelped extend the legacy of Deadwood Dick.

Such stalwarts as Joel McCrea, Gene Autry, Roy Rogers, Henry Fonda, James Stewart, Hopalong Cassidy, Randolph Scott, and Gary Cooper continued to defend the innocent against the depredations of redskin and outlaw. The Big Daddy of them all, of course, was John Wayne—that roistering, hell-for-leather type who became so closely identified with the characters he played on the screen that Rooster Cogburn of True Grit and Duke Wayne of the movie magazines and political rallies eventually became the same person. More recently, Clint Eastwood single-handedly has managed to keep alive the western hero through a series of spaghetti westerns and urban cowboy films that pit the individual against the rest of society.

Not all Hollywood tough guys have been personifications of virtue. The 1930's and 1940s saw the emergence of the gangster or social outcast as hero. It was then we came to know Humphrey Bogart, with his cynical, existential contempt for the values of the world around him; George Raft, with his slicked down hair and his sneering, "I dare you to start something" attitude; Edward G. Robinson, with his cigar-chomping, "This is the way it's gonna be" bossiness; and James Cagney, with his impetuous, manic volatility. The psychopath as hero lost much of his appeal, however, after Richard Widmark pushed an old lady in a wheelchair down a flight of stairs in the 1947 movie *Kiss of Death*.

There have been other, perhaps more socially adjusted, film heroes who have managed to serve as role models for certain segments of the movie-going public. Johnny Weismuller thrilled a generation of Saturday afternoon filmgoers as he portrayed Tarzan, swinging through jungle trees along a network of conveniently placed vines to snatch the heroine from the jaws of disaster. Buster Crabbe, like Weismuller a real-life Olympic swimming star, went up as Flash Gordon against the Emperor Ming in an outer-space melodrama which was a precursor to today's incredibly popular Star Wars films. Even Popeye the Sailor Man has been around for fifty years, demonstrating that toughness can be equated with eating spinach and bonking people over the head when they happen to get in your way.

Television, like the films, is constantly searching for tough guys. If it fails to produce believable tough guys in its entertainment offerings, it has no trouble portraying the genuine article in real life. Television has consequently given us new conceptions of the tough guy—men and women who demonstrate that style can often be more important than substance. The medium, indeed, is the message-the only message. These new celebrities are the international terrorists: aircraft hijackers or single-issue political exhibitionists who believe that guerilla theater is much more productive than substantive deliberation or compromise.

In addition to providing national stereotypes, toughness has been folded into the American idiom. People who recall the Great Depression of the 1930s remember it as the period when times were tough. An equally familiar reference has to do with someone or something considered "tough as nails." People in difficult situations are often confronted with a "tough nut to crack" and therefore encouraged to "hang tough" or "tough it out." Athletes are constantly admonished to "be tough" and not give in to the pain that accompanies extreme physical exertion. If fortune goes against you, you have to recognize that some people may feel "that's tough," but deserving of little sympathy. On the other hand, you may feel the victim of a run of tough luck. Diners can sometimes find themselves confronted by a serving of meat that is tough and may have to get tough with the waiter to bring a more tender serving.

There is another particularly American characteristic about the word tough; that has to do with its use as a noun. The tough is a ruffian, a bully whose primary concern is physical or mental intimidation. He has his antecedents in the Thugs of India, but his exuberant brand of rowdiness is distinctly American.

Being tough, or being considered tough, appears to be primarily a male fixation. It becomes most apparent during teen age and young adulthood; then it tapers off as the realization sinks in that you can push some of the world around some of the time, but not all the time. Unpolished demonstrations of toughness are considered unsophisticated these days. The Hispanic trait of being *macho* is often subject to ridicule rather than praise.

Male fixation with toughness is related to an obvious need to be accepted into a group, a need which goes back to the time when cave men banded together to survive. Toughness then was not gratuitous but essential. It since has been a customary practice in most societies for adolescent males to go through some rite of passage to demonstrate their toughness and thereby qualify for acceptance into adulthood. Modern industrial societies have unfortunately extended the time one must spend in that awkward purgatory between childhood and adulthood, making it increasingly difficult for many to make a satisfactory transition between the two states of being.

An obvious occupational hazard experienced by those who choose to play it tough on any consistent basis is that there invariably has to be a showdown. Not everyone can be bluffed. Eventually one's poker hand will be called, and it will be time to turn over the cards. Toughness under such circumstances invites counter-toughness. Someone is always looking to knock off the champ. "The bigger they are, the harder they fall," goes the cliche.

Toughness continually has to be proven. Others are standing in line to demonstrate they are as tough, or even tougher, than you are. Several years ago, Gregory Peck appeared as the character Jimmy Ringo in a film called *The Gunfighter*. Jimmy/Gregory's dilemma was that as one of the fastest guns in the territory he was constantly being confronted by upstarts trying beachieve their manhood by beating him to the draw. The confrontations hardly left Jimmy/Gregory with enough time to relax and enjoy a beer before he was interrupted by the latest challenger who wanted to slap leather against him.

Another aspect of toughness is the fact that each of us has a breaking point-that level of stress at which even the most tensile steel can be reduced to the consistency of putty. Examples and folk myths abound illustrating how the mighty collapse in the face of what might appear to be trivial challenges. There is the elephant recoiling from the mouse, the well-muscled athlete afraid of getting his teeth drilled by the dentist, or the ruthless business tycoon who can make decisions affecting the lives of millions without blinking an eye but is afraid to fly on an airplane.

One of the ironies of modern medicine in this context is that it has demonstrated that women are actually tougher than men. They can more readily withstand loads of stress and strain. Toughness, therefore, becomes a matter of relativity. The smart person is the one who recognizes the times when there is no alternative to getting tough and when to avoid getting into predicaments which might force unnecessary showdowns. This type of person also seems to rate high on the American index of respected qualities. We often wink when we speak with admiration of someone who is shrewd. And perhaps many of us feel it is more desirable in the long run to be shrewd than tough.

In the face of all the bluster that passes for toughness today there is a more genuine quality that reflects the ultimate in toughness. It is a quality which gets us back to St. Matthew and his observations about the meek. It is a quality William Faulkner acknowledged in the appendix which serves as a preface to his novel *The Sound and the Fury*. It is an alternative to the swaggering assertiveness normally regarded as toughness.

After giving the capsule history of the Compson family which plays the central role in his novel, Faulkner mentions the presence of another significant group of Southerners: "These others were not Compsons. They were black.... They endured."



BOOKMARKS/WISCONSIN

HUMAN NATURE IN AMERICAN THOUGHT: A HISTORY by Merle Curti; The University of Wisconsin Press, Madison, Wis., 1980. 453 pp. \$22.75.

