

SCIENCE FOR THE PEOPLE

DOING PEOPLE'S SCIENCE



Feminist Gynecology

Amsterdam
Science Shop

Health Care
in Mozambique

Interview with
Copper Miners

Factory Workers of ZhuZhou

CHAPTERS AND CONTACTS

Science for the People is an organization of people involved or interested in science and technology-related issues, whose activities are directed at: 1) exposing the class control of science and technology, 2) organizing campaigns which criticize, challenge and propose alternatives to the present uses of science and technology, and 3) developing a political strategy by which people in the technical strata can ally with other progressive forces in society. SftP opposes the ideologies of sexism, racism, elitism and their practice, and holds an anti-imperialist world-view. Membership in SftP is defined as subscribing to the magazine and/or actively participating in local SftP activities.

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- 2 Chapters and Contacts
- 4 About This Issue
- 5 News Notes
- 6 Letters
- 8 Political Gynecology: Gynecological Imperialism
and the Politics of Self-Help *by Susan Bell*
- 15 The Amsterdam Science Shop: Doing Science
for the People *by Ad Meertens and Onno Nieman*
- 18 Factory Workers of ZhuZhou: A Photoessay
by Nancy Edwards
- 28 Changing the Face of Health Care in
Mozambique *by Marc A. Snyder and Judy A. Spelman*
- 34 Organizing Miners: An interview with a Mexican
Copper Miner *by the Nacozari Miners Support
Committee*
- 38 Resources *by Tallahassee SftP*

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about this issue

It is often asked in *Science for the People* whether it is possible to do science for the people now or whether it will only be possible to do so after society has been radically transformed. *SftP* has published articles on doing science for the people, but only in countries with socialist governments and with very different material conditions from the U.S., e.g. Tanzania, Mozambique and China. The Amsterdam Science Shop article in this issue tells of trying to do science for the people under conditions very much like those in the United States. In this article, the authors describe a program at the University of Amsterdam in which university students and staff work on research projects at the behest of trade unions, environmental groups and other progressive organizations.

It is possible to imagine a program like the Amsterdam Science Shop being set up at an American university. Such a program could apply scientific knowledge and skills to community problems and help educate science workers about the effects of their work. Would this be a useful strategy for progressive science workers? One problem is that it might make dealing with scientific issues seem even more the prerogative of scientists. Could such a model be constructed which doesn't maintain and solidify the distance between "expert scientists" and "ordinary people"? Another problem with this model is its potential for defusing and misdirecting social anger and frustration without provoking real change. Such questions are at the root of working for social change and although this article may not answer them, it does provide a concrete example, relevant to people who work in science, and hopefully it will serve to stimulate discussion.

A variety of articles in *SftP* have dealt with the issue of radical versus reformist change. In practice, radicals must often decide whether to settle for short-term benefits of reformist action within the existing system or to struggle for more fundamental radical change. The article by Susan Bell on the Pelvic Exam Teaching Program illustrates how one group of feminists resolved this question. Although not everyone may agree with the specific decisions they reached, their story does provide an important example of how one group used their political theory to analyze their political practice.

In her photoessay Nancy Edwards shares with us some of her impressions of the life of factory workers in Zhuzhou. The photographs are complemented by personal observations and background information.

A theme common to many *SftP* articles has been that institutions reflect the broader economic and social relationships found in society. Thus, to defend the prevailing social order each social institution must be defended as "the best way possible" and the forces of propaganda are marshalled to accomplish this. If we are to convince people that change is not only necessary, but also possible, we must combat this propaganda machine.

We can do so by critically analyzing existing social institutions, by examining existing alternative institutions, and by constructing models of better institutions. It is to the second approach that we turn in publishing Judy Spelman and Marc Snyder's article on health care in Mozambique. In this article we get a rare glimpse into how a country in political transition is attempting to construct a new health care system consistent with its socialist principles as well as with improved health care for its populace. Although the Mozambican experience is not completely transferrable to the U.S. context, the study of their efforts should help us to formulate new choices within our own health care system.

