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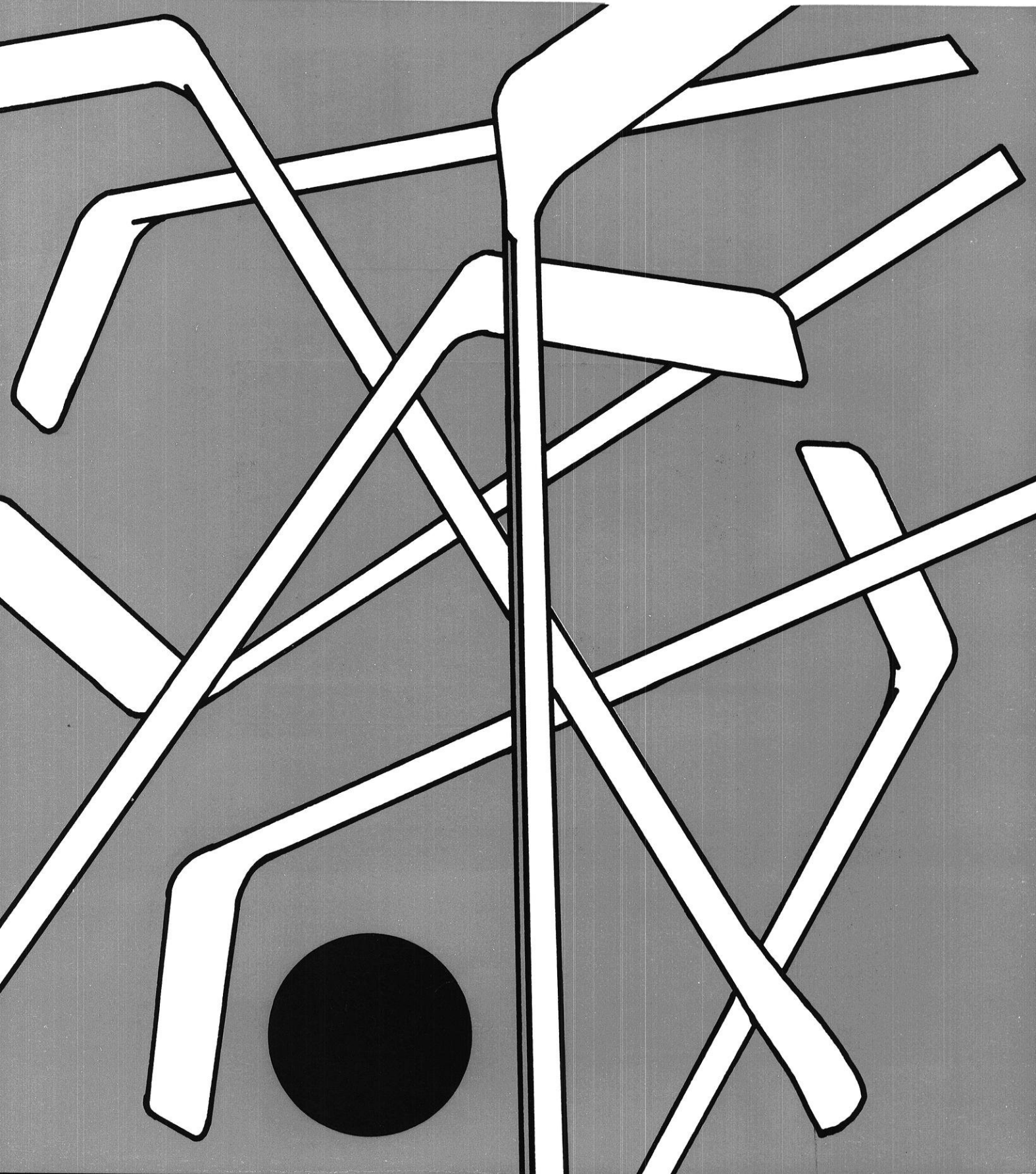
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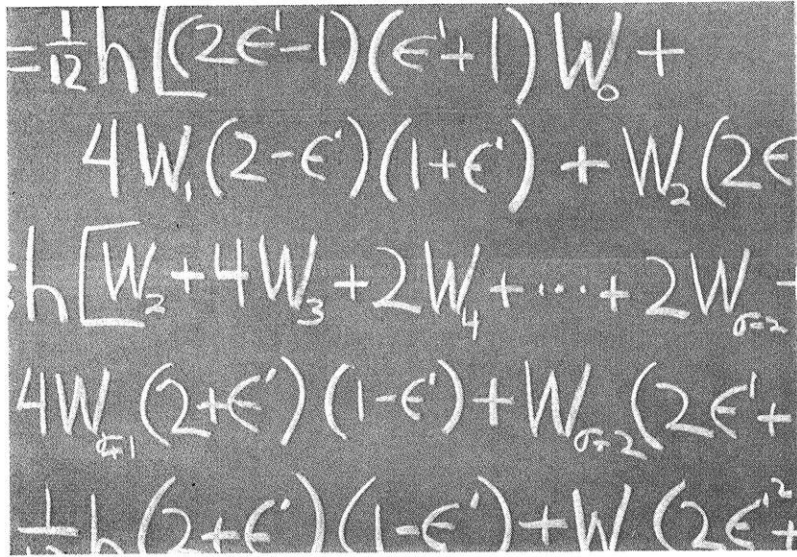
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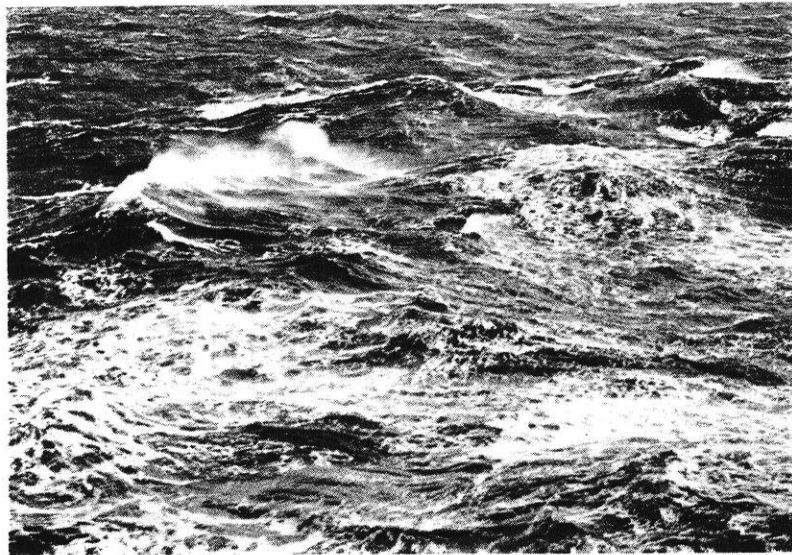
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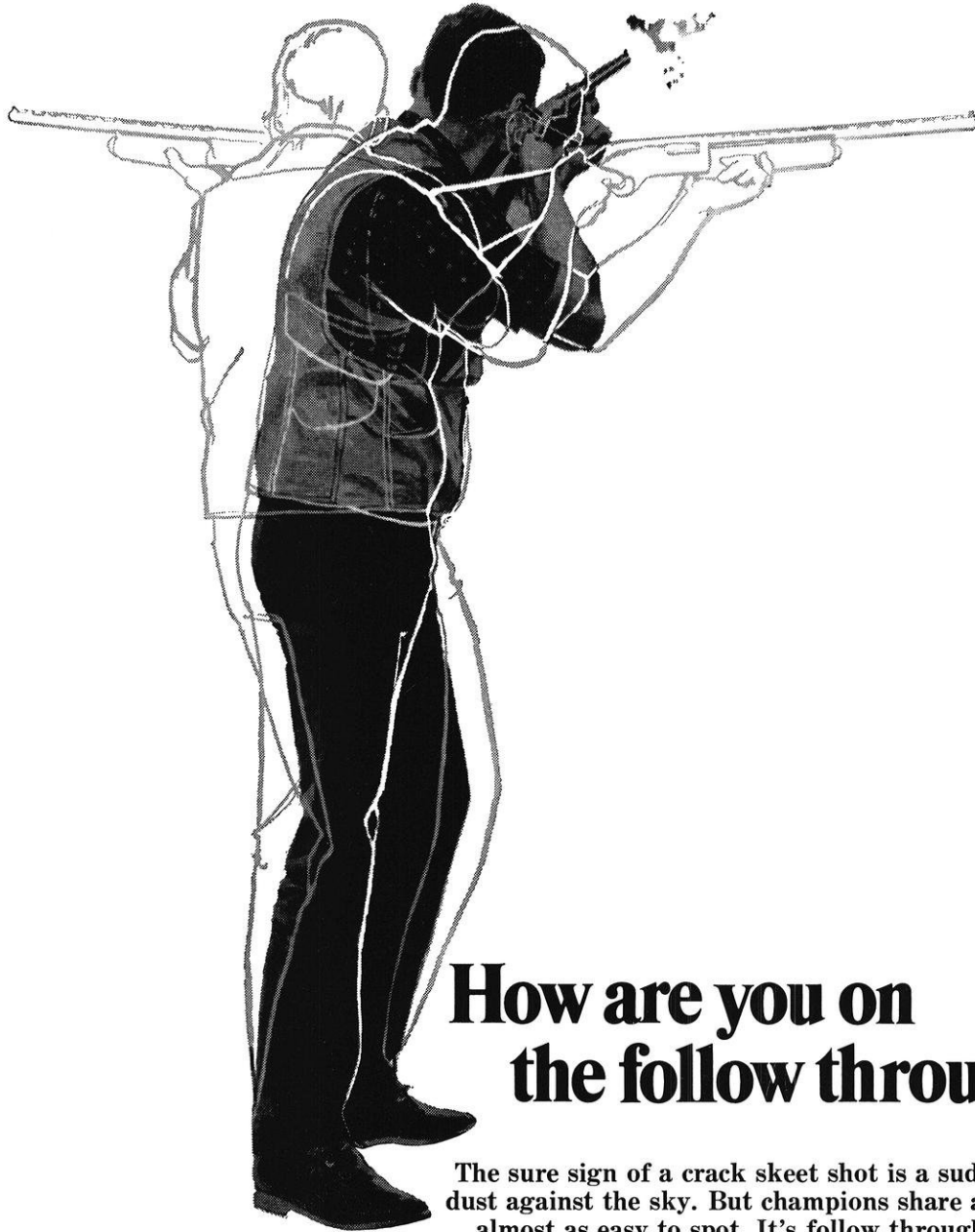
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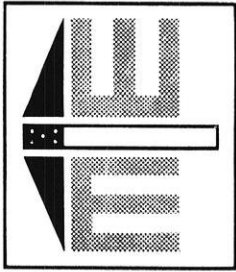
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wisconsin engineer