By Evelyn M. Howe

Merle Curti, Frederick Jackson Turner Professor emeritus at the University of Wisconsin-Madison, and perhaps best known for his Pulitzer Prize winning *The Growth of American Thought* (1943), many years ago felt the need for a study of American ideas about human nature, but only with retirement has he found time fully to develop so huge a subject. This book, a multifaceted, highly condensed and yet lucid account, clearly bears the marks of long gestation.

In a roughly chronological order Curti traces the changes over three centuries in American theories about the nature of man, most of them based on European or occasionally Asian thought; behaviorist psychology he regards as America's main original contribution. Materialists, dualists, meliorists, mesmerists appear and sometimes reappear, together with novelists, economists, anthropologists, and, obviously, theologians and philosophers. In every period some have seen man as a rational being free to make choices, others as a greedy, selfish, and aggressive beast, the victim of his innate instincts and emotions. The debate over whether competition or cooperation best enables man to survive still goes on. One valuable chapter, "Nature versus Nurture," which ends with consideration of Jensen and his critics, well illustrates Curti's scholarly and seemingly detached approach. He presents all sides of a controversial issue, then leaves his readers to decide for themselves.

Although changes in environment and developments in science have continually forced Americans to rethink their assumptions, the basic questions first asked by the ancients still persist. Is human nature immutable or plastic? What characteristics, if any, are inborn and common to all humanity? Do inequalities in individual or group ability and achievement result from heredity or environment? The scarcity of beggars in the New World suggested that, given the right environment, man was perfectible. Meeting Indians or blacks for the first time, Americans questioned their place in the hierarchy of nature. Were Indians, as Cotton Mather asserted, "the spawn of the Devil"? Benjamin Rush speculated that Negroes' skin color resulted from leprosy and that some scientist (like Dr. Doolittle with Prince Bumpo?) might some day restore its whiteness. Many of these old questions linger on, even as fresh ones are raised today by behavior modification and genetic engineering.

Human nature, a term which Curti notes is rarely defined, has been invoked in support of many causes. Both Jefferson's and Hamilton's conceptions of the nature of man affected the development of the new republic. Later, Social Darwinians, convinced that the poor were the least fitted to survive, opposed social welfare measures. The eugenicists' belief in the inferiority of southern and eastern Europeans led to the immigration act of 1924. Feminists can find names of past supporters (including Franklin) and opponents (Jefferson thought women intellectually inferior).

In a long and densely packed book Curti could not include all that he or we might wish. Parents influenced by Genesis used different methods of childrearing from those who read Plato or Locke. Curti mentions Cotton Mather's failure with his son Cressy, and he has a good bibliographical note on the subject; but his concern seems more with statistical measurements of intelligence (another rarely defined word) than with the child at home. He largely ignores, too, the role played by biology textbooks in molding children's opinions. Attitudes to criminals and also to homosexuals, although similarly changing as beliefs about human nature change, again receive little attention. Curti presumably felt, too, that he had little room for examples, like that of Charles B. Davenport's contention that genes determined even an inborn love of the sea. But one could wish for more such vivid details.

Curti's book is not written for freshmen, although students of intellectual history will find it most useful for its extensive documentation as well as its comprehensiveness and clarity. He assumes not only that his readers are grounded in European philosophy and American history, but also that they have broad general knowledge and interest in everything that concerns mankind. Whoever its readers, however, they will find much that is new to them together with some familiar names and ideas, all put together in new kaleidoscopic patterns to challenge and revivify their thoughts.

Evelyn M. Howe is a lecturer in the Integrated Liberal Studies Department, University of Wisconsin-Madison. GEOLOGY OF WISCONSIN AND UPPER MICHIGAN: INCLUDING PARTS OF ADJACENT STATES by Rachel Krebs Paull and Richard A. Paull; Kendall/Hunt Publishing Co., Dubuque, Iowa, 1977. 232 pp. \$6.95.

By Bruce A. Brown

The rocks of Wisconsin and Upper Michigan contain the record of over three billion years of geologic history. In this book, Paull and Paull describe the rocks and landforms of this region and trace their origins back into this complex and interesting history. The book is comprehensive enough to be valuable to the professional as a good introduction to the geology of the region. At the same time, good use of illustrations and a thorough explanation of basic principles make this book easy to read and understand even for those with little or no scientific training but who are interested in their physical environment.

The first chapter consists of a brief but comprehensive course in physical geology. The basic concepts of geological processes are reviewed, emphasizing the origin and classification of rocks, the orogenic cycle and the origin of mountains, and the hydrologic cycle. The ideas of erosion and sedimentation, and rock unit correlation are explained, along with the important concept of geologic time.

In the second chapter the authors summarize the geologic history of the region from earliest Precambrian time down to the last glacial advance. In this chapter the reader is given an appreciation for the vastness of geologic time and the difficulty of reconstructing the events of the distant past from the often sparse evidence that has survived several episodes of mountain building and erosion. The origin and sequence in time of rock units exposed in Wisconsin and Upper Michigan are discussed in terms of the constantly changing and evolving environments in which they formed. Particular emphasis is given to the history of the glacial period of the Pleistocene and to the role of the glaciers and meltwaters in forming the present topography from the older geologic terrane.

Using this historical perspective, subsequent chapters discuss the regional geology in terms of four physiographic provinces. These provinces are delineated on the basis of their differing topography and gross geologic structure. For each province, the bedrock and structure, drainage, and glaciation are discussed in detail. Of particular interest are detailed explanations of important natural features, including scenic areas and state parks. The reader is given an appreciation for the relationship between the geologic history and the natural features he observes throughout the region.

The chapter on rocks, minerals, and fossils lists the major minerals and rocks of interest to the collector and provides general and specific locations for collecting. The treatment of fossils is quite good and gives the reader a basic understanding of the sequence of life that developed throughout the Paleozoic rocks of the region.

The final chapter on geologic resources briefly treats the rocks and minerals of economic value that occur in Wisconsin and Upper Michigan. Also included is a brief history of mining in the region. The book ends with a list of references for further study and a brief but very useful glossary of geologic terms.

Paull and Paull have written a book that is interesting and informative to a wide range of readers. This book, coupled with a later field guide by the same authors, provides the best popular account of the geology of Wisconsin and Upper Michigan currently available.

Bruce A. Brown is a geologist with the Wisconsin Geological and Natural History Survey.

CARROLL COLLEGE: THE FIRST CENTURY 1846-1946 by Ellen Langill; Carroll College Press, Waukesha, Wis., 1980. 223 pp. \$20.95.

By Robert A. McCabe

As a Carroll alumnus I was delighted with this historical account of the growth and growing pains of my alma mater. The volume is bound in orange (Carroll's color) buckram and the front and back end sheets portray four of the college's oldest buildings—nostalgia in itself. The college insignia is presented in the lower right of the front cover all in good taste.