Radical Science Journal

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RADICAL SCIENCE JOURNAL

9 Poland Street London W1



news notes

News about politically significant events in science and technology.

HEALTH INSURANCE FOR THE ASBESTOS INDUSTRY

We all know that Congress is in a budget-cutting mood. Responding (supposedly) to an outraged, overtaxed electorate, both federal and local governments are tightening the purse strings when it comes to funding daycare, education, abortions and a wide variety of other social services for the poor, the elderly and the infirm.

You will be pleased to know, however, that not all welfare is being cut back. The asbestos industry, for example, will receive one of the largest welfare payments in the history of this country if a bill currently introduced in Congress is approved. Written by the Johns-Manville Corporation (the largest of the U.S. asbestos manufacturers, this bill would absolve the industry of all asbestos-related health claims and transfer the burden to the U.S. government.

Already, Johns-Manville is facing health-related lawsuits of over \$1.5 billion and it is estimated that asbestos-related illness will increase dramatically in the near future due to its widespread use in World War II and the long latency period for its effects to be expressed. Another example of "free enterprise" — i.e. industry is free to make all the profits it can, while the people pay the bills.

MUSK OX, BLUE BRAIN

Here is this month's puzzle friends. What makes you smell like an ox and turns your brain blue? Don't tell me you give up already! Why it's acetyl ethyl tetramethyl teralin (AETT). It's the stuff that gives the musk fragrance to soaps, deodorants, perfumes and after-shave creams. You know, that wonderful musk fragrance designed to drive the opposite sex crazy. There is only one catch . . . it may drive you crazy as well!

As reported in the May 11, 1979 issue of *Science* magazine, rats receiving as little as 25 milligrams of AETT per kilo-

gram of body weight each day showed behavioral changes within as soon as 2 to 3 weeks. These behavioral changes were accompanied by a progressive blue discoloration of the brain and nervous system and marked degeneration of the nerves.

AETT is an extremely severe neurotoxin. Yet, this useless poison was sold by the cosmetics industry to unsuspecting consumers for 22 years before anyone thought to test its toxicological effects. Even more telling is the fact that when the fragrance industry discovered this information in early 1978 it stopped using AETT in its products, but it refused to remove products containing AETT from the market. The U.S. Food and Drug Administration (FDA) went along with this mass poisoning of the U.S. population by refusing an Environmental Defense Fund request that AETT be banned. One last thought before you apply that lovely perfume: of the thousands of chemicals used by the cosmetics industry, color additives are the *only* substances regulated by the FDA. Maybe smelling like a human being isn't so bad after all.

VDT FLOOD CAUSES CATARACTS

The word processor is basically an electric typewriter attached to a television-like screen called video-display terminal (VDT) on which an operator can proofread copy. It is sold by various manufacturers as a device to increase productivity and eliminate paper work and is fast becoming a standard fixture in many offices.

Word processors, though lauded as the machine to revolutionize office work, have recently been linked to cataracts as a result of emitting low levels of microwave radiation. Three years ago two male copy editors of the *New York Times* who had been using word processors, developed cataracts.

More recently, in January, 75 U.N. General Assembly pool typists walked off their jobs for the third time in two months. For nearly a year they have refused to use the machines because of physical stress and potentially dangerous radiation. The cataracts that the *New York Times* workers developed were described by an ophthalmologist to be strikingly similar to those developed among radar technicians who are exposed to radiation emitted by their radar screens.

Although these claims may be true, the occupational hazards have not been thoroughly investigated. The biggest problem in analyzing the danger of the VDTs is that there is generally no accepted standard for *acceptable* exposure to the low-level microwave radiation they do emit and little is known about cumulative effects.

Showing their usual concern for the worker, a UN spokesman called the typists "just a bunch of hysterical women afraid of new technology."

—info from *In These Times*



letters



Dear SftP:

I would like to address SftP readers who are interested in revolutionary change. The Editorial Committee hit the nail on the head when they said that the issue of reformist vs. revolutionary social change is central to the Left today. (*SftP*, Nov. 1978) Unfortunately, Howard Waitzkin's article confuses the issue. Waitzkin follows Andre Gorz on this question, stating that revolutionary change comes from supporting "revolutionary" reforms and opposing "reformist" reforms. This distinction does not clarify anything and certainly doesn't lead to revolution.