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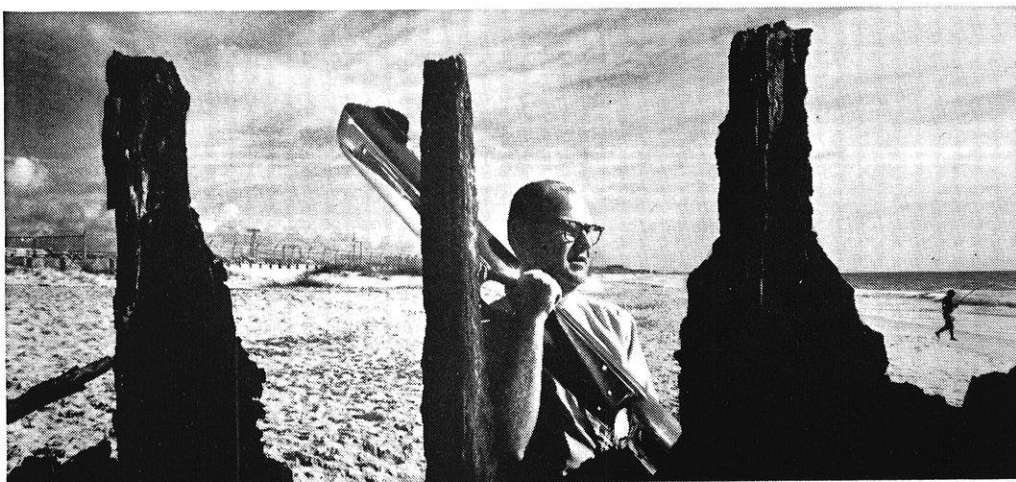
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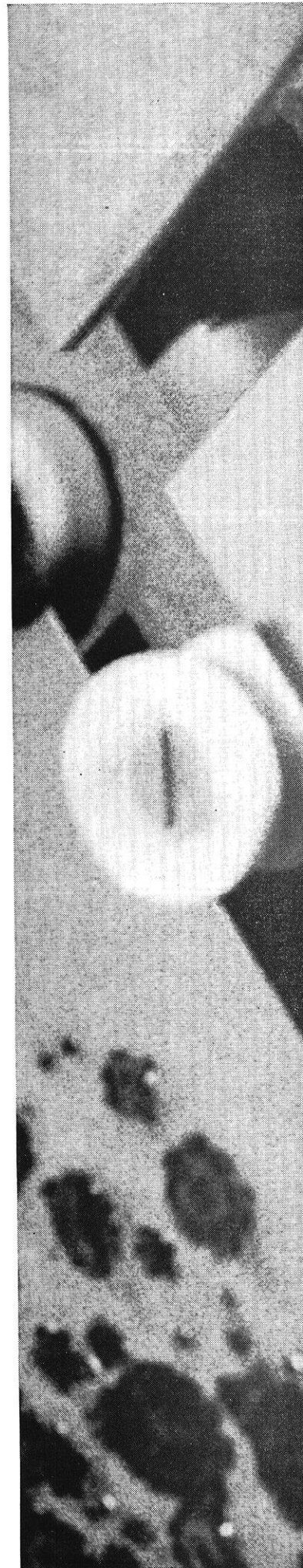
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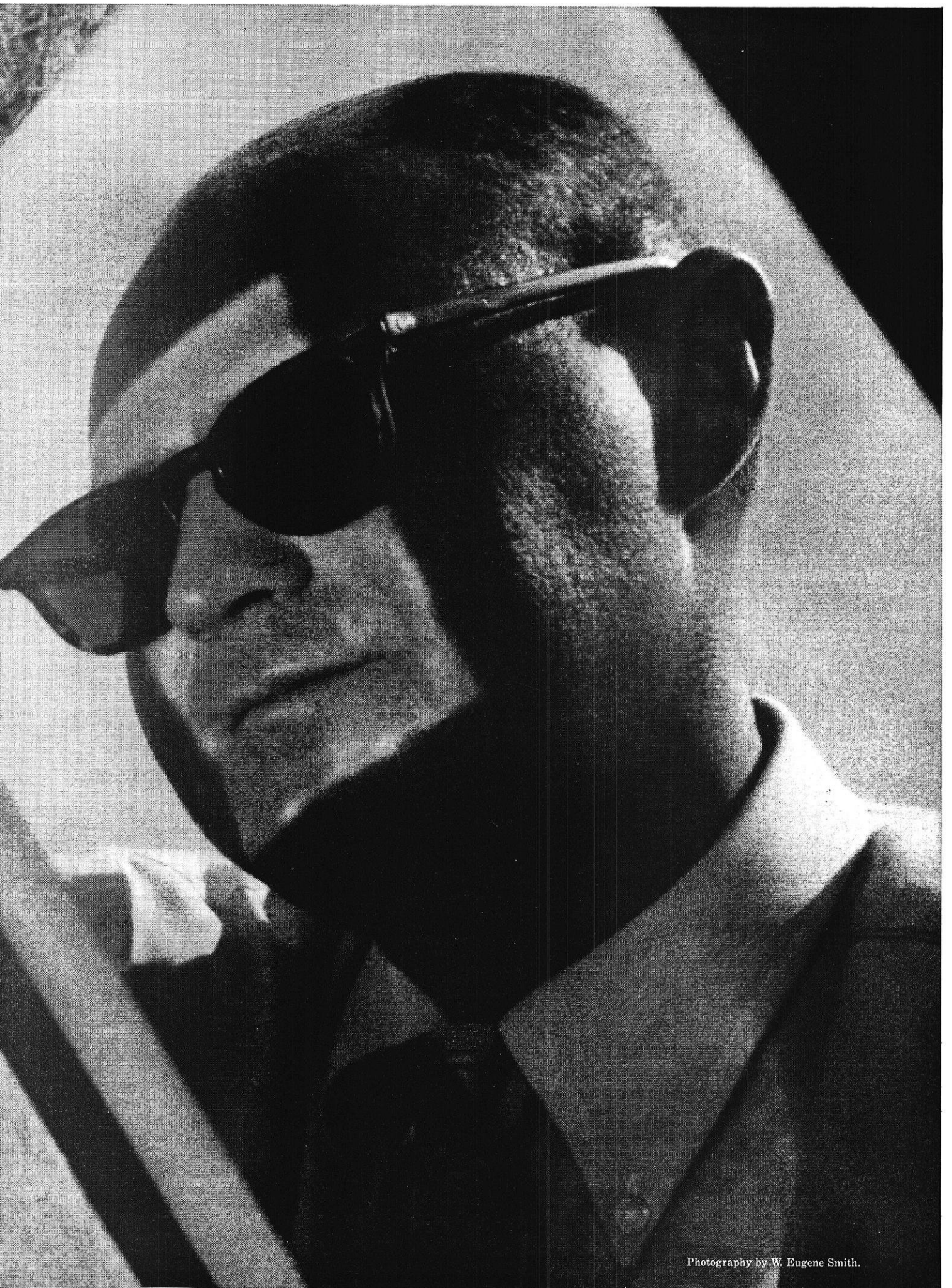
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More Rhythm and Less Blues

the Hard Rock Revival

by Peter Egan

Ever hear anyone walking down State Street on a sunny afternoon singing the latest John Mayall cut to himself? Ever hear your roommate humming the Electric Mud's new release in the shower? Probably not, which is one of many reasons why rumors of a hard rock revival are drifting over from England. In the face of an upsurge in lyric anemia, a lot of people are looking for a return to the simplicity and hard-hitting styles of such artists as Chuck Berry, Rufus Thomas, Buddy Holly, and Bo Diddly.

The Beatles have returned from the realm of the mystic and dropped the special effects with "Revolution" and "Jude." After financial and critical failure with "Satanic Majesties," the Stones have returned to their rhythm and blues element with "Beggar's Banquet." On the Top Forty charts, The Clearwater Revival is rapidly climbing with their revamped version of Susie Q, an ancient Lewis-Hawkins creation. Even the Rascals found some of the spirit of their first great album with "Got to be Free." If Eric Burden could only drop the ego bit and hunt for the old Animals, the scene would

be complete.

For many the revival comes as no surprise. You could see it coming last year, even in Madison. All you had to do was wander into the Factory and listen to the blues and acid groups on a Saturday night. Everyone watched in awe as any of a number of quite talented bands worked to close the jazz-rock gap. It was almost always the same. Between long and wild leads, someone stepped up to the mike, shut his eyes, nodded a few times, and sang "Well, you know . . . You know my baby left me," and then wandered off behind an amp somewhere to play his tambourine. All very subtle, all very blues. Everyone listened and nobody moved much. Then between songs the drummer weakened and lapsed into a few tough Afro beats, and the audience stirred and woke up and everyone said "Yeah, that's it, yeah." Then the band went into the next song and everyone listened again.

In too many cases, showmanship was either poor or nonexistent. Performances held all the enthusiasm of a 2 a.m. practice session, and the only way you could tell that the band was playing to an audience was that all the amps were turned the same direction. The music was good, for the most part, but people like to be moved when they come to

hear a rock band, and sometimes it's not good enough just to play well. You have to put on a show and have a group identity. A band with no image is a group of musicians.

Another problem with the acid and the blues groups is that, in many places, dancing has given way to passive listening, which is fine if a group is worth sitting and listening to for a whole evening. If not, you haven't got much choice unless you leave. Unless they're really outstanding, all blues and no rhythm makes the Electric Fern a dull band. Words to songs are generally ignored, mainly because they're either so banal or so esoteric they aren't worth the trouble, and even the crudest type of group vocal harmony is nonexistent.

It is thus that a great many people look forward to the honesty of the old rock combined with the talent of the new bands. While it is refreshing to see the big names and the super-bands once more finding their roots in the R&B heritage, I, for one, would like to see on our own campus a return to the musical enthusiasm and spirit that was so prevalent here only a few years ago; a spirit that seems, with a few notable exceptions, to have stagnated.



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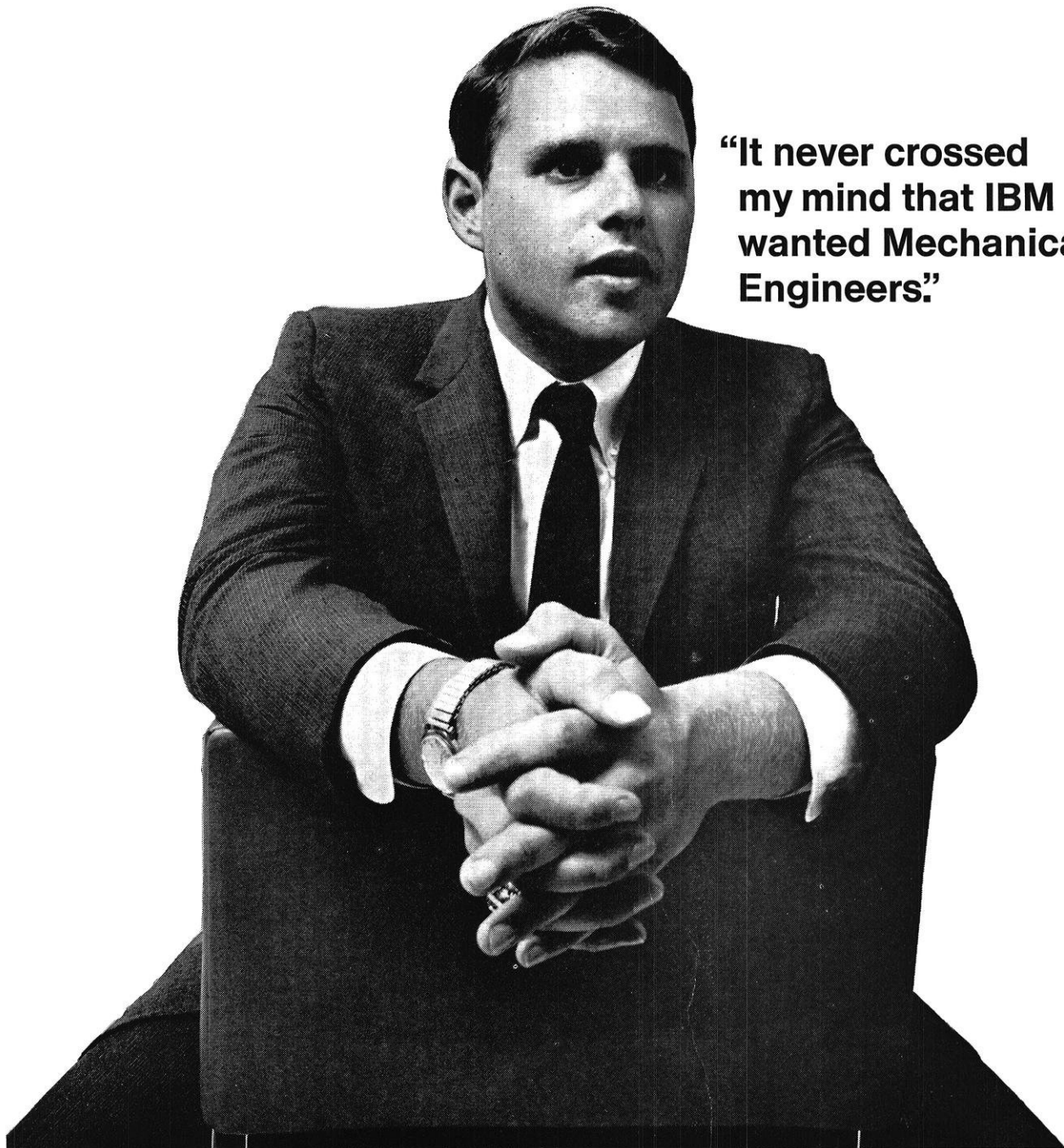
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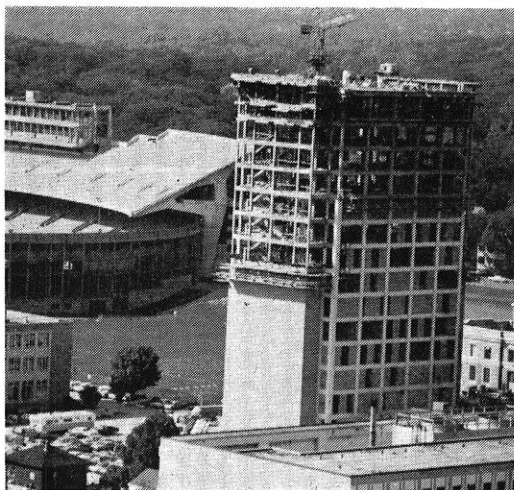
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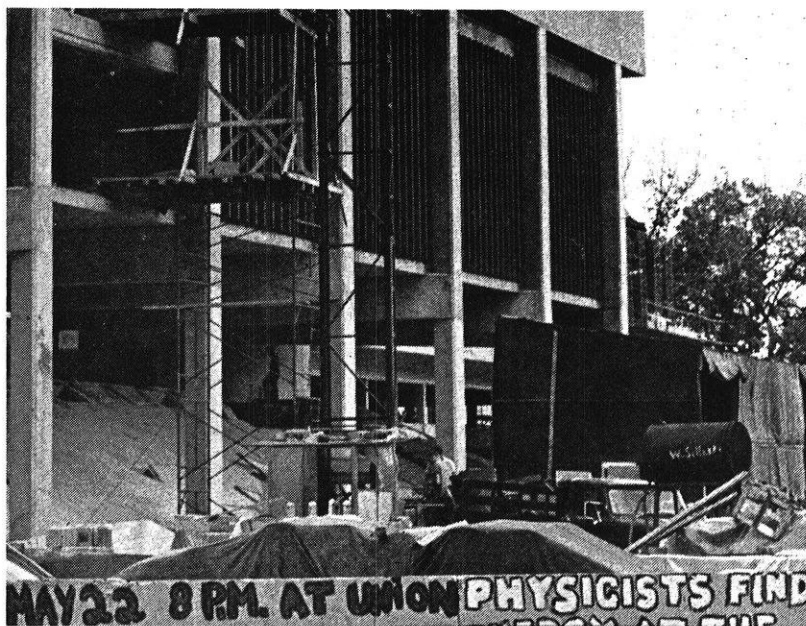
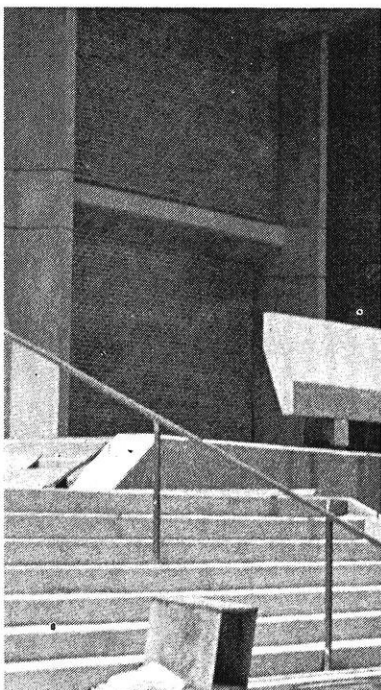


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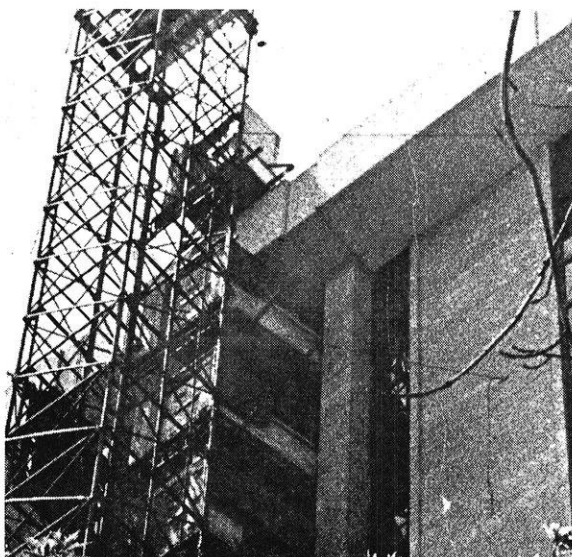
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Campus



Construction



by Eric Fonstad

Constant construction and expansion of the University campus have become integral parts of college life at Madison. The hard hats of construction workers are as likely to be found among the hip-mounted slide rules and white socks of the engineering campus as they are behind the motley colored fences that surround building sites on other parts of the University. As a result the layout of the campus has been continually changing. Two fields where I played touch football as a freshman are now the sites of new buildings: one the Agriculture and Life Sciences Library and the other the

Nielsen Tennis Stadium, and what was a parking lot a year ago is now the site of the new Engineering Research Building. This article takes a look at the building boom of the past few years and gives particular attention to the buildings completed in the last year, those currently in progress, and those planned for the immediate future.