It came as a surprise for me to learn of the great financial struggle of this school to survive and of the tenacity to prevail of those dedicated to its survival. Men of lesser wisdom would doubtless have channeled their energies elsewhere. The relationship of Carroll College to the social and political history of its time and place is well documented. No less succinctly presented are the lives and contributions of the principal players in the drama that shaped Carroll's destiny in its formative years.

The college's relationship to Princeton University was fostered in the main through the religious arm of that university and the zeal of its early Presbyterial "missionaries," who were motivated by the false notion that they were called to "subdue the potential barbarism of the prairies." In fact, the intense competition among denominational educators of all sects was by far the greatest incentive to institutional budding from eastern establishments. This sectarian rivalry was an unsavory aspect of church-sponsored education.

It was personally gratifying to learn that Increase Lapham, the eminent Wisconsin scholar of his time, was once a member of Carroll's governing board.

The tenure of each college president was skillfully researched, from the struggle for survival in the early years of the ill-treated J. A. Savage to the strict and austere period of W. L. Raukin, to the blossoming of extracurricular programs in the Carrier years, to H. Houghton's brief but turbulent postwar (WWI) stint with its change in social and moral values, to the depression years and the growth of the Greeks and athletics under W. A. Ganfield, to the holocast era of G. T. Vander Lugt.

The record for the period with which I am familiar is accurate, but there is presented more sweetness and light than the brutal realities that plagued even this small liberal arts college. Perhaps because there is no written record or because reading between the lines of the existing records is an uneasy exercise, the power struggles within the board of trustees, faculty, alumni, and even student groups are virtually lacking.

The joys of a liberal arts college at play, pranks, and sports are engagingly portrayed. Some of the college heros are given adequate ink: Armstrong, Lunt, Breen, Buck, Batha, Morner, and a brief mention of actor Fred MacMurray are examples. No person spans more years or touched more students than Professor of Physical Education Jean "Teach" Kilgore. Teach typifies all that was and is good and great about Carroll College. There are a number of small errors that do not detract from the high quality throughout (e.g., Wendell Wilke did not have a platform committee in 1904; Robert Nanz's name appears in the index where his father Ralph's name should be; and May Rankin filed for a position on the faculty in 1890 not 1870).

The writing style is fluid and unencumbered with affectations often obvious in literary or historical prose. There appears to be no hidden motive in the rationale for writing this book. No sales pitch or ax is ground in the straightforward effort to provide an historical account of Carroll College for all who are interested in the evolution of a college, its role in the field of education, and its influence on the community that spawned it. The book will appeal to other than alumni. Without intending to be, the text is a testimony as to why the programs of the small liberal arts college should garner support from all who believe in its stance on education and on the contribution it makes to society at large.

As an alumnus, I was made proud by this written pedigree of Carroll College. If moths hadn't eaten my green beanie long ago, I would have worn it reverently as I read this enlightening story of my school.

Robert A. McCabe, professor of wildlife ecology, is the immediate past-president of the Academy.

THE SLAVE DRIVERS: BLACK AGRI-CULTURAL LABOR SUPERVISORS IN THE ANTEBELLUM SOUTH by William L. Van Deburg; Greenwood Press, Westport, Conn., 1979. 202 pp. \$16.95.

By Richard L. Roe

The deft craftsman creates a singular work of art from discarded or abused materials by visualizing them in a different form. Professor William Van Deburg, of Afro-American Studies at the University of Wisconsin, performs much like a skilled craftsman in his recent book about black slave drivers. Through the use of the problematic sources of black history, he reshapes the image of these men as depicted by other writers. The result is a vigorous and well-documented history of a unique group of men.

The black slave driver stood among the "elite" of the slave community. Despite being placed in the position of a work supervisor by their masters, the author argues, they proved to be important leaders among slaves for ply reasons not exclusively related to their official duties. These supervisors aligned their interests with fellow slaves more often than with their masters. Yet, most historians have, in one way or another, maligned these men.

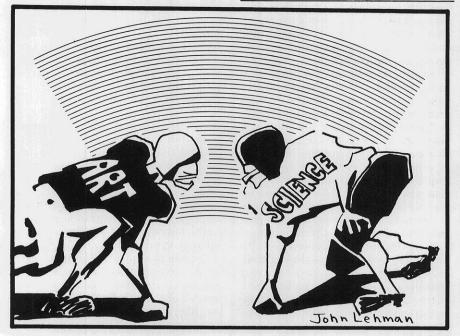
To some historians, the black foreman was like the bestial drivers who worked for Harriet Beecher Stowe's Simon Legree. Recent historians, writing more sympathetic histories of slave communities, still label the driver as the tool of the master, a man who acted against the interests of his own people. The author questions how this came about. Some historians were simply Southern apologists who were hostile to blacks. Because they were not specifically interested in the drivers, more sympathetic historians uncritically accepted the views of predecessors such as Ulrich B. Phillips, a Southern defender. Even the more radical historians, while actively rejecting racist notions about blacks, failed to pay sufficient attention to clues contained in accounts by planters and travelers, twentieth-century narratives (of exslaves), and black autobiographies.

It is through a skillful and creative use of these sources that Professor Van Deburg revises previously held views of the black supervisors. Indeed, he becomes their advocate. His arguments are persuasive, particularly because of the way he weaves themes developed in the first chapter through succeeding chapters for each type of source. This organizational scheme and an excellent appendix on the nature and construction of the sources give us a well-designed book. Yet, the reader should be wary of accepting the author's conclusions uncritically.

Slave foremen faced a cruel dilemma. On the one hand, they apparently did not want to act against the interests of their community; on the other hand, they were ultimately at the mercy of their masters. It does not constitute stereotyping to say that some drivers did not withstand the pressure and acted cruelly. That many resisted this pressure is a tribute to their character and to inherent strengths in the slave community. Further, the author does not clearly show whether a slave who was appointed supervisor was already a recognized leader among blacks, or, whether this promotion thrust him into a role he then accepted. Despite these reservations, I still consider Professor Van Deburg a convincing advocate.

Well-crafted history comes from visualizing old materials in a different form. Professor Van Deburg tells his story vividly and with analytical acuity through the use of such materials. Moreover, he points to the phenomenal ability of many people to retain somehow a common sense of humanity even in the Gulags of this world.

Richard L. Roe, research analyst in state government, has an M.A. in history from UW-Madison.



BERNARD SHAW AND THE AC-TRESSES by Margot Peters; Doubleday, New York, 1980. 461 pp. \$17.95.