Let's look at the one example Waitzkin gives. He says that national health insurance is "reformist", while a national health service would be "progressive." Now, of course a national health service is a more extensive reform than just national health insurance, and it could benefit the people. But would Waitzkin have us *oppose* national health insurance? At this time Medicare only pays 38% of the medical bills for the elderly. Their fight for full payment is just and should be supported. There is even more reason to support the demand for health insurance for all the working people.

What matters in a struggle is whether a reform corresponds to the demands that the working people make on the system. The best demands are the ones which mobilize the broadest numbers and which expose the barbaric nature of monopoly capitalism. It is when those struggles are combined with such exposures that revolutionary education takes place.

Let's take another example. Waitzkin and Gorz belittle the small material improvements that leave current structures intact. But strikes for higher wages (like the 1978 miners strike) often have brought the *masses* of workers into *direct* confrontation with the monopolists, their government, and the sellout labor leaders. What matters is whether revolutionaries are there to educate the people and organize them for revolution. Every demand that the people make on the system offers some opportunity for revolutionary education.

What, then, is *reformism*? The reformist will organize *only* for a reform, will oppose raising the people's revolutionary consciousness. The reformist not only seeks to side-track the movement toward revolution, but undermines the effectiveness of the reforms themselves. It is when the people understand their enemy that they can best defend what they have won. The ruling class will always try to use a reform to strengthen its power or else try to do away with it. As an example, despite a few temporary gains, the Civil Rights struggle has left us with a bought-off group of poverty bureaucrats and increased inequality in wages for minorities and women. The reformist leaves the people open to such attacks because he seeks to give people faith in reforms. Waitzkin is selling such a bill of goods when he writes, "Non-reformist reforms . . . achieve true and lasting changes . . ." There are no such reforms. That is why revolution is necessary.

The struggle for reforms is where people learn what they must do. As the Russian revolutionary leader Lenin wrote; "Only struggle educates the exploited class. Only struggle discloses to it the magnitude of its own power, widens its horizons, enhances its abilities, clarifies its mind, forges its will." The issue here is a question of revolutionary *tactics*. And in no country has there been a socialist revolution without a revolutionary working class *party* which has mastered these tactics. This is another point that Gorz skips over, and another reason that his theory is a dead end.

Mike T.
Boston

Dear brothers and sisters,

Thank you for mentioning my and Sam Anderson's book "Ciencia e (In)dependencia" a few issues ago in the "Resources" column. We cannot get an English language edition so far. Publishers find us too "one-sided" . . .

Portugal's flower revolution is all gone.

It is now into bureaucratic reactionary revenge. This is enacted by social

democrats and anti-working class "socialists". With IMF loans and Chicago boys economic policies, inflation is 50% every six months.

The peasants of the South, who took over the big estates in 1974 and have been producing wheat, olives and cork in spite of the lack of government loans, are now attacked daily by the National Guard which beats them up to chase them out of farms; these are being given back to the fascist landlords who come back from Brazil where they had taken refuge after the 25th of April 1974. To reestablish the control of the old landowners the present center-technocratic government uses a law voted by the "socialist" government of Mario Soares! It forces not only the restitution of part of the land but also of a fraction of the equipment and machinery. After that, the peasants' cooperatives and the peasant production units do not have any more the minimum size which ensures their survival. So far, in the county where I taught (at the University of Evora), the action of the Ministry of Agriculture through the National Guard has forced the agricultural workers to hand over 2500 heads of cattle and 65 tractors to the former land owners.

Repression against progressive petty bourgeois elements takes a more administrative form. Some local governing bodies make ordinances copies from the West German government's "*Berufsverbot*" which forbids hiring "communists" in the public administration. Teachers and university professors see their contracts terminated because of some bureaucratic hitch discovered for this purpose (a foreign diploma turned in without an official translation).

