off as irrational if they dispute the authority of the scientist. People cannot dispute scientific authority gracefully—they have nothing to fall back on." The civil defense debates on the building of fallout shelters in the early sixties were a formative experience for Roszak. "When I protested, someone would say, 'Let's not get emotional, let's be as scientific as possible.' That taught me what society's going standards of rationality were."

Assuming that science has the influence Roszak ascribes to it, what should scientists do to reform science or improve society? "That may not depend on scientists. You have a lot of people today who are not paying any attention to the scientific vision of the world around them. There are all the things which are happening here on the West Coast, lots of middle-class Americans are meditating, increasing their awareness. They are into eastern religions, tantra, alchemical research. There is a kind of widespread ferment going on. If this continues, we will wind up being a very different culture, a society in which people do not turn to science for answers."

Roszak says he finds a strange combination of humility and arrogance in the scientists he has met. "They are part of a profession which regards itself as the only sane way of looking at nature —like Undershaft in Shaw's play, who says: 'I don't know very much, I just know the difference between right and wrong' ". Yet Roszak's object is not to blame anything on science. "I am saying most of the problems of society have a scientific core. We are all involved, but scientists are involved in a particularly central way. . . . Maybe my books are too much of a frontal attack on the problem. Maybe what is more necessary is simply to open people up. . . ."

His books have reached a large audience and *The Making of a Counter Culture* (sales exceed 400,000) earned recently from literary critic Lionel Trilling the uneven compliment of being "perhaps the best known and also the best tempered defense of the ideologized antagonism to mind. Like a prophet unhonored, Roszak says he has found more interest in his ideas among English than American scientists. Yet he observes that, from a scientist's point of view, *Where the Wasteland Ends* "must seem very bizarre." One reason, maybe, is that it relies heavily on poetic insight and the power of language to make plausible quite broad arguments about the nature of science. Another possible point of resistance for the scientific reader is that, as Roszak says, "The things I am advocating would wholly transform the position of science in our culture." His vision of science and society may appear alien to others, but to dismiss it simply because of its poetic element would be to do just what Roszak complains of.—NICHOLAS WADE

Women in Michigan: Parlaying Rights into Power

The wave of feminist activism generated at the University of Michigan (UM) (*Science*, 24 November) has rippled into the other two of the state's "Big Three" universities—Michigan State (MSU) and Wayne State.

The Women's Equity Action League has filed a complaint against MSU with the Department of Health, Education, and Welfare (HEW), but so far there is no sign that the agency is planning an investigation.

According to Lansing activist Vicki Neiberg, the movement at MSU has been spurred not so much by noises from HEW as by women who felt they were being conspicuously forgotten as the administration took action to respond to the civil rights movement on campus.

They were unimpressed with the university's affirmative action plan for women, which Neiberg summed up as being "neither affirmative nor action" and which no woman had a hand in developing. An open hearing on the plan was finally held at last February's board meeting, by which time so much frustration had been generated that the meeting lasted 6½ hours. The upshot was that MSU president Clifton R. Wharton, Jr., appointed a 17-member Women's Steering Committee to report on how the university structure could be made more responsive to women.

The committee roared into action and, by June, produced a report calling for everything from special job training programs for minorities to integration of the Spartan Marching Band. The committee's central proposal was that the university create an off-campus women's center, to be supported jointly by the state and local governments and by the university. The center would be headed by a woman with vice-presidential status, the first of her kind. In addition, the center —in line with MSU's public service role as a land-grant institution—would supply legal, professional, and psychological counsel—not only to university women, but to all the women in the Lansing urban area.

Some committee members later acknowledged that they had bitten off more than the university could reasonably be expected to chew, but they were angered by the administration's response, which was that the committee apparently wanted the university to act as a "welfare state."