By Audrey Roberts

Although Shaw said women had never played an important part in his life, Margot Peters in *Bernard Shaw and the Actresses* has decidedly proved the opposite. Admiring his genius and respecting the fact that passion and intellect were "violently split" in Shaw, she does not hesitate to identify his selfdeception.

Peters has combed Shaw's correspondence and successfully created a world of women: friendships, liaisons, love affairs, marriages, children, and character parts. There are at least a dozen stars and many minor players: Ellen Terry and Stella Campbell, Elizabeth Robins, Florence Farr, Janet Achurch, Lillah McCarthy, Lena Ashwell, Molly Thompson-and more. All different-all distinctive-all important to Shaw—but until now they have been dismissed in a line or two or completely overlooked by Shaw's biographers. With thorough research and sensitive analysis, Peters has made an impressive contribution to literary scholarship that reads like a wonderful novel.

From letters, many previously unpublished, Peters has reconstructed his daily life. We move through Shaw's early career as music critic and reviewer, when he was having two or even three rendezvous in a day, and the women, Jenny Patterson, Annie Besant, Florence Farr were jealously competing for his time. As Shaw moves from the fringes to the center of the London theater world, the cast changes. Janet Achurch, the first woman to play Ibsen in London, had the longest relationship with Shaw, one to which he was most loyal. Shaw, apparently shut out as a suitor by Janet's husband Charles Charrington, flirted endlessly and provided financial and professional support to Janet until her death from morphine and cocaine. His fact to face meeting with Ellen Terry was postponed time and again, and so their love remained platonic. Mrs. Pat Campbell, an intelligent woman with a real sense of theater—the dark lady of the letters—excited Shaw. But she chose another man; hers was a rare rejection.

Shaw's wife Charlotte Payne Townsend, always in the shadow of Shaw's biography, is more substantial than in other studies. Though always philandering, he never risked completely antagonizing or losing Charlotte, and one comes to understand why.

A disconcerting aspect to the book: Shaw lived to be ninety-two. In following his career we follow the actresses into twilight and darkness. Preoccupation with age surfaces as we wind down. The world of the theater is the world of the young and beautiful, especially beautiful women actresses. Nothing seems clearer than that GBS survived old age better than the women.

Though Shaw is always center stage, the most interesting performers are the women. Peters, in moving beyond the aura of their public images, has presented them as complex human beings. She understands women more than any Shavian biographer so far and has given us a new view of Shaw from a refreshing angle.

Audrey Roberts is a member of the English Department at UW-Whitewater.

THEY CAME TO LEARN, THEY CAME TO TEACH, THEY CAME TO STAY. University Women: A Series of Essays, Vol. I edited by Marian J. Swoboda and Audrey Roberts; Office of Women, University of Wisconsin. Madison, Wis., 1980. 130 pp. \$3.50.

By Ellen Morris Jacobson

During the post-Civil War period of expansion and urbanization, an increasingly secular American society came to depend for its educational needs on a class of people willing to work for little or no pay as its moral and spiritual guardians—its women. If the public school systems needed teachers and the state needed a place to train them, then women had to be admitted to some kind of higher education. The first part of this book "They came to stay" chronicles the fits and starts of coeducation at Wisconsin, from the first Normal Department in 1860 to truly unsegregated coeducation in 1909.

The introduction to this book describes the role of the female professional educator as a kind of "secularized nun," and the second part of the book is a kind of hagiography of great teachers in the Wisconsin system. These women, for whom teaching was a mission or vocation, at times seemed to take vows of poverty along with the obligatory chastity attached to the role. They were, nevertheless, a lively group. Too many of the biographies are, as the introduction states, "fond recollections," and too brief to begin to address the inequity of women's participation as "footnotes to history," but some of them are very good reading. The obligatory biography of Helen C. White, by Audrey Roberts, is well documented and full of amusing and contradictory anecdotes. A wunderkind, a determined scholar, a novelist, a nurturing woman, an iron butterfly—she seems to have been all things to all women.

The biographies of Margaret H'Doubler and Ruth B. Glassow remind me that not nearly enough has been written about physical education as a discipline created by and for women.

Elaine Marks's "Partial Portrait" of Germaine Bree stands out in this volume as the only truly analytical biography—indeed as the only portrait which has a contemporary view of the human personality. The psycho-historical method seems to titillate but it does not satisfy. It suffers perhaps by its brevity or by its tact. One hopes to see more extensive use of this method in future women's history.

The oral histories comprise the most entertaining part of this volume. Smoothly edited by Agate and Harry Krouse, Ellen Last, Laurel Smail, and Donna Taylor, they bristle with recollection—cigarettes and red stockings shocking Stoughton in 1900, unhappy love affairs, and theatrical careers and lucidity: school for Thelka Nimmow was "a way out," first of household chores and then a way out of the stultifying life of early marriage and endless childrearing.

They were well aware of discrimination in matters of salary and promotion, but most chose "not to make a fuss.""I didn't want to expend my nervous energy on it," says Madeleine Doran. "My graduate professor said 'Just saw wood,' so I sawed wood." For most of these women, rage was no more an option than marriage. They were at the top of their professions, but most of them understood that they were accepted as exceptional individuals, and they had little interest in women as a group or class. But they arose in an age of the heroic woman in woman's history-not of class consciousness. That is the subject, one supposes, of a later volume.

Ellen Morris Jacobson is a Madison free-lance writer, editor, and photographer. MY LIFE WITH THE TSAR AND OTHER POEMS by Susan Firer, illustrated by Lynne Srba; New Rivers Press, St. Paul, Minn., 1979. 96 pp. \$3.00.

THE LION'S TOOTH by Reinhold Kaebitzsch; Red Mountain Publishing House, Madison, Wis., 1980. 30 pp. \$2.00.

FIRST THINGS by David Kubach; Holmgangers Press, Alamo, Cal., 1979. 64 pp. \$3.95.

WEATHERING by Ray Smith; Uzzano Press, Menomonie, Wis., 1980. 52 pp. \$2.50.

SEARCHING FOR TRUTH; THE DREAMS OF A POET; MINSTREL POET by Mark E. Temme; Dorrance and Company, Philadelphia, Pa., 1978 and 1979. 35; 88; and 113 pp. \$2.95; \$3.95; and \$4.95.

By Lenore M. Coberly

Susan Firer writes simply and intelligibly about life as all human beings know it. But she gives it a new charm, and we need that. Unusual uses of symbols and numerals, usually spelled out in poetry, are a slight distraction. The book is carefully designed with a good index and is illustrated with the drawings of Lynne Srba which fit perfectly with the poems.

In "the clutter of love," she says, "i sleep in a bed filled/ with the possessions of others/ apple cores and childrens books,/ coffee beans &/ my husbands heart." A simple story called "the bee-masters" tells about the fears of children from the boogie man to Charlemagne's pet elephant, Abu-Lubsbah, which, we are told, was known to carry off children. In this poem, as in the whole book, she has the grace not to tell the reader what to think and feel. She only makes thoughts and feelings possible.