So far, foreigners have been favorite victims. Three full professors have had their yearly contracts not renewed, one a well-known mathematician, member of the Brazilian communist party, Bayard Boiteux who taught at the University of Porto; the other, Augusto Boal, who had come to Portugal after fleeing torture in Brazil and threats in Argentina is the dramaturgist who wrote "Theatre of the Oppressed" and was teaching at the Conservatory in Lisbon; the third is myself; I taught physics in the center of that southern region, at the University of Evora; having brought *SftP* into the Library and being invited by the government of Guinea-Bissau for a few weeks

must have been too much for an all-powerful rector who once was Portugal's fascist government representative at the head of one of Mozambique's provinces.

In contrast with the rightist offensive in Britain which Hilary and Steven Rose described in SftP a few issues ago, the situation in Portugal is characterized by a sense of powerlessness on the part of teachers who simply desist from signing petitions or joining workers' demonstrations. The training of 48 fascist years leads to this generalized boring-in attitude. Threats, here, are indeed institutionalized (the arbitrary termination of a contract can be done according to a decree of 1970) and do not come from any identifiable fascist party like the English National Front. The remnants of a fascist centralized bureaucracy are easily used by European social-democratic technocrats.

Meanwhile multinational companies build a superport on the coast in Sines

A NOTE OF EXPLANATION

The following note was meant to accompany the article by Carol Cina and Ted Goldfarb, "Three Mile Island and Nuclear Power," which appeared in the last issue of Science for the People. We apologize to the authors for the accidental omission of this note during the production process.

—Editors

The manuscript from which our article in the July 1979 issue of *Science for the People* was adapted, was originally written to serve as a SftP pamphlet.* It has been widely distributed to anti-nuclear and environmental groups of all political persuasions. In light of this, we made a conscious decision to refrain from using terms like capitalism, ruling class, or imperialism, which surely would have clarified our analysis for readers who have learned to reject the anticommunism that is behind the negative response these useful words frequently elicit. We do not think that this seriously detracts from our message.

An important question which has not been adequately addressed in past SftP articles is whether nuclear power would be an inappropriate technology under any economic system — or whether it is capitalism that makes it inappropriate. As medical physicist and radiation specialist John Gofman and others have pointed out, the unique hazards posed by the radioactive wastes generated in a

and West Germany may sell Portugal a 1000 Megawatt nuclear plant (while Portugal exports electricity from its hydroelectric plants).

In struggle,
Maurice Bazin

Dear SftP,

Charlie Owen's comments on our piece about the British political scene require a response, as they contain a prime example of the way in which women are still seen as not having any political identities of their own, but as merely the adjunct of men. It raises once more not only the problems of sexism within patriarchal capitalism but within the movement itself.

Let me set out *herstory* as there are some crucial differences with *history* presented in Charlie Owen's account. I last lived in London in 1975, and was then a member of an autonomous Wom-

fission reactor require the *absolute* assurance that these wastes be isolated from the biosphere for thousands of years. With nuclear technology, 99.9% certainty is not good enough — even if we could attain it. Surely under capitalism profits rather than safety are the paramount concern of the corporate developers of any technology. But even if it were possible to make a complex technology like nuclear power absolutely foolproof, would the immense investment in safety equipment and security arrangements allow it to be the energy source of choice under any economic system? We think not!

Surely the Soviet Union — which built its first nukes without containment domes — is not justified in asserting (as they did in response to Harrisburg) that their economic system assures safety. Indeed, they have admitted that serious accidents have already occurred in their nuclear industry. The recent statement by a leading Soviet nuclear engineer as reported by the Soviet news agency, Tass, to the effect that the U.S. anti-nuclear movement is a creation of our monopoly oil companies is either an embarrassing display of ignorance or a cynical lie.

Recent reports that China has cancelled its plan to purchase nuclear reactors (Westinghouse models) from France are encouraging news; however, the narrow reason given — China's inability to commit the necessary funds — leaves much to be desired. During our

en and Science group. Some of us were BSSRS members also, and all of us worked on producing the second Women's issue of *Science for the People*. At that time that was as near the mainstream radical science movement that I personally wished to be. The group meant a great deal to me and I was sad to leave it to work in the North of England. Here I am a member of the small and not very active local BSSRS group, but continue to work on the problems of women and science as and when I can.