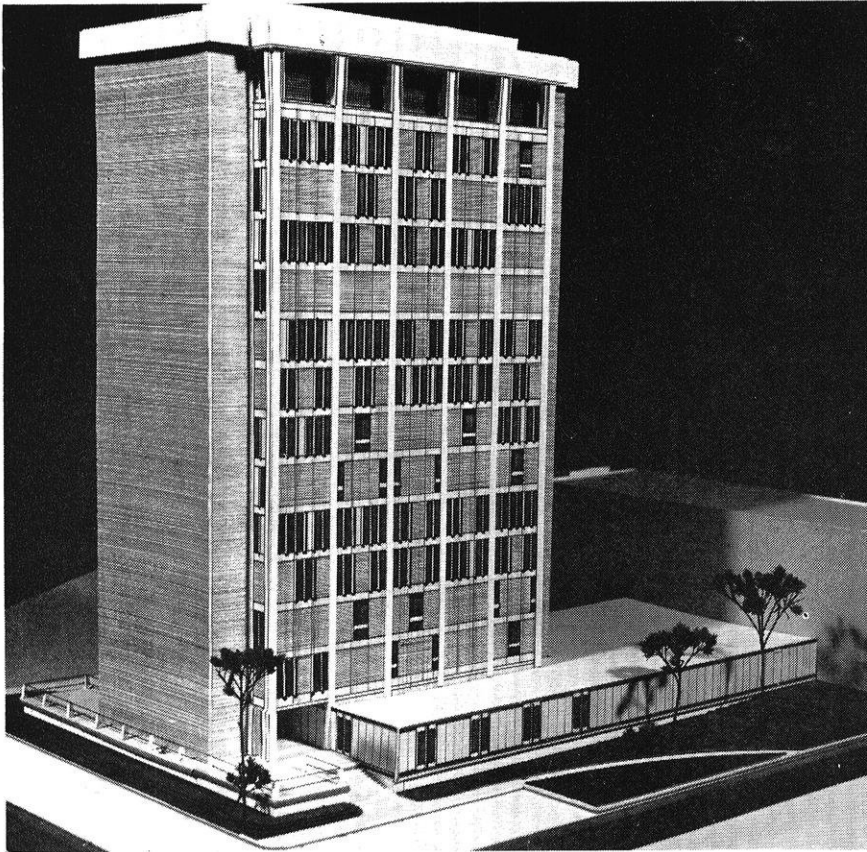
New buildings have been going up at an average rate of over seven a year since 1960. A total of fifty-nine building projects were completed in the last eight years, adding more than two million square feet of as-

signable space at a cost of \$100 million.

Buildings Completed During the Last Two Years

Twelve buildings were completed during 1967, including eight major projects at a total cost of over \$26 million. These include the Animal Isolation Unit on the Charmany Farms, Units 2, 3, and 4 of Chemistry (additions to the new Chemistry Building), Van Hise Hall, the Crew House at the end of Babcock Drive, Physical Education Unit 2, the Life Saving Station, Central Chilled Wa-

(continued on next page)



Engineering Research Building

The Engineering Research Building, shown in views from opposite directions in the picture of the model at left and under construction above, is located between the main Engineering Building and the Mechanical Engineering Building. The model at the left should be of special interest to Minerals and Metals Engineers since the architect has put a street where their building is now

ter Facility (primarily for air conditioning) and additional Married Students' Apartments at Eagle Heights.

Three projects have been completed so far in 1968. The Nielsen Tennis Stadium, completed in May at a cost of \$2.3 million, is the largest of the two hundred buildings that now make up the Madison campus. It contains twelve tennis courts and six squash courts and was almost completely financed by a gift from Arthur C. Nielsen.

Earth and Space Science, Unit 1, was occupied on November first, four months after its scheduled completion date. The project cost \$4.5 million and will be the center for the study of meteorology and the space sciences. It is located at the corner of Dayton and Orchard Streets.

The final project to be completed this year is the Steenbock Memorial Library at the corner of Observatory and Babcock Drives. Otherwise known as the Agricultural Life Sciences Library, the \$2.6 million building will combine the present agriculture and biology libraries.

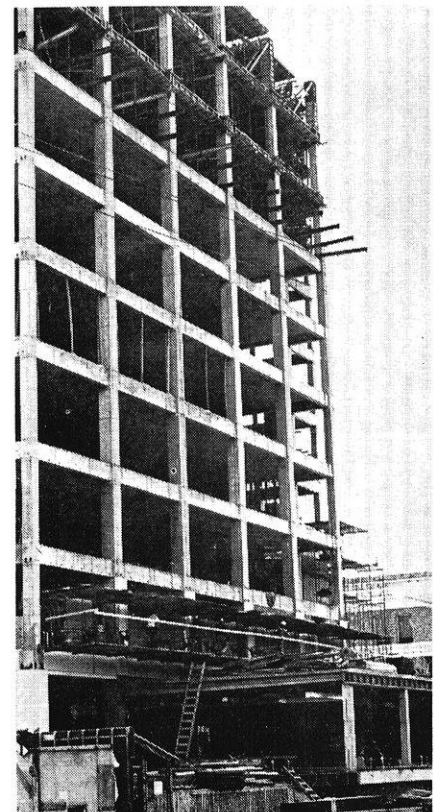
Construction Now in Progress

Four building projects are currently under construction. The fourteen-story Engineering Research Building is located in the center of

the Engineering campus and will house research laboratories and administrative offices for the School of Engineering. The \$5.7 million project was sixty per cent finished as of November first and on schedule for completion in August of next year. It will have no classrooms.

The second project now in progress is the Art, History, Music Building. Located across Park Street from Bascom Hill and between State Street and University Avenue, the \$10.7 million facility will house classrooms, studios, lecture and recital rooms, auditoriums and offices for the departments of Art, Art Education, History, and Music. Due to unanticipated labor problems, most of the 220,000 square foot area will not be occupied until early next year. The six and seventh floors, however, are now in use. It is part of a complex known as the South Lower Campus Project.

The second building in the complex is the Elvehjem Art Center. Progress on this structure has been slow and completion isn't expected until the fall of next year. It will serve as an art center and will contain offices and teaching facilities for the Art History department. The three million dollars it cost is being financed entirely through gifts.



South Lower Campus Project

The South Lower Campus Project consists of two buildings and is located in the block bounded by University Avenue and Park, State, and Murray Streets. The smaller of the two buildings, the Elvehjem Art Center, can be seen in the model above and the photo below right. The Art History, Music Building, shown under construction behind the model above and in the picture below is connected to Bascom Hill by a pedestrian bridge over Park Street. Eventually a second bridge across University Avenue will connect this building to the Communications Arts Building which is to be built in the 800 block of University Avenue.

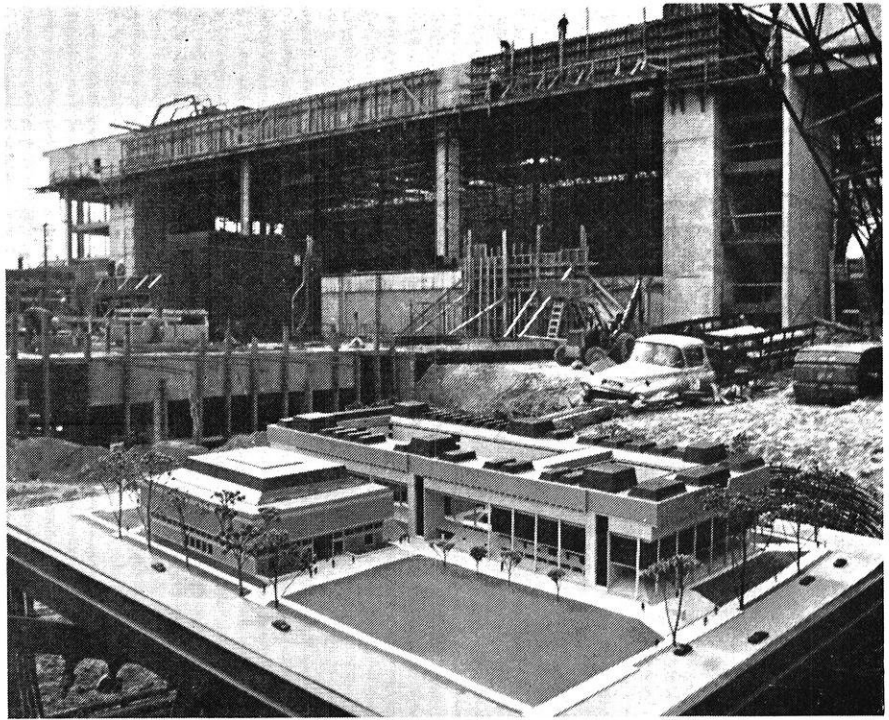


Photo courtesy of The Milwaukee Journal

An addition to the Enzyme Institute, costing \$1.7 million, is the final project now under construction. It will add 32,000 square feet to the present institute. Completion date is scheduled for July, 1970.

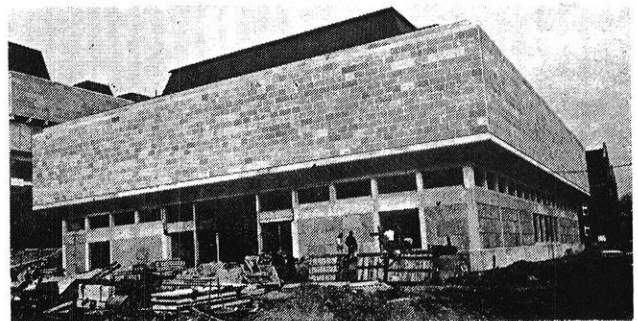
Building Being Planned

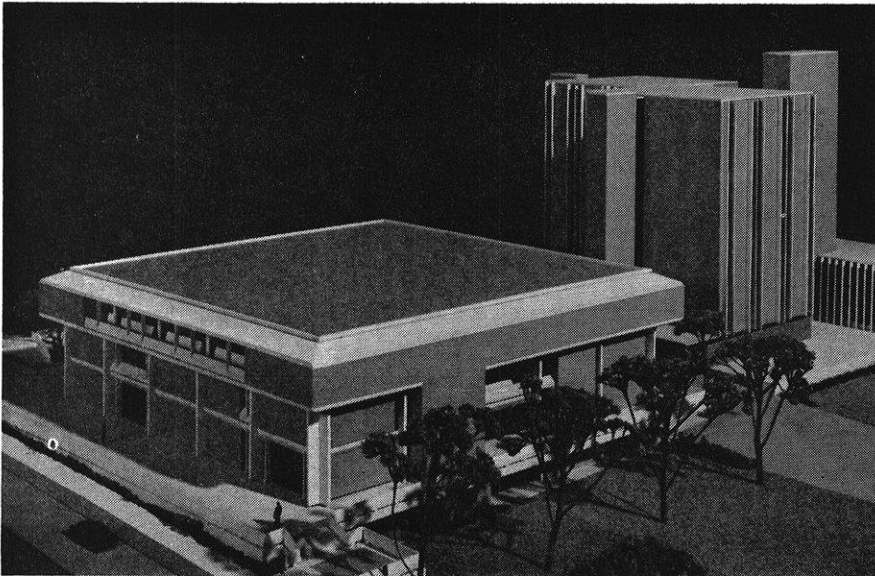
Fourteen projects with an estimated local cost of nearly \$70 million are now in various stages of planning.

The Communications Arts Building is a \$9.4 million project that will house the School of Journalism, the Department of Speech, the Division of Radio and Television and the *Daily Cardinal*. It will contain teaching and research facilities, classrooms, laboratories, an eight hundred seat theater, production areas, seminar rooms, rehearsal rooms, studios, listening, and control areas for WHA and WHA-TV. It will occupy the entire south side of the 800 block of University Avenue and will be connected to the South Lower Campus Project by a pedestrian bridge over University Avenue with a possibility of another bridge across Johnson Street to connect the building with Sallery Hall. Work on the six-story Communications Arts Building is expected to start next spring and to be completed within two years.