The Lion's Tooth is Kaebitzsch's twentieth volume of poetry. Four are translations. His careful observation and almost scientific attention to detail is evident in many of the poems. He also gives us unusual information. For example, the last cowboy "never placed his boots by the campfire but heated pebbles and threw them in his shoes."

There are inconsistencies such as the capitalization in the title, which I am sure was deliberate, and in a fine poem called "Museum" in which he refers at one place to mule head and at another to mule's head. These small matters bother me, but this is still my favorite Kaebitzsch book. There are fifteen poems giving a feel of places from the Caribbean to Lake Winnebago made more comprehensible by the poems. Alaska is "almost touching tomorrow."

The book's cover has a prowling lion superimposed on a print of a harbor and another of a walled city. Inside the cover is a mariner's map of the Antibes, an indication of the broad subject matter of the poems.

Some readers will remember David Kubach as coeditor of an anthology of Lake Superior poetry and the author of a memorable poem about separate generations called "Two Ways of Living." "An old immigrant, money in the bank now. . .guarding maybe thirty melons against the kids."

First Things is a beautiful book published as a project supported by The National Endowment for the Arts. The cover and the title page are illustrated with a line drawing of a pine tree with a lake in the background. The index is well presented, the paper is high quality, and the type is pleasant to read. The poems in the book bear a relationship to each other; first things may refer to a new season or to new wisdom as in a poem about asking for help during a blizzard and learning that "its all right to need your friends."

Ray Smith's Weathering is another simple, attractive, wellindexed book with beautiful paper and type. The poetry covers a wide range of subject matter, full of unusual connections. It is easy to grasp his truth but it jolts the reader. At Monticello he "picks a leaf of the lightning riven maple and presses it between the leaves of Jefferson in Power."

Mark E. Temme of Fond du Lac took time off from his work-a-day existence and traveled across Europe and the United States. Three volumes of verse published by Dorrance resulted. He says "my poetry is my lifeline to life's reality." Then he is almost evangelical in urging others to become "free" through his poetry.

There is, in spite of his traveling, a Wisconsin feel to his best poems. "Spring comes with a wistful gust of wind" and winter is "this cold death of ice" from which "God can create something also beautiful." He cries in one poem, "If you want to dance on the clouds....Then, by golly, do it!" I hope he can.

Lenore M. Coberly, teacher and active member of The Wisconsin Fellowship of Poets, has had a lifelong interest in poets and poetry. THE HOUR OF THE SUNSHINE NOW by Norbert Blei; Story Press, 7370 South Shore Drive, Chicago, 1978. 123 pp. \$3.95.

THE SECOND NOVEL: BECOMING A WRITER by Norbert Blei; December Press, 4343 North Clarendon, Chicago, 1978. 242 pp. \$6.00.

By Richard Boudreau

There are two sure-fire ways to literary oblivion: 1) bring out a double handful of your short stories in book form or 2) get a small press to publish your experimental novel. Some writers try the one—and turn to teaching; some try the other—and are heard from no more. Norbert Blei has tried both—and he's already left teaching. No matter. He will be heard from again.

"Memory can be a terrible burden," Blei writes in one of the stories. "Often it runs rampant through a man's mind at the slightest provocation. It takes deeper and deeper root just when a man has less and less time." Memory is the key to Blei's writing; the stories are often autobiographic, altered and enriched by a fecund imagination and stuffed with marvelous strings of detail. Stories begin here, move there, circle beyond, and return, like humming, multicolored boomerangs.

Nine short stories make up the collection, and there are at least four (probably more) in the novel. They are masterfully done. Blei admits to influence from Henry Miller with an epigraph in the novel, and D. H. Lawrence with an epigraph in the collection. His walrus mustache comes from William Saroyan, his pose and tough-mindedness from Hemingway-along with a lean, clean line, such as this from "Old Woman's Preserves": "She was gray and thin and chained to a white metal bed. A silky black whisker grew from a mole on her chin. Her mouth was shrunken but moving. Orange soda in a white paper cup lay untouched on a table beside her."

But the lines are more than lines merely. They are evocations, suggestive of larger meanings: from "Falling," a man carrying a pumpkin from his garden: "Bent over, swaying, he lugs it home in front of him like the world"; from "Inroads," a man watching another jogging along a country road: "Gray on gray, the shadow of a man fluttering, on the pavement, bounding like a bird in unimaginable leaps, wanting it all, down the line"; and from "A Distance of Horses," the narrator at night touches a fence behind which horses had earlier stood: "Believing they were still there, breathing prehistorically, nudging one another."

References to painting abound, from Brueghel to Klee, from water colors to oils. And they're hints worth taking. The juxtapositions of childhood memories, for instance, as in "The Basement" and "The Egg Lady," are Chagall-like, not only for their kaleidoscopic arrangement, but also for their innocence and color. In the latter story (there are actually three "egg ladies" described), he evokes sights and smells of the chicken coop and the kitchen, the latter stirring the juices, that are reward enough for reading the piece.

Appropriately, the title story appears last, the ultimate position. Moving and mystical, it is a strange tale or, better, legend, its telling punctuated by titles of Paul Klee paintings to suggest commentary or mood or tone of subsequent passages. Mary O'Monahan goes through a transformation from virginal deprivation to spiritual fullness as she becomes Maria Omoono. Her paintings explode with light, religiously effulgent, votivelike, all because of New Mexico, all because of sun. Klee painted angels in his last days; Maria sees them in hers. Klee ended with calligraphic "Script" pictures; each part of Maria's story ends in similar runic characters.

Blei's first novel never got published; his "Second Novel" deserved to be published, mainly. Reading it is an experience worth having, but as more than one editor said, it is an "uneven" one. Games with snippets of headlines coming early on and recurring later hardly engage a reader's imagination, though there are a couple of lines in the first thirty-four pages worth noting: "Snowing is a poem set free in space" and "Sandburg, Whitman. . . these men were born old and ripened into youth." But no, begin with Chapter IV about "Old Hem," and you'll still find more than your money and time's worth.

In a way this novel is Blei's "Advertisements for Myself." It contains short stories, journal entries, tape transcripts, video dialogue, interviews, correspondences — meanderings, maunderings, imaginings, imagings. Ostensibly the time limits are from November 1969 to March 1970, but they extend beyond these both ways, for within these parentheses Blei treats of the creative process, at the same time he creates the end product. Because of this the novel is a gloss upon many of his other writings, some of the stories in the collection, for example.