Reading the masculinised and official history, none of this took place, instead I am supposed to have ceased to be active in 1977 purely the result of the account published in *S/P* of a struggle within the Brain Research Group of which Steven is a member.

I realise that it was a mistake to take a man's name, however some of us did so sufficiently far back, that to swap our
(continued on page 39)

visit to China last summer as part of the SftP Delegation, we raised questions about China's announced interest in nuclear power development. We were unable to learn any details about the nature of the nuclear debate either among China's masses or its technical workforce. China — with much more oil and coal than it can presently use, with abundant actual and potential hydroelectric resources and with the labor to develop decentralized renewable energy sources — is the last place one would expect to find justification for the development of a capital-intensive, high-risk power source.

We hope that the peoples' movement set in motion by Three Mile Island will have profound international effects and that all of the peoples of the world will rise up and echo our cry — NO MORE NUKES!

Carol Cina
Ted Goldfarb

*This pamphlet is available at 25¢ per copy — lower prices for bulk orders — from Science for the People, P.O. Box 435, E. Setauket, NY 11733.

FLASH:

Demonstration at Shoreham, Long Island, New York, on October 7.

Speaker: Barry Commoner.

Focus: Local Politicians and Nuclear Energy.

Political Gynecology

Gynecological Imperialism and the Politics of Self-Help

by Susan Bell

Introduction

How do health activists institute change in the medical system? A problem commonly faced by them is whether to work to improve a basically sexist and oppressive medical care system or to create their own structures. Does it make sense to institute short range reforms or to struggle for long term radical change? By "improving" the health care system it may be possible to generate more humane health care but at the cost of strengthening an already oppressive system.

Change in the medical system can be instituted in a number of spheres: at the level of federal or state policy making; in private and public funding; in the area of services or scientific research; and in education. In this article is a discussion of these issues in light of the experiences of a group of feminists involved in a program to teach pelvic examinations to medical students in 1975-76 in Boston. Hence, the focus of this article is on change in the medical system at the level of physician education.

There have been numerous analyses of medicine as an institution of social control and of the particular ways in which medicine oppresses women(1): Women consume the largest proportion of health services (for themselves and their children), take more prescription drugs than men, and are admitted to hospitals more often than men. Most physicians are white men. Whether women seek private gynecological care, clinical or hospital services, most of them encounter practitioners who have learned how to perform pelvic examinations in the organized medical structure which is part and parcel of the larger racist and sexist society.(2)

Medical students traditionally learn incorrect and/or distorted information about women in textbooks and lectures.(3) They are taught to act as if the pelvic examination is as matter-of-fact as any routine examination, while at the same time learning to use unnecessary and uncomfortable examining techniques.(4)

They are told to use stirrups and drapes routinely; both of these techniques are usually unnecessary and often uncomfortable for routine examinations. Traditionally they have practiced pelvic examinations on prostitutes, plastic "gynny" models, clinic "patients",† and anesthetized women. The women are often not asked for consent to furnish their bodies for teaching material.

It has been acknowledged by some educators, critics of medical education, and dissatisfied students that this way of teaching is unsatisfactory. To remedy the situation, some educators have altered the information taught to students and the way in which they learn practical skills. One such improvement, introduced in the 1960s, has been the use of "Simulated Patients" (also called "Programmed Patients") instead of real "patients."(5) "Simulated Patients" are people who have been taught to exhibit historical, physical, and psychological manifestations of an illness when examined by students. They have been employed in a variety of settings to teach cognitive, interpersonal, and technical skills.(6) Prostitutes, friends of medical students, and community women have been recruited to serve as "Simulated Patients" to teach pelvic examinations and patient management skills to medical students. Depending on the emphasis of a program, women might be chosen because they are healthy or because they have specific ailments.