The university instead proposed that the Office of Equal Opportunity Programs—originally set up in response to black demands—be refashioned into a Department of Human Relations containing two parallel bodies: an Office of Women's Affairs and an Office of Minority Affairs. This proposal passed the board in September and was trumpeted in the local press. Many women regard it as a feeble compromise, but it is looked on with envy by women from other universities, where ad hoc groups are still struggling to obtain the kind of data they need to press their demands.

Meanwhile, the focus of women's activities at MSU has shifted to the drive to get the clerical-technical (C-T) workers unionized. Neiberg, a voluble feminist who describes herself as MSU's "Jewish mother," believes that this is potentially far more significant than organizational restructurings—"even structures can be rhetoric if they don't culminate in anything." Any issue revolving around clerical workers is automatically a women's issue because virtually all of the 2204 clerical employees at MSU (as elsewhere) are

women. At the same time, they tend to be a conservative lot—one symptom is the petition, signed last summer by 350 of them, saying that the Women's Steering Committee ran contrary to their interests and asking that it be replaced. They needed an issue to galvanize them, and such a one came last spring, when it was announced that they would be getting no merit increases this year. So the Alliance to End Sex Discrimination, an informal campus group, asked Neiberg to help open discussions with the American Federation of State, County, and Municipal Employees (AFSCME), a branch of the AFL-CIO.

In mid-November the C-T's voted, and, to the surprise and delight of the organizers, AFSCME won—by 17 votes. The victory was not total because the administration, in the interests of keeping the size of the union down, has challenged the votes of 179 supervisory employees, whose eligibility to vote is in question. Nonetheless, Neiberg says that MSU is now the first university in the nation whose C-T's will have a separate contract with an international union (clerical-technical workers are usually lumped together with service employees). The vote is a tribute to the skill of campus organizers, who were working against covert administration hostility as well as the fear on the part of employees that organizing might involve striking, an activity most can ill afford.

Campus Wives

One of those active in the unionization effort has been Nancy Teeter, whose employment history supplies ample basis for her zeal. Teeter is one of the many "captive wives" who dot university campuses—that is, student wives who are generally overqualified for clerical work but who have to settle for what they can get if they want to stay with their husbands.

She started out as a working wife and mother with no career ambitions. After a while, she "began to realize everything that was going on." When a woman applies for a job, she is asked about her husband's plans. "If they view you as temporary, they give you a lower-level job." But, says Teeter, "in industry, anything longer than 6 months is viewed as permanent—here, 4 years is temporary." And university salaries are lower than those in private industry, particularly in towns like Ann Arbor and East Lansing, where there is hardly anywhere else to go.

Teeter, who is making $7500 after 4 years at MSU, has been denied a raise, despite recommendations from her supervisor. She has few weapons at her disposal, partly because of vague practices in the personnel department, where opening salaries are arbitrarily decided, and partly because of the absence of explicit job descriptions, which makes it difficult to determine whether a secretary is getting proper recognition for the work she does.

Teeter is now involved in two grievance procedures and has obtained the services of feminist lawyer Jean King, who plans to file a complaint with the Equal Employment Opportunities Commission if nothing else works.

King sees the case as having national implications because Teeter's complaint is based on the role of secretaries—whether they are professionals with defined responsibilities or simply "Gal Fridays." The complaint says, specifically, that Teeter has been denied a raise or promotion because she refuses to make coffee in the office or to clean up after the men have their conferences.

Universities are probably not the worst exploiters of secretaries, but King believes the question of a secretary's role is particularly appropriate to a university setting, where "secretaries are often a lot brighter than their bosses. A lot of universities are held together by secretaries who train their bosses and do their jobs."

Membership in a union obviously will afford Teeter and others a systematic recourse that would obviate the need to go through the awkward and sometimes hostile confrontations that the determined woman must now undergo. And the study of nonacademic salaries and classifications now being conducted by an outside consulting firm (which conducted a similar study at UM) should wrest a good many decisions from arbitrary hands.

Other steps taken by the administration as MSU—such as appointment of a Women's Advisory Council, integration of the band, and the appointment of a women's athletic director—are regarded by some as diversionary maneuvers, by others as signs of progress.