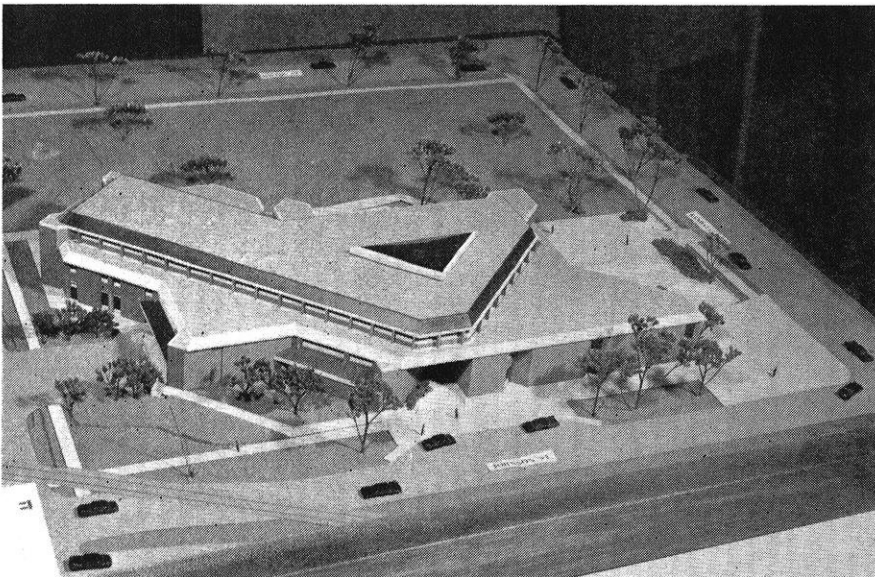
Construction of a \$3.5 million branch Memorial Union to provide recreational and food service facilities for students at the south and west ends of the campus is scheduled to begin next March with completion of the

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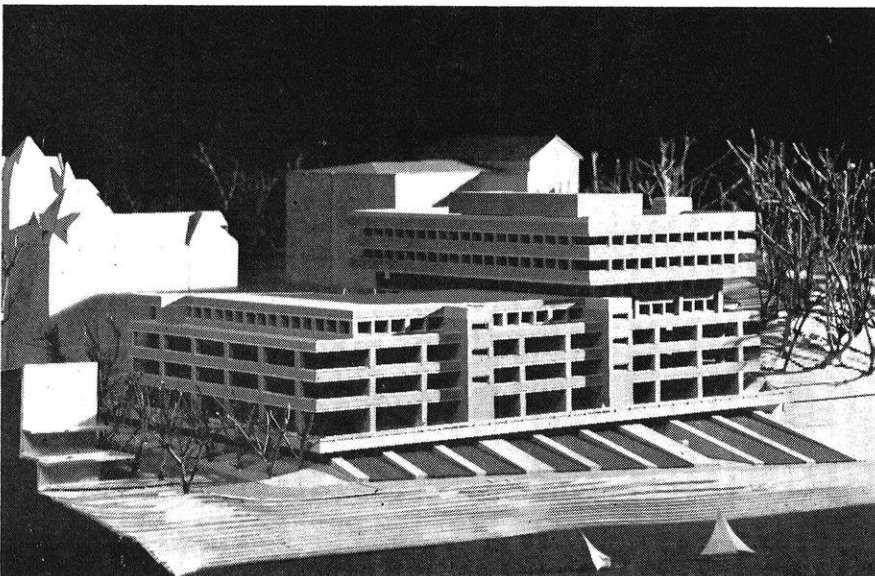




Steenbock Memorial Library



New Union South



Undergraduate Library

project expected by December of 1970. To be located in the block directly across Randall Street from the main Engineering Building, the three-story structure will include a cafeteria seating 400, a snack bar with seating for 365, and a charcoal grill with seating for another 85.

No project dates have been set for an ice facility to be located in the practice field directly north of the athletic shell. The \$680,000 project will provide skating facilities for students and faculty and for UW hockey team practice.

The Library School, Undergraduate Library facilities, and offices for the Departments of English and Philosophy will be in a building to be built on the present site of 600 N. Park Street and Old Journalism. Target date for completion of the \$8.4 million project is January of 1970.

A site north and west of the Veterinary Science Building has been approved for a \$5 million Animal Science Building to provide teaching and research facilities for the Departments of Meat and Animal Science, Poultry Science, and Dairy Science.

Laboratories, classrooms, and offices for the Departments of Astronomy and Physics is the aim of an \$8 million project that would involve remodelling the east wing of the Old Chemistry Building and construction of a new center section.

Other projects being planned include a \$3 million teaching facility for the Department of Zoology and a \$16.8 million Medical Center. Beyond that, a multi-purpose campus community center to be built on the site of the Red Gym, expansion of the Memorial Library to include the area presently occupied by the University Book Store, a landscaped mall to replace Murray Street between State and Johnson Streets, a parking ramp in the 900 block of University Avenue, and a recreation area from Dayton Street to the Illinois Central RR tracks have been proposed as future projects.

All this may seem a little hard to comprehend. It helps to remember that Old Chemistry was once New Chemistry and that the construction sites that fascinate us today will be just other buildings to next year's freshmen.

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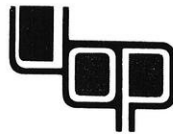
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February 17, 18 & 19, 1969



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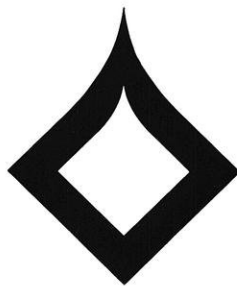
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EQUAL OPPORTUNITY EMPLOYER

Hockey at Wisconsin

by Dean Connor

The University of Wisconsin's ice hockey team was the highest scoring college team in the nation last year. Bob Johnson, starting his third year as the Badger coach, has lined up a 34-game schedule that is by far the most demanding in the history of the sport at Wisconsin. The Badgers will face all of the Western Collegiate Hockey Association (WCHA) teams at least once; Ivy League power Pennsylvania; the best of the country's independent teams; and compete in two outstanding tournaments — the Big Ten to be held here in late December and the Great Lakes Invitation meet at Detroit.

Johnson has assembled what should be Wisconsin's best hockey

team to meet this competition. The Badgers will have more top prospects than ever with 27 players, including 13 lettermen.

The Badgers will be strong in the nets as last year's most valuable player, Bob Vroman, returns. As a sophomore Vroman played a key role in Wisconsin's 21-10 season — he had a stop percentage of .888 and one shutout. Behind the Bloomington, Minn., junior are three top sophomores — Wayne Thomas, Ottawa, Ontario, Canada; John Anderson, Madison and Gary Engberg, Glenview, Ill.

Defensively, the Badgers may be weaker for the loss of Captain Tony Metro and lettermen John Moran and Ron Rutlin, but the slack should be taken up by sophomores John



Dean Connor is a Junior in Mechanical Engineering and lives in Madison. He plays defense on the hockey team.

Jagger, Sault Ste. Marie, Ontario and Dan Gilchrist, Yellowknife, Northwest Territories.

The defense will be built around two big, fast juniors, Doug McFadyen and Chuck Burroughs. McFadyen is not only outstanding behind the blue line, but handles himself well at the other end of the ice, too. The 6-4 Calgary, Alberta native ranked third in scoring last year with 35 points and 27 assists.

Burroughs, from Minneapolis (Southwest), is rugged in the corners and around the goal mouth and last year scored seven goals and assisted on five others. Seniors Bob Leever and Mike Gleffe, switched from forward where he scored 38 points in two seasons of play, along with myself, round out the defense.

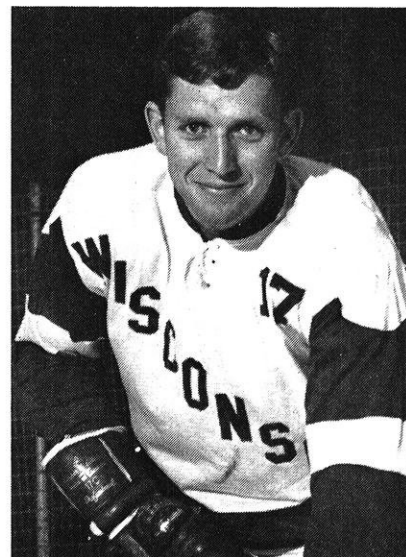
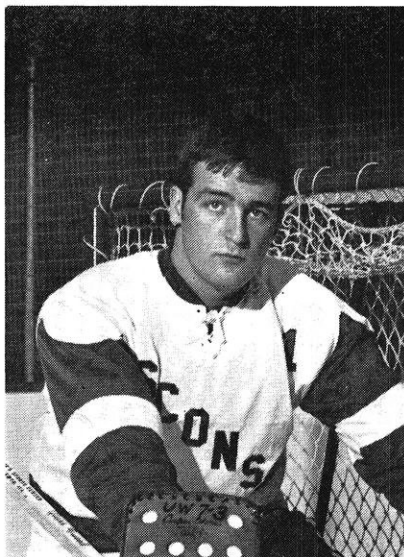
The Badgers left little to be desired on offense last season as they scored an amazing 218 goals in 31 games — an average of seven per game — and seven of the top scorers return.

The center position is the backbone of the offense, and the Badgers should be especially strong there this year. Bert DeHate was the nation's top scorer and set all kinds of Wisconsin school marks with 47 goals and 30 assists for 77 points. He recorded seven "hat" tricks and scored at least one goal in eight

Possible top scorers on this year's team, all from Calgary, Alberta Canada. Left to right: Bob Poffenroth, Murrie Heatly, Jim Boyd, Doug MacFayden.



Sophomores that I feel will improve Hockey at Wisconsin: Top left: Wayne Thomas, Ottawa, Ontario, Canada; top right: Jim Boyd, Calgary, Alberta, Canada; middle: John Jagger, Saute Saint Marie, Ontario, Canada; bottom: Murrie Heatley, Calgary, Alberta, Canada.



consecutive games. In thirteen games against WCHA competition DeHate scored 10 goals and had six assists, including the winning goal in both victories over Colorado College. He co-captains the 1968-69 team.

A second Wisconsin line will be centered by Calgary speedster Bob Poffenroth who ranked as the team's second top scorer with 30 goals and a record setting total of 34 assists as a sophomore last year. The third line will be centered by sophomore Jim Boyd, also from Calgary.

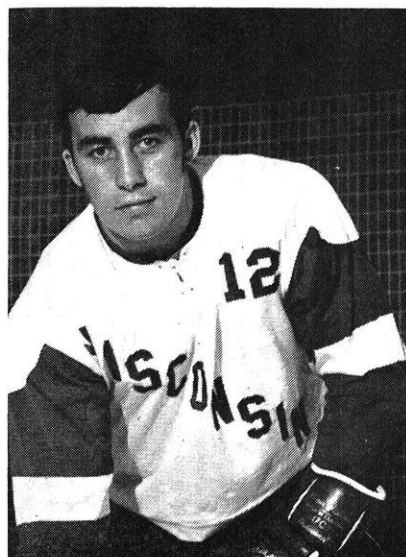
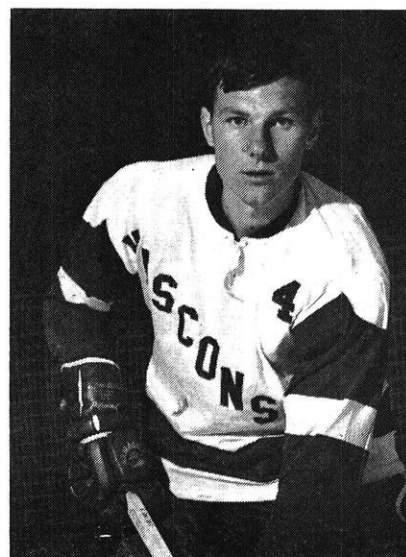
Six lettermen wings return but they will be under heavy pressure from several highly touted newcomers as Johnson hopes to get more scoring from the wings. Last year's regulars Dick Klipsic (14 goals, 20 assists), Mike Cowan (10 goals, 20 assists), Dave Smith (9 goals, 18 assists), co-captain Mark Fitzgerald (8 goals, 16 assists) and Greg Nelson (14 goals, 6 assists) all return as does 1967 "W" award winner Don Young

who did not compete last year. Two juniors who did not play last season will be in the thick of things this season — flashy Murray Heatley of Calgary and Ken Weiss, Shaker Heights, Ohio. Sophomores bidding for positions include Matt Tochterman, Green Bay; Stu Henrickson, Birchdale, Minn.; and John Lloyd, Libertyville, Ill.

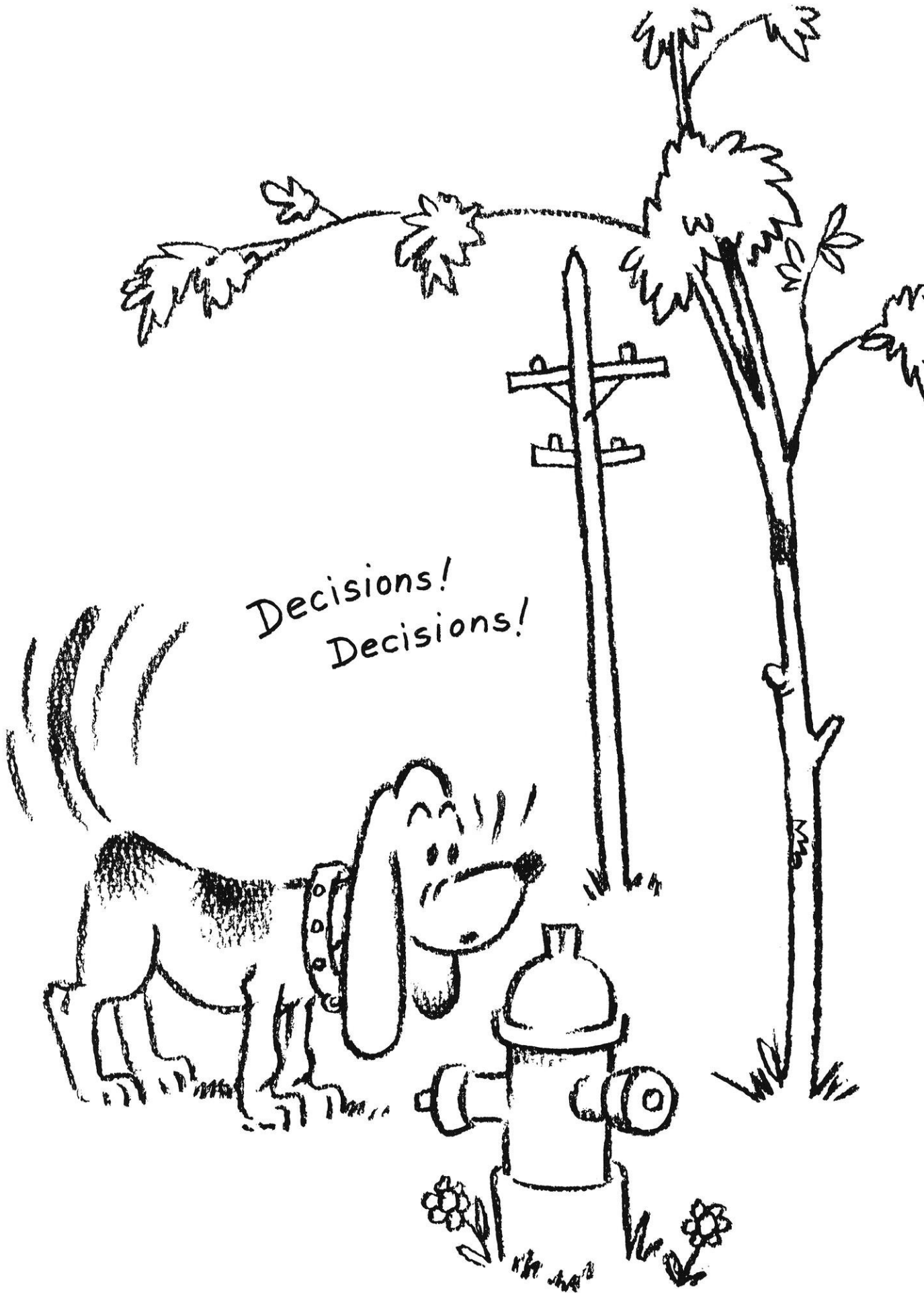
The Badgers have posted 16-10 and 21-10 winning seasons under Johnson's guidance the past two years and the outlook appears good for the Badgers to continue winning.