The book is an investigation into the motivations of American writers, and one in particular who decided in 1969 to make a piece of Door County home turf, abandoning not only the city, but to him, *the* city, Chicago. The "Anti-Climaxes" chapter consists of rejection slips, notes, and letters and of words of encouragement, or sometimes just words, from his literary agency about the book the reader is reading. After all this is worked through and out to the scant end of a decade, the book has its being in the hands of the reader.

Make no mistake about it; Blei can write. Blei can tell a story, make us smell, feel, and taste, charge an atmosphere, and move the soul. His lines are spare and simple, rhythmical and packed; his characters natural, idiosyncratic, human; his plots and themes timeless, contemporary, always intriguing. And his short stories end with a single, enigmatic line, like the final kick of a newborn against the already slackening womb.

THE ROAD FROM HOME: THE STORY OF AN ARMENIAN GIRL by David Kherdian; Greenwillow Books, New York, 1979. 238 pp. \$8.95.

By Richard Boudreau

One of the first books to stir me to the depths was *The Forty Days of Musa Dagh*, a Franz Werfel novel about the slaughter of the Armenian people during the First World War. That tale was so vivid and harrowing, its depiction of man's inhumanity to man so searing that I have never forgotten it. *The Road From Home*, the 1980 Wisconsin Library Association Banta Award winner, shares the same setting, and its heroine, the author's mother Veron Dumehjian, suffers through the same persecution.

Born in 1907, Veron grew up in the Armenian quarter of Azizya in western Turkey. In 1915 mass deportations and massacres of Armenians began in that country. Veron's immediate family eventually all became victims, leaving her orphaned and alone. This is her story told from her point of view, a story of the indomitable human spirit, unbending in sorrow, enduring in suffering, cheerful in the face of catastrophe, resilient and life-loving and life-giving. Her pilgrimage from idyllic childhood to tragic youth is more concentrated and more trying than for most humans, but her unfaltering struggle for life and identity sustained her through all.

There are, however, two curious lapses in this nonfiction novel: The early sufferings of the first weeks of the deportation up through the deaths of her grandfather, her three siblings, and even her mother are not particularly moving. We are, of course, limited to the heroine's point of view, but the story, after all, is Kherdian's reconstruction. The second lapse concerns the grandmother. Thoughts of eventual return to her home carried Veron through some of the darkest days of exile, and the grandmother figures largely in the middle of the book. It's inexplicable, then, that Veron seems unconcerned about her grandmother in the last part of the book and that the reader never learns the old woman's fate.

But those are complaints of the book as a novel; about the book as a human document grounded in fact, there can be none. It revels in life in the midst of death. We learn of Armenian customs: Lenten practices and Easter celebrations; special foods, their names, their preparation; the ritual of the Turkish bath; the importance of the poppy culture in their lives; the fabric of the extended family life, the delegation of authority, the rites of continuity; even, like wisps of cigarette smoke curling about our heads, bits of folk wisdom, such as, "What you learn in childhood is carved on stone; what you learn in old age is carved on ice" or "At the end of every bad road, a good road begins."

With the death of her father, the most moving section of the story of Veron begins. From the furthest point of her exile through her return, by way of an Aleppo orphanage, to her grandmother's, to further uprooting, to the destruction of Smyrna, to escape to Greece—all of it rises above the story of one lone waif, adrift on the suffering tide of humanity, to the heights of the Werfel novel. Veron's story is not merely that of an individual, nor even of a family, but of a people who maintained, in the face of the greatest of odds, a cohesiveness and an identity that endured.

Richard Boudreau teaches American literature at UW-La Crosse.

ZUNI: SELECTED WRITINGS OF FRANK HAMILTON CUSHING edited with introduction by Jesse Green; University of Nebraska Press, Lincoln, Neb., 1979. 440 pp. \$16.95.

By Barry B. Powell

The time has come for the name of Frank Hamilton Cushing to be rescued from the obscurity where it has languished for a generation; for Cushing was a trailblazer in ethnological study. In 1879, at the age of twenty-two, three years after the battle of the Little Big Horn, he went to the American Southwest under the sponsorship of the Smithsonian Institute's newly formed Bureau of Ethnology, the Bureau's first expedition. Cushing planned a brief stay in the pueblo of Zuni, last remaining of the fabled seven "Cities of Cibola." He remained for four and one-half years. No doubt he would have stayed even longer had he not supported Zuni interests against the rapacity of highly placed government officials who threatened the Bureau with reprisals unless Cushing were removed. It is no wonder: Cushing liked his Indians too much. Not only did he take up Zuni dress, learn the Zuni language thoroughly, and push his way into places strictly off-limits to outsiders, making sketches of all he saw-one time, charged with sorcery, he was threatened with death; but Cushing himself actually took a scalp during a skirmish with raiding Apache. There is field experience! He came to sign his correspondence: "1st War Chief of Zuni, U.S. Asst. Ethnologist," an arresting development. All of these facts he reports to us in his first major essay, here reproduced, entitled "Becoming an Indian."

In spite of initial reservations among the Zuni people about Cushing's freewheeling style, he became in the end a sort of hero to them. In 1938, thirty-eight years after Cushing's early death at age forty-three, the Zuni still complained because "Cushing was not able to return from Washington." (To the Zuni "Washington" was everything east of Texas.) An old man, remembering, told an informant at the same time that "What Cushy says, that is right."

The principal selections in this anthology, in addition to "Becoming an Indian," are handsome portions of "Zuni Breadstuff" and "Zuni Folk Tales." "Zuni Breadstuff" offers wonderful information about Zuni crafts and farming technology. Cushing not only observed the production of Zuni crafts, he did himself master them, strong credit to his method. "Zuni Folk Tales," in spite of its narrative embroideries, is still a classic study. Stith Thompson, for example, draws from Cushing's accounts for his Tales of the North American Indians.

Cushing's style is lively nineteenth century stuff, perhaps turgid to contemporary taste; but this fault his writing relieves by a vigorous personal tone. It is this personal tone which makes Cushing's writing so interesting. Here is a man, the reader knows, with his wits about him, living among men very different from himself, and from ourselves. We do not have to ferret out Cushing's frame of reference, as from the bloodless attempts at objectivity in recent anthropological writing. You know where Cushing stands because he tells you. Cushing earns high praise from no less than Claude Levi-Strauss, whose own Tristes Tropiques bears a likeness to Cushing's personal accounts. Levi-Strauss wrote: "Cushing's insight and sociological imagination make him. . . one of the great forerunners of social structure studies."