Even those who see progress believe it is not occurring fast enough. Betty Fitzgerald, associate dean of students at MSU, says that "the picture is much more bleak now than in 1935." After the war, and especially during the 1950's, women became acculturated to staying home and breeding. The diminished female presence in upper-level university jobs that resulted still remains.

In some respects, Wayne State, an urban, commuter university with a high (18 percent) proportion of black students, appears to be ahead of its time. It has not one but two affirmative action plans—one to combat intramural race and sex discrimination, the other requiring the university's Office of Equal Opportunity to pass on all construction and purchasing contracts made by the university.

Wayne State is also the only state university to be unionized from head to toe. The faculty voted last spring to take on the American Association of University Professors as its collective bargaining agent.

Progress Slow

Nonetheless, things were bad enough 2 years ago that a group of Wayne women got WEAL (Women's Equity Action League, a national group) to file a complaint with HEW. Since then, HEW has been working with the university on developing its affirmative action plan, but improvements have proceeded, at least until recently, at a snail's pace. Efforts to get job openings publicly posted or to alter grievance procedures have met with administration assertions that the changes are illegal, or that the matter is for the union, not the university, to decide.

The women's commission became so frustrated last summer that there was talk of resigning en masse. The commission summed up some of its problems in a report issued last August. It starts: "A year and a half of hard work, investigating the problems at Wayne . . . has resulted in our unanimous conclusion that the inequities are far greater than we originally envisaged."

Among these findings were the fact that women, who comprise half the undergraduate enrollment, represent only 21 percent of graduate and professional students; that women cluster in some fields (notably nursing) and are practically nonexistent in business, engineering, medicine, and law; and that only 8 percent of professors are women, and they are paid, on the average, $2000 less than men and take twice as long to gain tenure.

Commission chairman Nancy Schlossberg vented her frustration at a recent meeting of women's commissions from southeastern Michigan institutions. "The women at Wayne have tried to go very slowly, through channels.

NEWS & NOTES

● **PSYCHOLOGY ON THE RISE:** A striking and unexpected increase in postgraduate psychology enrollments has been reported by the American Psychological Association (APA). Taking its figures from surveys by the American Council of Education, the APA says first-year psychology graduate enrollment in doctoral institutions increased 56 percent between fall 1970 and fall 1971. This amounts to an estimated increase from 7,600 to 11,900 in a year.

The figures are especially striking in comparison with enrollments in engineering and the physical sciences, which are still falling, and in other social sciences, where no special change has been noted.

Officials of the APA are not sure how to explain the dramatic increase. Alan C. Boneau, director of the office of programs and planning, says many new slots have opened up in at least 20 graduate schools that have new or expanded psychology graduate departments. But Boneau says many department chairmen are boggling over what to do with applications. Surveys last summer found this year's enrollments to be up 25 percent over last year, and some schools have as many as 30 applicants per opening—this despite decreased availability of financial aid.

So far, there doesn't seem to be much fear that the country will be swarming with unemployed psychologists a few years hence. Academic jobs in experimental and physiological psychology have been drying up, but opportunities are increasing elsewhere—in industry, schools, police departments, correctional institutions, community clinics, and mental hospitals, as well as in private practice.

● **WORLD OCEAN PACT:** Seventy-nine countries, including all of the world's major maritime nations, signed on 13 November an international convention aimed at curbing ocean pollution. The convention bans the dumping of oil, mercury, and cadmium compounds and wastes with high levels of radioactivity, and it sets guidelines for the dumping, from ships or aircraft, of substances containing arsenic, copper, fluorides, pesticides, lead, and zinc. Work on the agreement has been going on since 1970, when the Council on Environmental Quality recommended both national and international measures for controlling ocean dumping.

We've been careful not to embarrass the administration." But, she said, the soft-sell approach was getting them nowhere.