Since resuming collegiate ice hockey competition five years ago the Badgers have posted an overall winning record of 71 wins, 43 defeats and three ties.

The home schedule calls for ten games at the Coliseum and five at Hartmeyer Arena and the Badgers will also be hosts for the second annual Big Ten Ice Hockey Championship meet at the Coliseum on December 26-27-28.



University of Wisconsin	1968-69 Hockey Schedule
Dec. 13—North Dakota at Madison (Coliseum)	Jan. 25—Ohio State at Madison (Hartmeyer)
Dec. 14—North Dakota at Madison (Coliseum)	Jan. 28—at Bowling Green
Dec. 20 through 21—Great Lakes Invitational at Detroit, Mich. State, Mich. Tech. (Michigan)	Jan. 29—at Ohio State
Dec. 26 through 28—Big Ten Tournament at Madison (Minnesota, Michigan, Mich. State, Ohio State) (Coliseum)	Jan. 30—at Notre Dame
Jan. 3—Colorado College at Madison (Coliseum)	Jan. 31—at Notre Dame
Jan. 4—Colorado College at Madison (Coliseum)	Feb. 7—at Michigan State
Jan. 8—Minnesota at Madison (Coliseum)	Feb. 8—at Michigan State
Jan. 11—Ohio University at Madison (Coliseum)	Feb. 15—Notre Dame at Madison (Hartmeyer)
	Feb. 21—at Ohio University
	Feb. 22—at Ohio University
	Feb. 28—at Michigan
	Mar. 1—at Michigan
	Mar. 8—Lake Forest at Madison (Hartmeyer)
	Home games begin at 7:30 p.m.



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What Are Freshmen Engineers Thinking?

Editor's note: Over 340 Freshmen Engineers respond to the questionnaire printed below that Abby modelled after the Choice '68 poll taken last spring. Here she compares the results of the two polls.

by Abby Trueblood

In analyzing the answers given by Engineering Freshmen here at Wisconsin and those given by students answering the Choice '68 poll, one must take into account differing factors operating in the two polls. The most obvious difference be-

tween the two concerns the sample of people polled. In Choice '68, students of all disciplines, all over the country, and in all levels of college study were polled. In our survey, only Freshman Engineering students at the University of Wisconsin

participated. Consequently, there is not only a difference in the nature of the students' concentrated area of study, but there is a far narrower range of ages in our poll.

Another factor we must consider is the time element. Choice '68 was taken on April 29, 1968, while our poll was taken six months later. In those six months there was, undoubtedly, a good deal which took place in the nation and in the world which may have affected the thinking reflected in the later poll. There were the party conventions which had, by this time, nominated candidates and sent them out campaigning. With the narrowing of the spectrum of possible candidates and the repeated emphasis given certain issues, one might find his perspective on certain issues also narrowed. In other words, the people taking this poll may reflect changes in the political scene since the Spring of 1968.

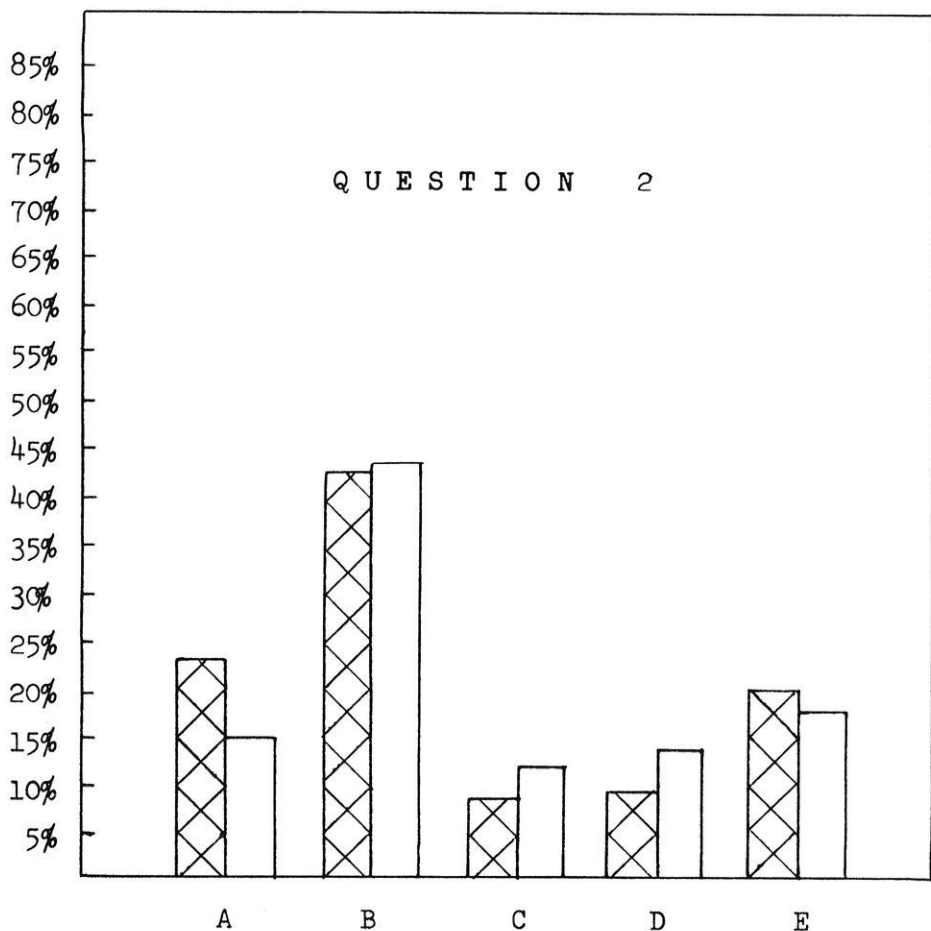
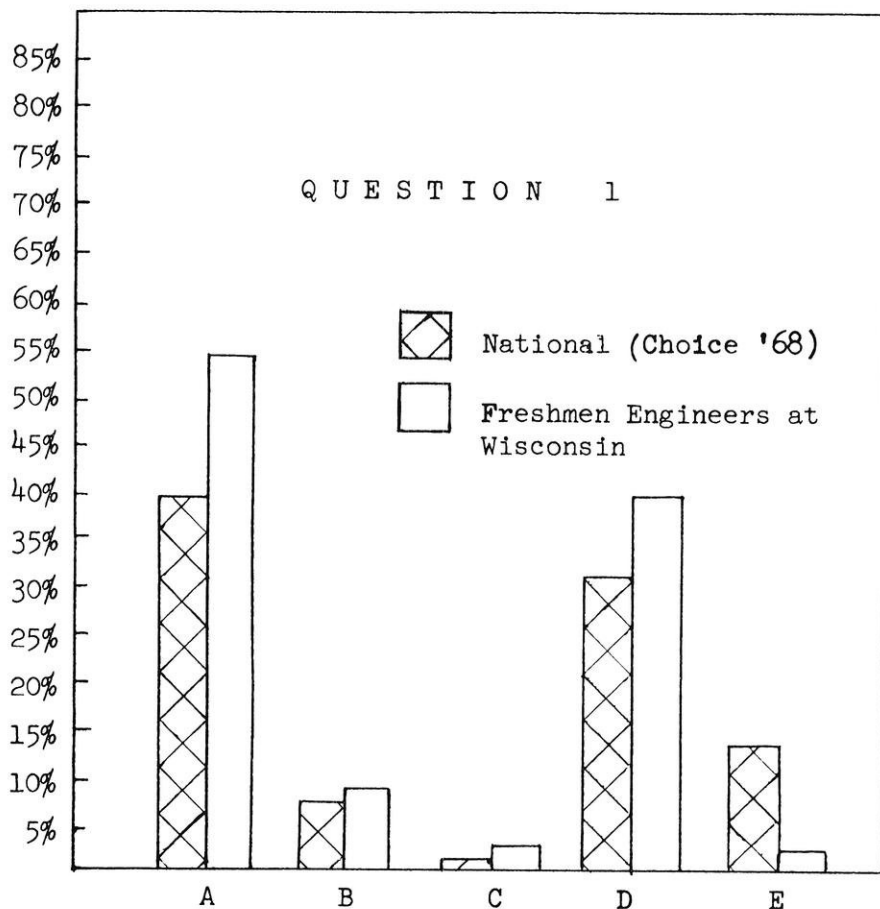
The question of changing issues may have played a large role here. In the Spring *the* issue was Viet Nam, and, hence, the candidacy of Eugene McCarthy, Nelson Rockefeller, and Robert Kennedy. The murders of Dr. King and Senator Kennedy, particularly with the disturbances following Dr. King's death, began the shift to new issues. By the summer of 1968, when the candidates were out campaigning in their pre-convention efforts, most of them had stopped talking about Viet Nam and had replaced that topic with other issues, one of which was "law and order." Confrontations between police and demonstrators in Chicago during the Democratic Convention (see Question 4), marked the final turn away from

1. In confronting what has been called the "urban crisis," which should receive the highest priority in government spending?
 - A. education
 - B. housing
 - C. income subsidy
 - D. job training
 - E. riot control
2. What course of action should the United States pursue in Viet Nam?
 - A. withdrawal
 - B. phased withdrawal
 - C. maintain current level
 - D. intensify military activity
 - E. "all-out" military effort
3. What course of action should the United States pursue in regard to the bombing of North Viet Nam?
 - A. permanent cessation
 - B. temporary suspension
 - C. maintain current level
 - D. intensify
 - E. nuclear weapons
4. How do you evaluate the handling of the demonstrations during the Democratic Convention in Chicago?
 - A. the police should be commended for excellent handling of the situation
 - B. the police did as well as could be expected, given the circumstances
 - C. the police were badly trained
 - D. the police should be condemned for their actions
5. If you were eligible to vote in this year's Presidential election, how would you cast your vote?
 - A. Humphrey
 - B. Nixon
 - C. Wallace
 - D. Halstad
 - E. Blomen
 - F. Cleaver
 - G. Gregory
 - H. Other (SPECIFY)
 - I. I would choose *not* to vote in this election.

emphasis on Viet Nam to that of riots and the keeping of national tranquility. Even with the renewed interest in the war following the bombing halt in the North, the overriding concern of millions of Americans had apparently been shifted to other issues.

Both sets of answers to Questions 2 and 3 indicate that a dissatisfaction with the war effort has continued among students from the Spring to the present. This is indicated in our poll by the small percentage of people opting for the choices which read "maintain current level".

We cannot, unfortunately, tell explicitly from our poll which particular issue is the most crucial one for these Freshman Engineers, but the following may serve as some indication: Not everyone who participated in the polling answered every question, consequently, the number of people answering questions 1-4, although close, varied somewhat. Of the four questions we asked, the fourth (that concerned with the handling of the demonstrations by the Chicago police), had the greatest response.



We are left with a question unanswered; for those answering the fourth question, which was foremost in their minds: the issue of law and order (the demonstrators versus the police), or the fact that the demonstrations were to protest the war and the fact that the war issue was being played down by both major political parties (doves versus hawks)? It would seem logical that those who indicated that they were displeased with police action in Chicago would tend to be more "dovish" in their answers to questions 2 and 3, while those tending to approve of the action by the police would either be 1. more hawkish on Viet Nam and/or 2. more concerned in general with the issue of law and order, a fact which could be calculated from their answers to Question 1, where "riot control" is one of the choices.

A cross-checking of the answers indicated that the prediction made above was reasonable. For those who checked "A" for Question 4 ("the police should be commended..."), their answers to questions 2 and 3 were as follows:

(continued on next page)

1. on Question 2; 72% checked "D" or "E," 11% checked "C," and 17% checked "A" or "B"
2. on Question 3; 69% answered "D" or "E," 6% checked "C," and 25% checked "A" or "B"

For those who condemned police action in Chicago ("D" on Question 4), their answers for the same two questions were as follows:

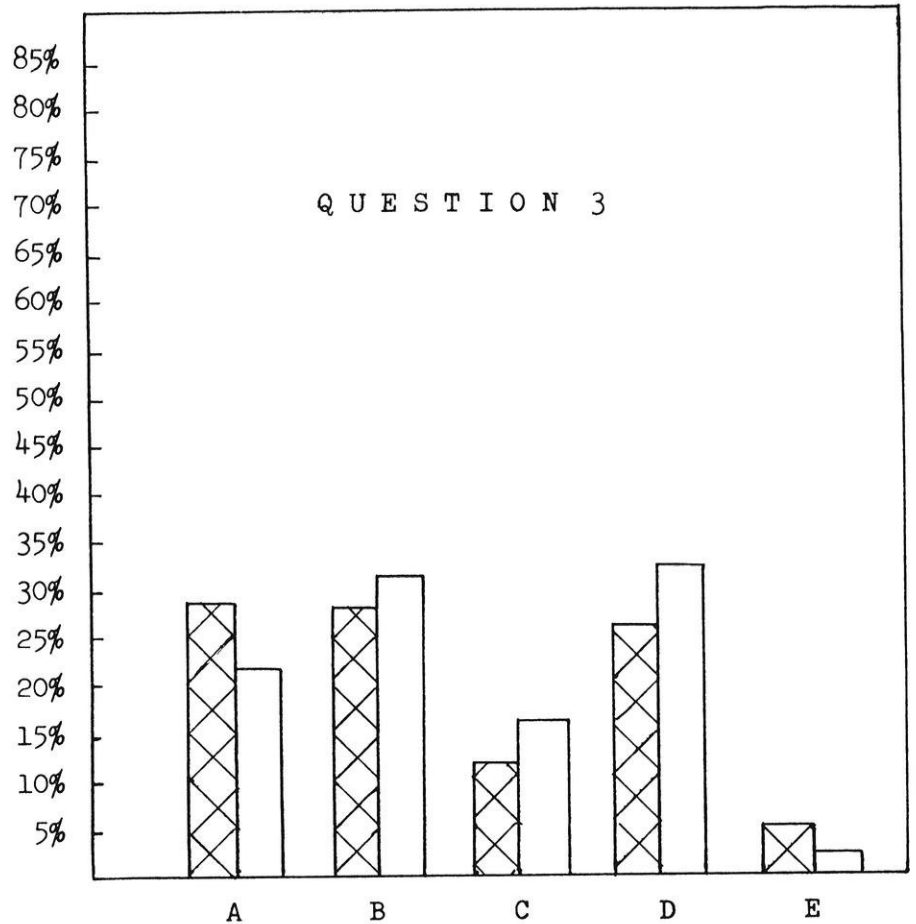
1. on Question 2; 74% checked "A" or "B," 9% "C," and 17% "D" or "E"
2. on Question 3; 69% answered "A" or "B," 12% "C," and 19% "D" or "E."