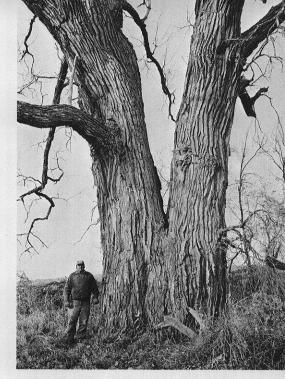
I like this book. It entertains like a novel while informing richly about the Zuni. Cushing's observations about Zuni religion and mythology are of especial interest. We owe a vote of thanks to Jesse Green, native of Stanley, Wisconsin, now a professor of English at Chicago State University, for making this material once again available. His introduction to the book is excellent.

Barry B. Powell, associate professor of classics at UW-Madison, has spent many years studying the material culture of North American Indians.

WISCONSIN'S CHAMPION TREES: A TREE HUNTER'S GUIDE by R. Bruce Allison and B-Wolfgang Hoffman; Wisconsin Books, Madison, Wis., 1980. 98 pp. \$6.95.

By Olive S. Thomson

Complete data on the largest specimens of both the native and cultivated species of trees growing in Wisconsin are compiled into this very carefully edited and attractive book *Wisconsin's Champion Trees.* The personal nature of this tree information and the excellent photography which illustrates so



many of the individual record trees make it a very appealing volume for anyone.

With each species listing is not only the location of the top three Wisconsin specimens but also the name of the person who discovered each; the details of the criteria including circumference, height, and spread, as used by the American Forestry Association in determining the rating; and an identical listing of the national champion of the native species for comparison.

Mr. Allison, the editor and professional Madison arborist, has completely researched all the information on outstanding trees accumulated by Walter Scott and the Department of Natural Resources from 1941 until January 1980. Mr. Scott has provided a fine introduction to the book; and University of Wisconsin Horticulture Professor Edward Hasselkus, who is present keeper of Wisconsin tree records, has contributed a chapter which explains how to measure big trees. The last chapter is written by the photographer B-Wolfgang Hoffman who has divulged his secrets for producing such excellent black and white photographs of very difficult subjects.

Contact with this book will be likely to induce many persons to want to see some of these tree giants for themselves or very possibly to become tree hunters. I take pleasure in recommending this small volume to young and old for the many pleasures they might enjoy from learning more about our trees.

Olive S. Thompson revised the recent edition of Spring Flora of Wisconsin.

DOWN WISCONSIN SIDEROADS by Clay Schoenfeld; Tamarack Press, Madison, Wis., 1979. 201 pp. \$7.95.

By Sharon M. Mulak

The University of Wisconsin-Madison professor who studied under Aldo Leopold has written another book about his beloved Wisconsin outdoors. Clay Schoenfeld, the only American university professor with the dual degree of journalism and ecology, gave a taste of this book in his 1966 Wisconsin Sideroads to Somewhere (Dembar Educational Research Services, Inc., Madison, Wis.). There is the same pleasing blend of history, quotations from other authors, nature lore, and sound lessons about conservation. Some of the text is repeated from the earlier book (e.g., advice on searching for nightcrawlers), and it is the public at large that is again addressed.

Sportspersons as well as nonhunters are both enticed to read this book, so the text does not fall into a maudlin rut. The fire of a gun dots the commentary of one who respects the earthbound creatures. The Canada goose "is no mere bird. . . . [It] is the symbol of our untamable past, the cymbal in the orchestra of evolution" (p. 35), but it is also within firing range of the admiring hunter.

An undercurrent of poetry flows through the author's words, and it is easy to slide into a daydream of footloose days down in the author's haunts. One also learns from the author: trout management, ice fishing, the evolution of the fishing pole, the habits of the white-tailed deer, and Schoenfeld's irritation with rural landowners who fail to respect the environment are only a sampling of the subjects about which he instructs.

Tributes are paid to people (Aldo Leopold, Walter Scott, Florence Peterson) as much as to environmental education as a field of study. Some readers may not enjoy the author's style, particularly in the "Letters From a Lobbyist" section. It is Schoenfeld's acknowledgements to the land and its people and animals, presented in both serious and jocular styles, that will probably attract many types of readers. "Nubbins" of this book have already seen print in a variety of publications. Another asset is immediately apparent on the cover and throughout the book, that being the fine black-and-white drawings by Daniel P. Metz. Royalties from this book are being donated by the author to a wildlife conservation fund. I hope the book enjoys success.

Sharon M. Mulak, a librarian at the State Historical Society of Wisconsin, searches for Wisconsin sideroads on weekend trips.

LA PARTERA: STORY OF A MID-WIFE by Fran Leeper Buss; University of Michigan Press, Ann Arbor, 1980. 140 pp. \$6.95.

By Ruth Abbott Schauer

In 1975 Fran Leeper Buss, who now serves as campus minister at Shalom, Center for All Faiths in Whitewater, was living in northeastern New Mexico, where she shared an appointment as a United Church of Christ minister with her husband David. There she met the woman who became the subject of her book, a seventy-year-old *partera* or midwife named Jesusita Aragon.

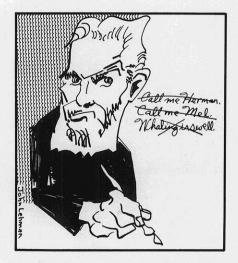
La Partera is the life story of Jesusita Aragon, but it is much more. It is a vivid picture of the Hispanic culture of San Miguel County, New Mexico, and it is the chronicle of fifty years of health services provided largely by women: the parteras, the curanderas, experts in herbal remedies, and the medicas, whose healing techniques were more advanced, as well as the Anglo doctors and public health nurses with whom they worked.

La Partera begins with a vivid account of life in Las Vegas, New Mexico, where Jesusita Aragon now lives and an evocative description of Trujillo, the community forty miles to the east where she lived as a child and young adult. Now nearly abandoned after many years of drought, the area was once a rich farming community. Having set the stage, Buss then allows Jesusita Aragon to tell her story in her own words, a wise choice since the "uncorrected" speech of this woman who was the first of her family to speak English is direct and moving.

Jesusita Aragon's story is one of great hardship and even greater accomplishments. Her mother died at the age of thirty-four, having borne eight daughters of whom three survived. Jesusita, the eldest, was given the responsibilities of a son—working in the fields, herding animals on horseback, and shearing sheep. From her grandmother she learned the art of the *partera*, making her first delivery alone when she was fourteen. Cut off by her family when at the age of twentythree she bore an illegitimate child, she became independent, building her house, herding her flock, and establishing herself as a midwife. Over the years she has delivered nearly 12,000 babies, including some who weighed two pounds at birth and survived.

The author concludes with a summary of a century of health care in northeastern New Mexico, a history marked by a fruitful partnership between Hispanic healers and Anglo public health officers. The book contains photographs of the landscape, the *parteras*, and their techniques of delivery and appendices containing brief biographies of the women, Hispanic and Anglo, who have for the last hundred years provided health care to the area.

Ruth Abbot Schauer is professor of English and coordinator of Women's Studies at UW-Whitewater.