Several weeks later, Schlossberg reported that things were looking up. Why? Well, she says, "We got awfully damn mad." Commission members have recently held lengthly meetings with Wayne State president George Gullen and his vice presidents, and it seems a good deal of the problem has been lack of communication. Now things are moving on three fronts. The HEW-inspired salary equity study is complete, and recommendations for adjustments were made at the November board meeting. The university will probably fund an in-service training program for 120 placement and admissions counsellors, in an effort to make them sensitive to the needs of women. Also under consideration is a career conference for Wayne State students.

In addition, the administration is showing a new willingness to discuss the formation of a women's center (such as already exists at UM), and women are getting together with university lawyers to discuss how to bring about changes in the retirement plan (a nationwide plan for university employees). This is finally happening after 4 years of fuss over the plan, which discriminates against women by providing monthly retirement benefits that are as much as 15 percent less than those for men. The company's explanation for this is that actuarial tables show that men die sooner, so the total amount collected between retirement and the grave is actually the same for both sexes.

One of the basic problems at Wayne State, as in other, smaller universities, is that women have not yet succeeded in getting a grass-roots movement going. The real work is being done by a small core of activist women. Too many of the rest, says assistant dean Marie Draper-Dykes, still don't see "what the fuss is all about."

With the big push for women's rights coming on the heels of the black movement, it is interesting to see how the two relate to each other. A number of blacks now hold high administrative positions (including the presidency of MSU, held by Wharton), and the white males in power are beginning to take it all for granted. Women still have problems with the attitudes of men, whatever their color.

As John Kenneth Galbraith, speaking of the problems of women in economics, recently said: "People are uneasy and a bit frightened when it comes to discrimination against blacks, but with women it is a rather good-humored thing that nobody really worries about. You can discriminate against women with a sense of security."

Women feel that the most common male blocking tactic is to play up divisiveness within the women's ranks and that an obvious ploy is to treat the demands of women and blacks as mutually exclusive. MSU board member Patricia Carrigan says that "some board members have tried to cast a black versus women perspective" on women's demands and that one reason the reorganization of the Office of Equal Opportunity Programs was opposed was that the expanded department would be headed by a black, Joseph McMillan, who might be expected to give less than equal emphasis to women's problems.

Women think this is hogwash. Most of them have insisted that, despite the minimal involvement of black women in anti–sex discrimination activities, there has been little divisiveness along racial lines and that the two movements clearly reinforce each other.

In fact, although some black women have feared that the sex crusade would detract from racial progress, it is they who have been getting the promotions. Obviously, when black women were appointed to be affirmative action officers at both UM and Wayne State, the administrations were deliberately killing two birds with one stone.

The involvement of Michigan women in politics—particularly those from the southeastern part of the state—has unquestionably shaped their approach to changing the situation in higher education. Many politically active women have close ties to campuses and know better than to expect spontaneous efforts at self-enlightenment on the part of administrators. Most would agree with former Howard University law dean Patricia Roberts Harris, who has said, ". . . the producer and the refuge of the male intellectual, the university, [has] turned out to be one of the most sexist institutions in this country."

Thus, women are aware that it is not through addressing emotional appeals to the president or scaling the administration walls, but through the cultivation and exercise of power that they will make lasting gains.

They are working within the system and taking advantage of what it affords.

This year, for the first time, women from the campuses of each of the big three universities recruited activist women to run for their boards of regents (the three constitutionally recognized universities are the only 4-year institutions whose boards are elected statewide). Despite strenuous campaign efforts, all three went down on McGovern's coattails.

Michigan university women have managed to avoid divisiveness within their ranks by focusing their energies on bread-and-butter issues. The kind of exhibitionistic emotionalism associated with "bra-burning" doesn't interest them—probably, in part, because in the conservative Michigan political climate it is radical enough for a woman just to stand up for her legal rights. As one observed: "On the East and West coasts it appears that the movement is chopped up with feud and furies—here, such matters as whether you're a Lesbian are not divisive."