The analysis also proved correct when looking at the other answers given by people who had checked "riot control" ("E" for Question 1). For these people, the answers for the rest of the questions were as follows:

1. on Question 2; 37% checked "A" or "B," none checked "C," and 63% checked "D" or "E"
2. on Question 3; 27% answered "A" or "B," 9% "C," and 64% "D" or "E"
3. on Question 4; 91% checked "A" or "B," 9% "D," and none checked "C"

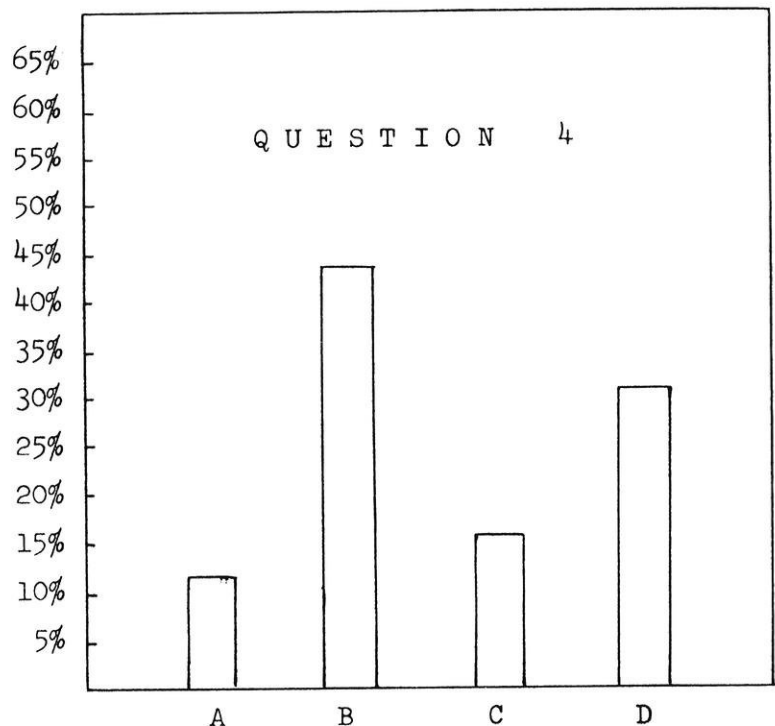
The correlation between those who place emphasis on riot control as a solution to urban problems and those who approved of the police action in Chicago is very high. Correlation with regard to answers on Viet Nam is not as high, but, as a rule, those people who place priority on riot control tend to be more hawkish on the war issue. Using the answer for Question 4 vis-a-vis those for 2 and 3 make the last point more strongly. Persons taking this poll who approved of police action in Chicago tend to be far more hawkish on the war than those who would condemn the police action.

I do not intend to say much about Question 1. In a way, I regret including it on the poll, for, I feel the question is ambiguous, and if any of you felt confused about whatever it was asking, I felt the same confusion as I wrote it on the ditto. Therefore, for the most part I am unable to make any clear statements from the answers. Riot control is, I think, an exception to this, for I have al-



ready indicated the close connection between emphasis on riot control and the certain other political opinions. The other choices are not clear, primarily because they are not mutually exclusive of each other. For example, job training could be construed to be a form of education,

which is another choice on this question. Although job training seems to be directed at an older group than education might be, and more specifically, it seems to be directed at male "education," the two are not far enough apart to be able to draw
(continued on page 36)



The Election in Retrospect

by Abby Trueblood

There is apt to be a good deal of time devoted to political analysis of this election, and there is also apt to be much dispute among those doing the analyzing. Clearly, there were in this election a variety of influences and cross-pressures operating to confuse the meaning of the vote. In addition, there are a number of interesting questions to be raised about the election and the role played by certain people, events, and so on. We can, I think, raise some of those questions here and engage in a little political evaluation.

The Effect of Governor Agnew

Until the election was over, many observers had concluded that Spiro Agnew had proven to be a noose around Nixon's neck. He was (and he admits it) inexperienced at campaigning, and, consequently, he frequently made statements which he was later to regret. This had been thought to hurt Nixon, but apparently the offensive remarks made by Governor Agnew caused the most stir among those who were less inclined to vote for the Republicans in the first place.

Governor Agnew was, in the long run, a political gamble which paid off for Mr. Nixon. Nixon knew that most of the deep South was lost from the beginning to Mr. Wallace, but he also knew that he had better than a fighting chance in several of

the border states and some of the Southern states. When Nixon picked Agnew, a man who had been elected Governor of Maryland because of a peculiar split in the Democratic party, he made an open bid to challenge Wallace in the border states.

As we all know, the gamble paid off, for on election night a startled George Wallace saw Florida, Kentucky, North Carolina, South Carolina, Tennessee, and Virginia go to Nixon. It marked a considerable triumph for Nixon, but one for which he had obviously been prepared by choosing to run with Governor Agnew, a little known border state governor who had pledged to stamp out rioters. The enormous victory for Nixon in this part of the country could not even be offset by the ironic fact that the state of Maryland sneaked into the Humphrey camp.

The Effect of Senator Muskie

Senator Muskie, it has been said from the beginning, greatly enhanced the Democratic ticket. Many party "dissidents" came back to vote for Humphrey on the appeal of his running mate. It is not clear where, geographically, Muskie aided Humphrey the most. Yet, he was largely responsible for adding Maine's four electoral votes to the Democrats' column, which is no mean feat when one considers how traditionally Republican the state of Maine is.

One cannot assess the effect Senator Muskie actually had in terms of adding votes for Humphrey, but verbal indications are that he did help his running mate greatly. There have been those who have said in retrospect that there was only one winner in this election, and that winner was Senator Muskie.

Mr. Wallace and the Election

George Wallace's candidacy is apt to be a continuing topic for discussion, and it has already produced comments which range from "Wallace is through" to "Watch out for Wallace in the next election." There is, I think, a bit of the truth in both remarks.

Wallace is probably not "through," primarily because he doesn't appear to be a man to give up easily. He did, after all, enter the race with great odds against him, although it is generally agreed that Wallace was fully aware from the outset that he could not hope to win the Presidency. He was, however, looking for a bigger share of the vote than he received. The loss of the border states to Nixon was a severe defeat for his party. In addition to this, his very small percentage of the vote in Northern states was unexpected.

It had been assumed that, in certain industrial states, Wallace would pick up a fairly large percentage of the labor vote. Had this happened, Humphrey's vote would have been reduced in the Northern states, and he could have been prevented from carrying some of them (for example, Pennsylvania and Michigan). It is most likely that Wallace did more damage to Humphrey's effort than to Nixon's, for he did pocket some of the traditionally Democratic labor vote, and, by losing the border states to Nixon, he indirectly hurt Humphrey. There was at least one interesting case of Wallace working to hurt Mr. Nixon: this was the surprising vote in the state of Maryland, which had been assumed to be "sure" for Nixon.

(continued on page 37)



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THE WISCONSIN ENGINEER

Monterrey Tec Students at the University of Wisconsin

by Mrs. Bonnie Kienitz, Program Coordinator

The Wisconsin-Monterrey Tec Program began in 1961 when seven junior year engineering students went to Monterrey, Mexico to study at El Instituto Tecnológico y de Estudios Superiores de Monterrey for a year. Since 1963 the program has been one of true exchange in that Monterrey Tec, or I.T.E.S.M. as it is sometimes called, annually sends several undergraduates to the University of Wisconsin College of Engineering at Madison. In addition, they have been sending some of their junior faculty members here to study for higher degrees.

This year the Tec has five of its undergraduate engineering students on our campus and living in the university dormitories. Three of them are studying electrical engineering, and their homes are in Monterrey, Nuevo Leon State, Mexico, where the Tec is located. The other two are

studying chemical engineering. One of them lives in Guadalajara in the state of Jalisco, and the other is from Mexico City.

The student whose home is in Mexico City is the first young lady to participate in the program. She is finding life in Elizabeth Waters Hall on our campus very different from the place where she lived last year while a student at the Tec. "There are about twenty or twenty-five girls studying engineering at the Tec and I think most of them are in Chem Engineering, as I am," Miss Morales said, when interviewed on campus several weeks ago. "Madison is such a beautiful city and the university campus such a marvelous place, I don't think I will ever want to leave it," she continued.

Andres Alba, the other chemical engineering student, already felt well acquainted when classes began

in the fall because he had spent the summer on campus studying English in the summer language institute run by the university. "This place is great," he said, "but I will have to study very hard here, and how will I have time when there are so many other things to do in Madison?" He lives in Ogg Hall and has for his roommate Bruce Tackes, an engineering student who plans to attend the Tec next year on the Wisconsin-Monterrey Tec Program.

Ricardo Guajardo, Fernando Villarreal and David Villarreal (they are not related to one another) are also glad to be at the University of Wisconsin this year. In some ways they find the system of education quite different from their own campus. There is more homework to do, and the exams are somewhat different. They also find that dormitory life is much more organized here than on the Tec campus. They are looking forward to the snow and ice of winter. Although it gets cold in Monterrey, snow is rarely seen, and it is never cold enough for ice skating or any of the winter sports we are accustomed to here. Fernando lives in Adams Hall, and his roommate Dave Thurow plans to go to the Tec next year. David and Ricardo both live in Sullivan Hall.

All five of the students were unanimous on one point: "We were all too busy to watch the Olympic Games on television." In Mexico all schools, including the Tec were dismissed for the last week of the games so that the students could go to Mexico City and attend, if they could get tickets. The time lost was made up by having Saturday classes for five sessions.



Visiting students are, from left to right, David Villarreal, Andres Alba, Laura Morales, Ricardo Guajardo, and Fernando Villarreal.





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DISPOSABLE HOUSING

As a solution to the problem of urban blight

Houses should be mass-produced, inhabited until blighted or obsolete, then scrapped, says urban planner Barrie Greenbie.

Modern technology has made it feasible to replace buildings one at a time without destroying a neighborhood, he claims.

In calling for a new approach to low- and medium-cost housing, Greenbie maintains that a home should be as disposable and replaceable as any other product of modern industry.

Urban blight can be checked and neighborhoods kept healthy by replacing decaying homes with prefabricated houses, he says. The "prefabs" in turn can be replaced as they deteriorate.

This would eliminate the need for much large-scale slum clearance — an approach to urban decay sharply criticized for uprooting families, breaking up social and ethnic communities, and often leaving wastelands of rubble and weed.

Greenbie hopes that a family will soon have the choice of moving into a new subdivision or of installing an attractive prefab on the site or even the foundation of its old home.

Until the idea of disposable hous-

ing catches on, most residents of older areas will have to move to obtain better housing, because remodeling is considerably more expensive than new construction, he says. This explains in part why one American in five moves each year—nearly the same rate at which cars are traded.

In a survey of 127 Madison, Wis., homeowners who changed their residence, Greenbie found that the majority was primarily interested in finding a better house, as opposed to a better neighborhood or a better "way of life."

The survey was financed by the University of Wisconsin's Pilot Project in Environmental Sciences in cooperation with the Department of Urban and Regional Planning. It was conducted by the University's Survey Research Laboratory under Greenbie's direction.

While his findings coincided with similar studies conducted in Toronto, Philadelphia, Salt Lake City and Levittown, Pa., Greenbie went one step further by asking 35 homeowners in the Wingra Park area and 92 in the Greentree, Meadowwood and Orchard Ridge subdivisions this question:

"Suppose it had been possible for you to have a new house put up in your former neighborhood. Would you have stayed where you were?"

"Yes" was the reply of 42 per cent of the owners interviewed in the subdivisions, built since 1950 in Madison's southwest corner.

Forty per cent of the Wingra Park homeowners said they would have remained where they were—despite the fact that the Madison Planning Department found blight in the area's housing, most of which predates World War I.

This area adjoins the University of Wisconsin campus, encompasses the Triangle Renewal area and is bounded by Regent St. on the north, Monroe St. on the northwest, Edgewood Ave. on the southwest, Lake Wingra and the University Arboretum on the south, Monona Bay on the southeast and Proudfit St. on the northwest.

While his study reveals an entirely new application of prefab housing, such a development would be stymied by old-fashioned building codes, dated restrictions by the FHA

(continued on next page)

and other lending agencies, opposition of building trade unions, and "popular prejudice," Greenbie says.

He admits prefabrication still has a bad image, but insists that "it is only a way of making buildings and has nothing to do with looks or quality as such."

Prefabrication—the industrial production of building materials or entire structures — is not a new concept, according to Greenbie. Bricks, the simplest prefab "components" of all, date from ancient times. The Franklin stove, said to have been invented by Benjamin Franklin, represents a prefab fireplace. Thanks to prefabricated frames, many of New England's barns have stood for 100 years or more.