Erratum

Nancy Lurie, curator of anthropology at the Milwaukee Public Museum, wrote to identify the man in the cover photo of the September issue as Wallace Pjawasita, Menominee.

continued from page 2

Dale O'Brien and his wife Helen live in a modest 8,000 square foot remodelled garage in Spring Green. Their farm in Iowa County is now the site of the American Players Theatre.

Before settling in Iowa County in 1972, Mr. O'Brien owned a consulting firm in Chicago. For many years, he served as director of public relations and advertising and a member of the board of editors of Encyclopaedia Britannica. He has been president of the Wisconsin Academy of Sciences, Arts, and Letters; president of the Society for Contemporary American Art at the Art Institute of Chicago; and president of the Chicago Chapter of the Public Relations Society of America.

Dale O'Brien



Phil Kallas was born in Beaver Dam and graduated from the state university at Stevens Point in 1969, with a major in history and minor in geography. Following military service with the 101st Airborne Division in the Republic of South Vietnam, he returned to Wisconsin State Universitv-Stevens Point and took a M.A.T. degree in education and history. For several years he and his wife Penny owned and operated a book shop in Stevens Point. At present, Phil Kallas is the vice-president of the Portage County Historical Society and the Portage County coordinator of the Wisconsin State Old Cemetery Society.

Phil Kallas

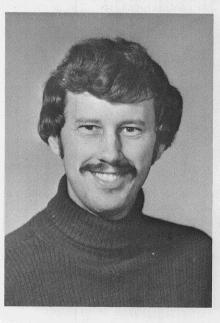
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John Lehman

John Lehman lives with his wife and two children in an old house on the east side of Madison. His cartoons can be seen in many Wisconsin publications. He also publishes poetry. John has a degree in Great Books from Notre Dame and a M.A. in education. He taught in Michigan before moving to Madison.

David Mladenoff, a former graduate student in landscape architecture at UW-Madison, now lives in Olympia Washington. The photograph accompanying the essay on winter comes from his portfolio of scenes and impressions of the Lake Superior Country.



Active in such Elm Grove community activities as church, women's club, PTA, and drama at the Sunset Playhouse, **Shirley Kersey** is an assistant professor of education at UW-Parkside in Kenosha. She has published numerous articles on counseling and the history of education. Currently she is writing and teaching about the history of girl's and women's education in the Western world.

Shirley Kersey



Sally Behr is working for her master's of fine arts in photography at the UW-Madison. Recently she has won prizes from a local gallery and the university for her photographs. Of her work Sally says, "My compositions demonstrate my sense of humor. I believe good photography has a liveliness; you should be able to feel the photographer behind the picture." She works in color, and the photographs in this issue were originally in color.

Michael McGuire studies photography at UW-Madison. "These photographs"—he explains —"deal with two images on a contact sheet and all that implies. The movement of the subject, the movement of the photographer, and the juxtaposition of the two frames are all methods of communicating another facet of the scene."



Inside the Academy

on not dotting the i's

By James R. Batt

"It was said of Sarah, Duchess of Marlborough," wrote Horace Walpole in a letter dated 1785, "that she never puts dots over the i's, to save ink."

For the past five years or so, the Academy has not been dotting the i's. Like many of the rest of us, individuals and institutions alike, the Old Girl (110 this year) has fallen upon hard times. Relatively speaking, to be sure. Relative, for example, to what is forever referred to as "the depths of the Depression," the Great One, that is. And relative to the time when the Academy operated out of the attics and the basements of its officers, back when an annual budget of two or three thousand dollars was an extravagance.

The problem with relativity, in the present instance, is that you can't take it to the bank. It can't be deposited to earn interest or dividends to help offset the \$40,000 in gifts needed by the end of 1980 if the Academy is to "keep out of the red." There is the distinct possibility, or even the likelihood, that the full \$40,000 will not be obtained. Yet, use of the endowment principal (also known, in more loaded terminology, as "dipping" into or "invasion" of the endowment) cannot be tolerated over any length of time if the fiscal integrity and the very future of this institution are not to be compromised.

What, then, are the options?

For one thing, it is painfully and patently obvious that the Academy needs a larger endowment. Its portfolio of stock and bond holdings has a market value of about \$800,000, depending on the market conditions of the moment. Current policy is that annual earnings of no more than six percent of the market value of the principal annual earnings may be used for the annual budget of the Academy; anything in excess of that amount is to be retained for growth purposes. Once the bank management fee of \$5,000 is figured in, there is only about \$43,000 that can be counted on in 1981.

Suddenly, the million-dollar-Academy that everyone talked about when the Steenbock bequest became known a few years ago. . .suddenly, things don't seem quite all that rich. (Not included in this reference to the endowment, but an asset nonetheless, is Steenbock Center, the Academy headquarters. The building, along with its furnishings and equipment, have a value of perhaps \$200,000.)

So, you see, what we have, essentially, is the \$43,000 from the endowment, \$20,000 to \$25,000 (depending on how optimistic you want to be) in anticipated membership dues, and the remainder, primarily, in donations. Income from programs, such as annual meeting and Junior Academy activity fees, is offset largely by related program expenditures.

What to do? Look for new funding sources? We are. At one time, the Academy received direct appropriations from the state of Wisconsin. An appropriation request for 1981-82 has been prepared by the Academy. Given the economic conditions of the day, the Department of Administration's response has been reasonably supportive. Whether anything comes of the effort remains to be seen. Membership dues have been increased as well, reflecting still only a small portion of the cost increases being borne by the Academy. Friends and foundations, business, industry, and, above all, the membership itself-those who might be expected to care the most-are being asked to invest in the mission of the Academy through their gifts and grants.

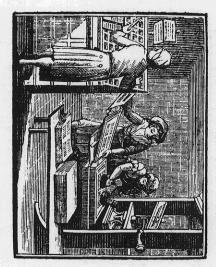
Kindness can be costly, to be sure. But as we seek to employ our financial and human resources in the best ways possible, let us do so not at the ultimate cost of reason nor in an atmosphere of fear.



Editor's Note: Jim Batt's column was written in October; he concluded his administrative service at the end of the following month. He was appointed as the first fulltime executive director of the Academy in May, 1971. His diverse interests in many ways paralleled those of the organization. For example, in the course of his tenure with the Academy he was president of the National Association of Academies of Science (and recipient of its Distinguished Service Award) and a chairman of the Wisconsin Humanities Committee; a board member of the International Crane Foundation, a director of the Council for Wisconsin Writers, and a trustee of Edgewood College. He is both a fellow of the American Association for the Advancement of Science and a published poet. He and his wife Dorothy reside at 630 So. Segoe Rd., Madison, Wis. 53711.

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