King and others believe that a united front and a low profile are essential for success. "The quieter you are, the more effective you are. If a woman gets too visible you can focus on her and destroy her effectiveness." The real work, says King, is going on quietly, behind the scenes. "We work together over the telephone in a really beautiful way. It's a silent sisterhood."

The federal government has supplied the sisters with the legal tools necessary to make their case. They are now learning how to parlay their rights into power—which means, among other things, that they will have to move beyond universities and into the antechambers of state and federal appropriations committees. "Women have never lobbied for themselves," says King.

Progress so far can only be measured in terms of intent rather than statistics. There have been some salary adjustments and promotions, and a few new women deans have cropped up here and there, but there have been no dramatic shifts of women into positions of responsibility or redistribution of women into fields from which they have traditionally been discouraged.

But politically sophisticated women are not interested in quotas or beneficient gestures. They believe that once decision-making, too often left to arbitrary hands, has been systematized, the numbers will take care of themselves.—CONSTANCE HOLDEN

Icelandic Fishing: Science Awash in Great Codfish War

Reykjavik, Iceland. The quarrels over Iceland's coastal fishing limits are probably best known in this country for their more glamorous aspects—the fabled British gunboat which the Queen's navy sent to Icelandic waters to protect her fishing trawlers in the early 1960's, and more recently as splashy punctuation for the Fischer-Spassky chess tournament in Reykjavik this fall.

But when Iceland unilaterally declared an extension to her current 12-mile coastal fishing limits to 50 miles offshore, effective 1 September, just as the chess tournament closed, she in fact launched into a serious battle. The British are the principal foreign fishers of Icelandic cod; the Icelanders' move could mean the loss of an estimated £34.2 million worth of cod each year. But the British also fear that if Iceland gets away with it, Norway and Canada may follow suit, thus effectively killing the British North Atlantic fishing industry, and, they add, any hope of conserving cod stocks. Britain and West Germany, which also fishes off Iceland, took the controversy to the International Court of Justice at The Hague; but the Icelanders have decided to disregard the court ruling, which was somewhat unfavorable to Iceland. The issue remains an open dispute.

The great codfish war is not the sole province of politicians and fish-industry lobbyists. In fact, some of the day-to-day fighting is being carried out by marine scientists who fire off technical arguments from their respective laboratory arsenals. In declaring the extended limit, Iceland raised, among others, the argument that it was needed for the conservation of the cod stock. It is the scientific basis of this claim which British scientists question.

The total catch of Icelandic cod has been declining since 1954, when it reached a peak of 770,000 metric tons of live fish. Totals have fluctuated widely from year to year since then, but the overall downward trend is unmistakable. In dispute between each country's scientists is the significance of this decline.

The Icelanders maintain that there is evidence of an imminent threat to the cod supply and that the cod are in danger of becoming overfished by foreigners over whom they have no control. The British reply that the stocks appear healthy. And, they add, Icelandic fishing patterns and practices seem to be as responsible as anyone else's for the changing trends in the cod population.

Jón Jónsson, director of Iceland's Marine Research Institute, explains that the extended limit is "not only a scientific necessity but an economic one." An annual 400,000 metric tons of live cod are taken from Iceland's waters, half by Iceland, half by foreign nations. Since the failure of Iceland's herring stock due to overfishing, she now mainly depends on cod, and the Icelanders' goal is to have the whole catch for themselves. "Iceland is completely dependent on her fisheries," Jónsson says, and adds, "They say Iceland is just a rock surrounded by fish. If you take away the fish, what have you got?"

More seriously, he explained that three trends could signal an imminent decline. One is that fishermen seem to be taking too heavy a catch of immature fish. Second, the number of spawnings per fish has declined to one half the rate immediately following World War II. Third, Jónsson says, cod mortality is rising, meaning that there are fewer and fewer fish from 10 to 15 years of age. All three effects could be caused by overfishing. By extending her limits to 50 miles, and thus over her continental shelf area, Iceland, he says, will regain control of her fish stocks and their conservation.

The British, for their part, maintain that Icelandic fishing stocks are cur-