Since World War II a number of prefab manufacturers have had some success, mostly in the Midwest, with relatively conventional homes, produced in various combinations of precut and preassem-

bled components. These cost from \$15,000 to \$25,000 and are rarely cheaper than site-built homes.

"The only way prefabrication of housing units can achieve meaningful economies is in factory assembly of structures complete with plumbing, heating, wiring and mechanical equipment and designed for a minimum of site work," says Greenbie. "In effect, this is what mobile-home manufacturers have succeeded in doing."

As a result, one out of every five single-family housing units started in 1966 was a mobile home, despite zoning rebuffs by city fathers who regard mobile-home parks as undesirable trailer camps or "Hoovervilles" on wheels.

Some prefab manufacturers, aware of the mobile-home boom, are adopting mobile manufacturing techniques to produce units with fully-equipped kitchens and bathrooms.

They have been encouraged by the wide acclaim of Habitat at Mon-

treau's Expo '67. Habitat is simply a stack of completely prefabricated apartment units, explains Greenbie.

While mass production of complete houses shows promise, the cost of transporting bulky units is a major drawback. Greenbie has been trying to solve this problem for the last 10 years.

He recently patented a folding prefab house which he expects can be erected by four men in less than a day, using its framework as a crane.

Convinced that factory-built housing is the answer to many urban housing problems, Greenbie recognizes, nevertheless, the conservatism of the homebuyer and other obstacles to disposable prefabs.

His reply to one objection to factory-built housing—the monotony of a neighborhood of prefabs—is that New England villages derive their charm from just five basic home designs.

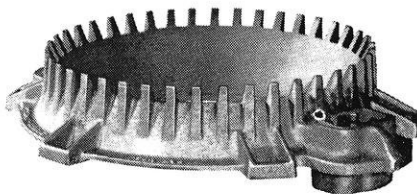
FREEDOM OF SHAPE...

One of the outstanding advantages of Malleable Iron Castings

Casting is the simplest and most direct way of creating form and shape with metal. Casting offers almost unlimited freedom to the designer. A cast design is not restricted by sizes or shapes of mill stock, accessibility of tools, withdrawal allowances for dies, or other limitations. Complex shapes, interior cavities, and streamlined contours, which would be difficult or impossible to create with other methods, are simple with a casting.

For instance, consider the complexity of creating the dozens of teeth, lugs, holes and collars on this pipe repair clamp. It

would be prohibitively expensive to produce by any method other than casting. By using the casting process for economy,

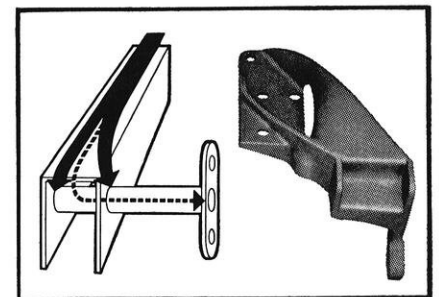


and Malleable iron for strength and ductility, these clamps combine service and value.

The design freedom made possible by

casting also helps to make parts stronger. Metal components tolerate loads better if they are designed to distribute stresses efficiently. Sharp corners or other abrupt sectional changes tend to restrict the uniform distribution of these stresses. The corner thus becomes a logical site of fatigue failure. In a casting, it is a simple matter to round out corners, blend sections and taper connecting members to achieve a design which will distribute stresses.

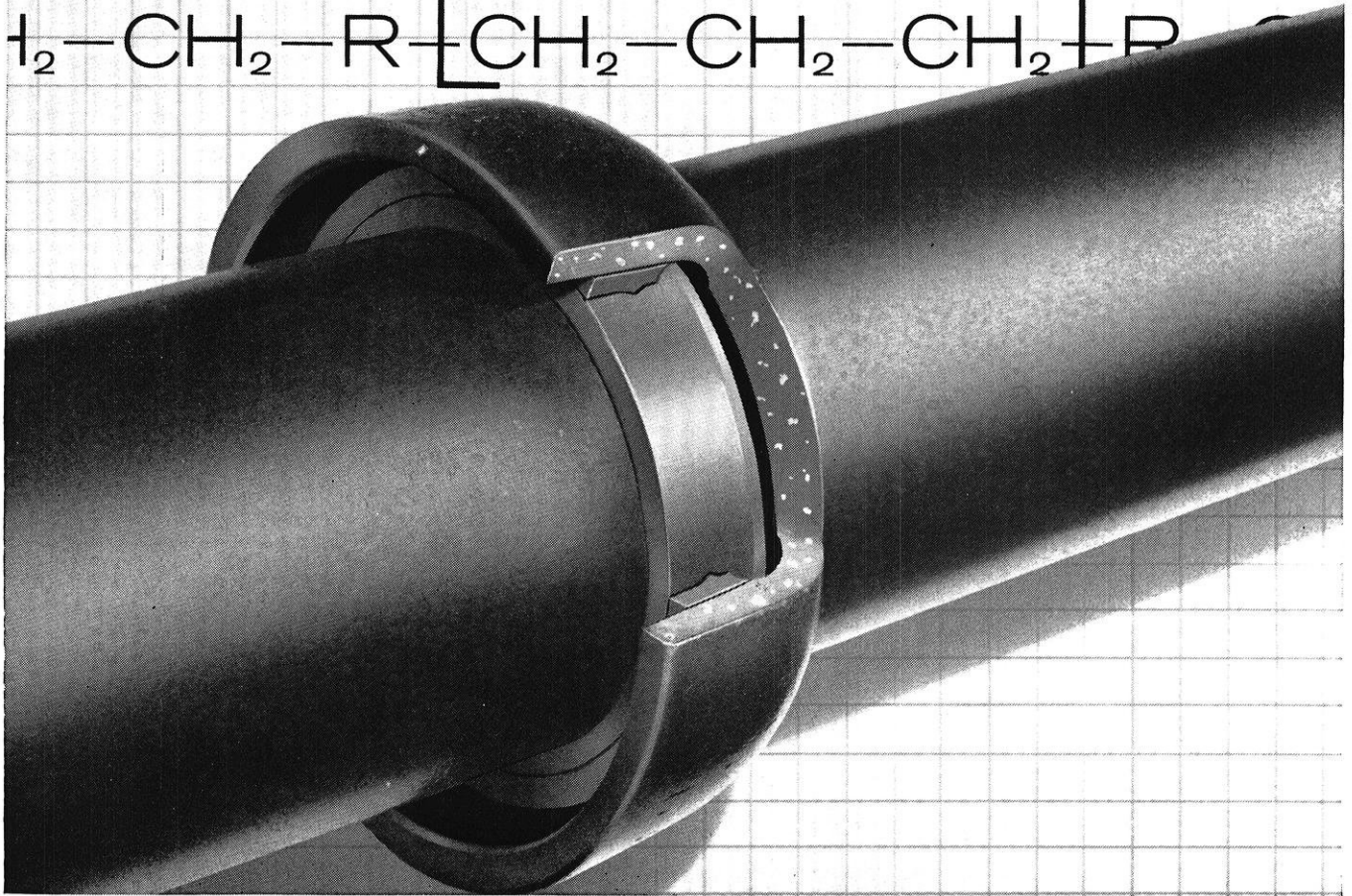
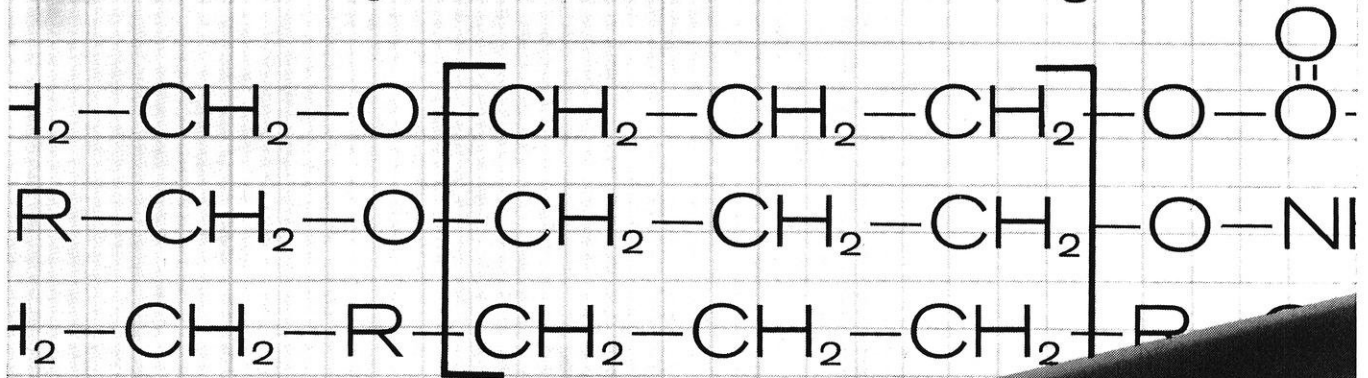
The illustration shows how stresses "set up" at sharp corners. A much smoother transfer of stresses was achieved when this part was switched to a Malleable casting (shown on the right).



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It has more "fight back," too. Stress relaxation tests prove this . . . and proves the urethane Coupling provides a tight joint indefinitely.

Dickey urethane will not flow. There is no way for the joint to "thin out" at the bottom and

eventually leak. Not so with other materials.

Hardness of the Dickey urethane Coupling is stable. It assembles just as easy at 25° as it does at 110°. Varying temperatures have no effect.

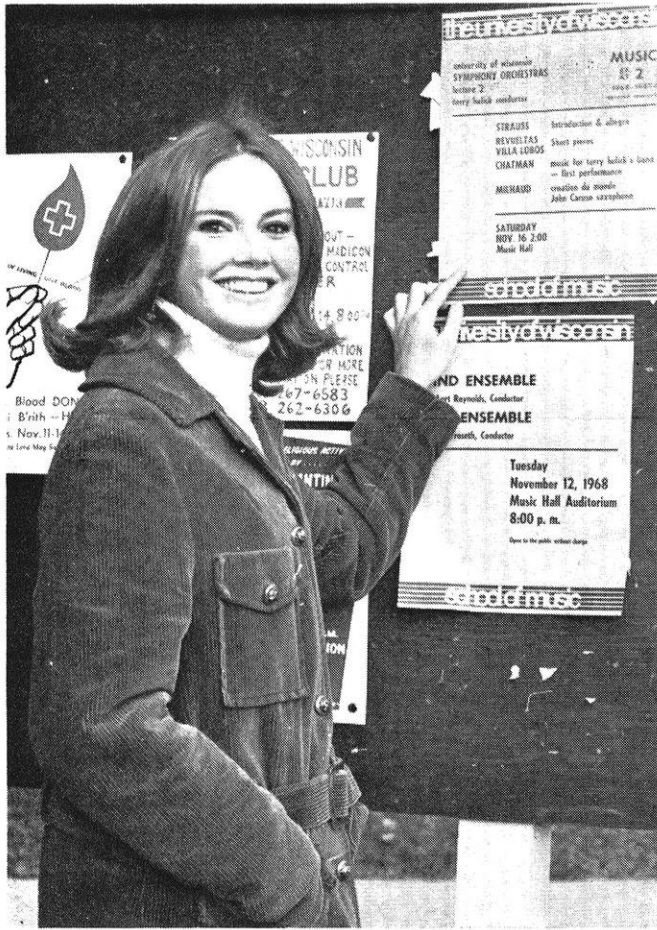
It's biologically resistant and not subject to attacks of acids and alkalis commonly found in sanitary sewers. Not so with other materials.

For more information about the Dickey urethane Coupling, contact these Dickey offices: Birmingham, Alabama; Ft. Dodge, Iowa; Kansas City, Missouri; Meridian, Mississippi; St. Louis, Missouri; San Antonio, Texas; Texarkana, Texas-Arkansas.

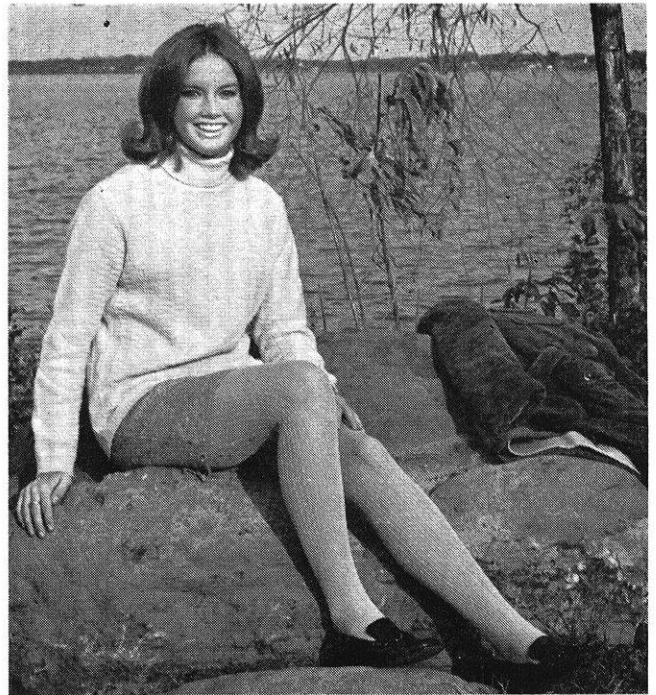
W. S. DICKEY



CLAY MFG. CO.



Photos by Bruce Pease



Our "honorary engineer" for December is pretty Robin Gilligan. A sophomore majoring in child psychology, she hopes to eventually work with underprivileged young people.

Robin loves to participate in all outdoor activities. During the summer, she works as a camp counselor teaching her specialty, water skiing. It goes without saying that Robin would be a most welcome counselor at the summer surveying camp, since the Civil Engineers often are bored with excess leisure time.

A transfer student this semester, Robin is much impressed with the beauty of the Madison campus and the many exciting things one can do here. Her fair features and charming personality made Robin a natural selection for a Homecoming Queen candidate this Fall.



Robin Gilligan **wisconsin's** finest



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**Paul E. Grunau
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Milwaukee, Wisconsin 53207**

(continued from page 26)

meaningful analysis from them. The answers are, in short, difficult to "rank" according to political belief.

Consequently, I will leave the further interpretation of these results as a task for the more astute reader to grapple with.



**PRESIDENTIAL
PREFERENCE POLL**

Humphrey	26%
Nixon	40%
Wallace	7%
Halstad	*
Blomen	0%
Cleaver	1%
Gregory	1%
Rockefeller	*
McCarthy	9%
Paulsen	7%
Lindsey	*
Ted Kennedy	*
Fulbright	*
Muskie	*
H. Hoover	*
Buckley	*
Dean Lydell	*

Would not vote in this election 8%

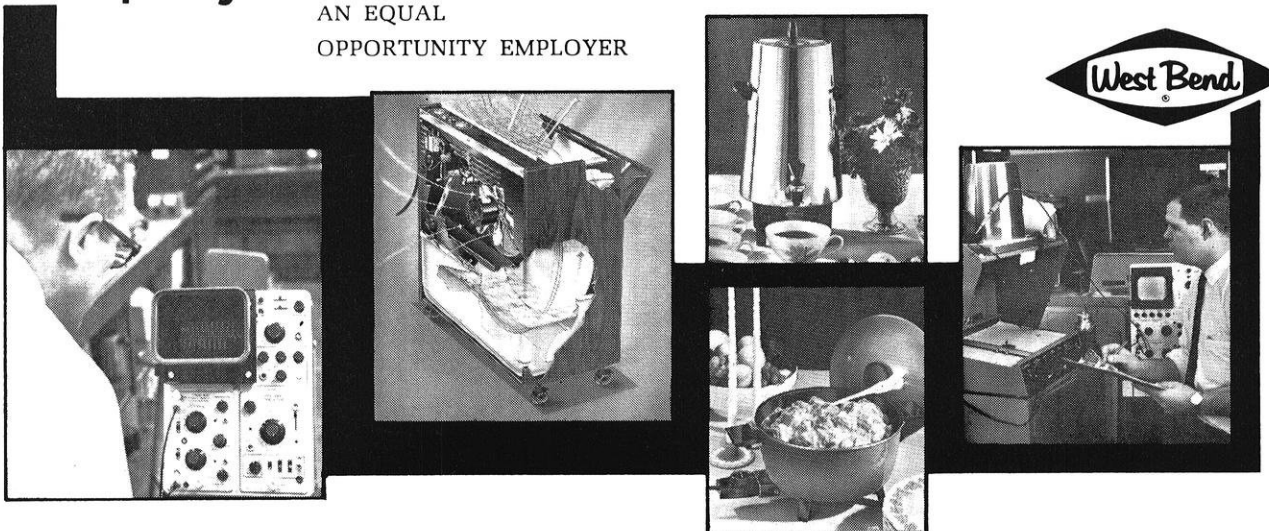
*Votes totalling less than one percent.

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with a
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company

Though housewares is one of the nation's fastest-growing, most exciting industries, The West Bend Company's growth has far exceeded the industry's average. The reason. In an industry that thrives on the "new", West Bend . . . through the efforts of an energetic and talented "creative" engineering department . . . has led all others in new product development. This constant search for new products and methods makes an engineer's life at West Bend an ever challenging and rewarding experience. At West Bend, engineers receive this exciting bonus, too. They know that the products they create will be used to make the everyday lives of people throughout the world more enjoyable. For more information, write to: Mr. E. W. Neumann, Personnel Manager, The West Bend Company, West Bend, Wis. 53095.

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(continued from page 27)

The War Issue

By the time the election was taking place, the war issue had been replaced by that of "law and order" as the key political issue and, at least in the Presidential campaign, the war did not occupy a position of high priority. There are all kinds of reasons that can be cited to explain this shift away from what had been the most important national issue just six months ago.

One of these reasons could be that voters think it "un-American" to criticize or even discuss the merits of a war in which they are engaged at the time of a national election. The candidates themselves announced that they would do nothing to disturb the peace talks in Paris and consequently concentrated their "debate" on other issues. Without questioning the merits of this reasoning, we may still consider it a possible explanation for the electorate's behavior.

Splitting up the Vote

The large number of Democrats, including several "dissenting" Democrats, who were elected this year indicates two things about the election. First of all, it serves as an indication that there was not a Republican landslide (the fact that Nixon only received a plurality of the votes also shows this). In the second place, it shows that there was an unusually high number of people who were voting a "split-ticket" — i.e. not voting for candidates who are all of the same party.

Arkansas was an outstanding example of this kind of voting behavior with a very complex split-ticket voting trend. In that state, the Republican governor was re-elected, the Democratic (and very dovish) Senator Fulbright was returned to the Senate, and the state voted for George Wallace for President. Evidently there were a large number of people who were voting for three different political parties on one ballot. This is highly unusual.

The splitting of the vote might, on the face of it, appear to be an indication of confusion among the voters. This assertion overlooks something far more important, however, which is that it shows the people who voted, aside from ques-

tions concerning reasoning, were *thinking* about their vote. It takes more time and thought to split a ballot than to pull for a straight (one party) ticket.

This phenomenon reflects the changing positions of the major political parties. There was a time, and not too long ago, when a semi-skilled white laborer from either Detroit or Birmingham would be assumed to be a potential vote for the Democrats. This election showed that this is no longer the case — people no longer find that the major political parties can be completely responsive to special interests. As a result of this, the parties have become more vague on certain issues, and they have moved closer together ideologically. Thus, people are apt to have to hunt around for a group of candidates who they believe will best represent the diverse interests of each individual. With a disintegration of the "traditionally" assumed voters for each party, the two party system itself has been challenged.



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He has been describing, analyzing and evaluating machinery, machine connections and foundations, process piping, etc., estimating value to enable client companies to make sound operating, engineering, and financial decisions. Traveling 70% of the time at company expense, Bob has seen a greater variety of engineering applications than most engineers see in a lifetime. Reviewing his field work at the home office in Milwaukee, he had had direct access to top management viewpoint and direction.

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Tomorrow, Paul Barr may even get to his desk

Paul Barr is a hard man to catch. He may be at the bench sweating over a prototype circuit . . . or have his head under a car lift surveying the built-in problem. He's got lab people hopping and test drivers in and out of spins. A couple of friction experts shake their heads when they see him coming. But wherever development engineering leads on a sophisticated new braking system, Paul Barr's on his way. And no two Mondays ever start alike. The question is . . . can you say the same? Take a good look at how your career shapes up, compared with Paul's and his colleagues' at Delco. You might even call us collect. Area Code 317/459-2808. Or, write: Mr. C. D. Longshore, Supervisor, Salaried Employment, Dept. 400, Delco Radio Division of General Motors, Kokomo, Indiana.

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JOKES

The gorgeous blonde walked into the dress shop and inquired: "May I try on that blue dress in the window?"

"Go ahead," the owner said. "It may help business!"

* * *

Have you heard about the new deodorant called Vanish? It makes you disappear and everyone wonders where the odor is coming from.

* * *

ME Prof: "If you were at the top of a tall building, how could you measure the height, using a barometer?"

Student: "I would tie a rope on the barometer, lower it to the ground, and then measure the rope."

* * *

A lobbyist who was opposing any large appropriation for the University approached a legislator who boasted on his self-education.

"Do you realize," asked the portly lobbyist gravely, "that up at the University men and women students have to use the same curriculum?"

The legislator looked startled.

"And that boys and girls often matriculate together?"

"No!" exclaimed the lawmaker.

The lobbyist came closer and whispered, "And a young lady student can be forced at any time to show a male professor her thesis?"

The legislator shrank back in horror. "I won't vote them a damn cent!"

The only trouble with bucket seats is that everyone doesn't have the same size "bucket."

* * *

M.E.: "I hear the administration is trying to stop drinking."

C.E.: "That so? First thing you know they will be trying to make the students stop too."

* * *

E.E.: If I'm still studying when you come back, wake me up.

* * *

C.E.: "How did you get that scar across the bridge of your nose?"

M.E.: "From glasses."

C.E.: "Why don't you get contact lenses?"

M.E.: "They don't hold enough beer!"

* * *

No man is completely worthless—he can always serve as a horrible example!

* * *

Two C.E.'s each had a horse, but they couldn't decide which one belonged to whom. They cut the mane off one horse so they could recognize him, but it soon grew back. Then they cut the tail off the other one, but it too grew back. Finally, they measured the horses and found that the black one was four inches taller than the white one.

* * *

Coed: "Do you think I'm conceited?"

M.E.: "No, why?"

Coed: "Girls who are as good looking as I am usually are."

A Texas oil man was visiting New York. His city friend showed him all the sights including the Empire State building.

"Isn't that a magnificent structure?" asked his friend.

"Nothing," said the Texan. "I got an outhouse bigger'n that."

The New Yorker looked him over. "You need it!" he retorted.

* * *

She (driving her new car): "Would you like to see where I was vaccinated?"

He (expectantly): "Yes, indeed."

She: "Well, keep your eyes open; and we'll drive by there pretty soon."

* * *

Two mice were launched in a Cape Canaveral missile.

First Mouse: "I'm scared. It's dangerous, you know, this space travel."

Second Mouse: "Yeah, but it beats cancer research."

* * *

Veterans of the South Seas: "While in the Marshalls I saw the craziest bird. It lays square eggs and talks."

Prof.: "What does it say?"

Vet.: "Ouch!"

* * *

Applicant: "I'm Gladys Zell."

Personnel Manager: "I'm happy myself. Have a seat."

* * *

Rumor has it that the prerequisite for ME. 161 is a previous course in ME. 161.



Randy Trost, Wisconsin '67

"I never feel like a rookie"

"Sure it's my first year with B&W, but I've been too busy to think about that. I've been working in my field all along, and the training sort of blends right in."

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out making steam generation equipment. That led to atomic power stations, nuclear marine propulsion equipment, refractories, specialty steel, machine tools, computers, and closed-circuit TV. (And we still make the best boiler in America.)

If you'd like to talk with Randy Trost about B&W, call him collect at our facility in Lynchburg, Virginia, AC 703 846-7371.

In the meantime, be on the lookout for the B&W recruiter when he visits your campus.

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What MECHANICAL ENGINEERS do at Kodak

They design new products and better performance into existing ones, figure out the best possible ways to manufacture the products; apply pure reason through mathematical tools to make physics serve—not oppose—human needs; create the right physical tools, the plants to house them, and the services to keep them functioning; get out into the field, showing customers how to get their money's worth, and bring back word on how to do better in the

future. Some typical assignments are in development of automatic and semi-automatic manufacturing equipment; production-line layout, precision tooling, and materials handling; design and development of control units and instrumentation devices; creative design of scientific, industrial, business, professional, and amateur photographic apparatus; economic engineering, cost analysis, and methods engineering; utilities and facilities engineering.

—and chemical, industrial, and electrical engineering assignments can sound equally impersonal

Yes, it is possible to draw a lifetime's pay without much excitement or satisfaction. If you don't mind it that way you'll be easier for the boss to handle. Just await instructions and carry them out to the letter, docilely.



This docile-looking Kodak engineer did not operate that way. That's why we brag about him below. There are others who would have made equally good examples.

Tell us about yourself with a note to

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Kodak

Van Putte is the name—Douglas—and plastics* is the game. While other Kodak engineers find strong interest in parts of the plastics market where a one-cent change in price can turn failure into success, or vice versa, Van Putte's work is having the effect of upgrading acrylic polymers into better optical materials than the great European lens makers of yore had for fabricating their precious jewels—and a good risk for upholding the public's confidence of reasonable success in picture-taking. Our engineers in the South, who work with plastics we make, spread themselves very widely into marketing activities; Van Putte, working with plastics we buy, has done himself equal credit by digging deeper into one circumscribed but important engineering topic than we think has ever been dug before. Van Putte, born (31 years ago), brought up,

*This word has taken on a broader, more diffuse meaning in certain non-technical circles of contemporary society. Actually, we do have other concerns than plastics, whether broadly or narrowly defined.

and educated in the North, likes working in Rochester just as much as the Southerners prefer their part of the country.

How it went: Always enjoyed math, of course. Master's in heat transfer and fluid flow. First Kodak assignment doing, logically enough, heat-transfer calculations. Bountiful supply of scratch pads, easy access to pencil sharpener and computer, no extra information on big picture into which calculations fit. Proves patience for eight months. Then manufacturing technology department on consumer-goods side of house decides it too could profit from a little campus-fresh sophistication in heat-transfer analysis. Van Putte overjoyed to accept challenge.

New single-minded assignment to learn all he can about injection-molding process. At least that's how the boss's boss now remembers the assignment. Van Putte remembers it a little differently. More like "Is it the temperature that's wrong in those lens-molding machines? The pressure? Or is it the flow rate?" On a certain lucky day,

after a year or so of continuing to scratch away for data on first one of these parameters and then another, Van Putte sells a program of fundamental studies with sensors for all the injection-molding parameters and on their relation to the parameters of optical performance in the photographic lenses produced. Thixotropic nature of polymer melt properly allowed for. Feels now in retrospect it took him too long to make his program pay off. Others take kinder view, drink toasts to Van Putte's health, look forward to next phase of his work wherein he educates injection-molding machines to know about the optical performance of the lenses they turn out.

Well known fact in industry that when a program turns out well, it was the big boss's idea. Van Putte crafty enough to understand that fact. Boss also crafty. Knows better than to call in a green young engineer and tell him to make a quantum jump in technology. Even if that's what he wants done.



Bob Nerad seeks recognition

But not just for himself.

Bob was Chairman of a special Jaycee project to select the "Outstanding Young Educator" in Schenectady, New York.

He began by rediscovering firsthand some of the vibrant situations that confront young teachers. With that background he was ready to coordinate the nominating and judging.

Planning and coordinating come naturally to Bob. As a Production Control Specialist with General Electric's Medium AC Motor and Generator Department, he keeps production lines running smoothly. Coordinating machinery, raw materials and labor is crucial to any efficiently run business.

With a mechanical engineering degree from Cornell, in 1962, and an MBA in personnel administration from George Washington, in 1963, Bob sought to plunge

directly into meaningful work. He'd had enough theory and simulations to last him for awhile.

At General Electric he found people that agreed with his thinking, and what's more, GE offered him immediate responsibility via the Manufacturing Management Program.

Like Bob Nerad, you can get a fast start at General Electric, in R&D, design, production or technical marketing. Talk to our man when he visits your campus. Or write for career information to: General Electric Company, Room 801B, 570 Lexington Avenue, New York, N. Y. 10022

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