Students, physician-instructors, and "patients" benefit by the use of "Simulated Patients." Students try out practical techniques on them, thereby decreasing their own anxiety and embarrassment about examining people, and increasing their ability to discuss the examination openly in front of the "Simulated Patients." They learned to perform examinations in a realistic way

†(Footnotes appear at the end of the article.)

This article is a revised version of a presentation given at the fall conference of the Massachusetts Sociological Association on November 4, 1978. I would like to thank members of the Pelvic Teaching Program, the Women's Community Health Center, and the Science for the People Editorial Collective for their help and support in writing this article. Charlotte Weissberg provided sisterly criticisms.

Susan Bell is a founding member of the Pelvic Teaching Program and worked at the Women's Community Health Center in Cambridge, Mass. for two and one-half years. She is currently completing her doctoral dissertation, which is a critical history of diethylstilbestrol (DES), a synthetic estrogen.

and physician-instructors are able to evaluate students' performances in a standardized way. Hospital and clinic "patients" are saved from repetitive, inept examinations, and ultimately receive care from better-trained physicians.

The Pelvic Teaching Program

In mid-1975, women medical students at Harvard Medical School approached a member of the Boston Women's Health Book Collective to discuss the possibility of finding women to serve as paid "pelvic models." The women medical students were displeased with current teaching practices. They specifically wanted feminists since they thought that the use of feminists as "pelvic models" would greatly improve the learning process and would provide a counterbalance to institutionalized attitudes toward women as passive recipients of medical care. The book collective contacted women at Women's Community Health Center (WCHC) in Cambridge who agreed to a limited number of "modeling" sessions for second year Harvard medical students at local hospitals.

The members of WCHC, a self-help women's health center, saw themselves as part of the movement for radical social change, committed to the eradication of sexism, racism, capitalism, and imperialism. In practical terms, this means basic changes in the medical system as part of changing the overall structure of society: for instance, a breakdown of hierarchical relations among provider and consumer in which the provider has a monopoly over skills and information, women providing health care for women, and an end to "for-profit" medical services.(8)

Implementing a program to teach medical students was a focus of controversy in the WCHC from its inception. Some health center women saw it as a low priority issue in the sense that it would entail putting energy into professional medical education and detract from other health center programs which were directed towards implementing long-term changes. In addition, some women expressed concern that the program would serve to strengthen the medical system by teaching physicians how to "manage" their "patients" (by changing their behaviors without changing their power in doctor/patient encounters). Other members of the collective thought that teaching medical students would be a way to improve existing services for women and therefore that it would be a useful interim reform. They also thought that it would be a way to direct money from the medical schools to part of the women's health movement and a way of gaining access to the medical educational system. This controversy influenced the process of setting up the Pelvic Teaching Program (PTP) and of evaluating and changing it over time and was never

completely resolved at the Women's Community Health Center.

In late 1975, the WCHC expanded this program by recruiting women who were not members of the collective. They also formalized the program by creating an ongoing group called the Pelvic Teaching Program. The PTP was a semi-autonomous program of the Women's Community Health Center. It was also the first attempt in which collective members worked along with women who were not members of the collective. This led in part to difficulties in communication and questions about power and decision-making among group members and also between the group and WCHC. For instance, to what extent could the Pelvic Teaching Program devise and implement its own structure and to what extent was it accountable to WCHC? Were WCHC members in the PTP more powerful than the others in the group? Could WCHC direct the PTP? The course of the PTP can be traced in stages, each marked by a new protocol.



New Unity/cpf

The First Protocol

In the first sessions changes in standard teaching methods were relatively superficial: "pelvic models" were each paid \$25 for each teaching session. In each teaching session, four or five medical students did a bimanual pelvic examination* on a consenting, knowledgeable woman, while taught by a physician-instructor. Sessions focused on attitudes and the manner in which students learned to perform a pelvic examination. They left intact the role of physician-instructor. Meanwhile, the feminists did research to find out what had been taught at Harvard and what the professors and students were interested in implementing. The feminists met to evaluate this limited program and then met with the professors and medical students to draw up a protocol. The physician-instructors and medical students were

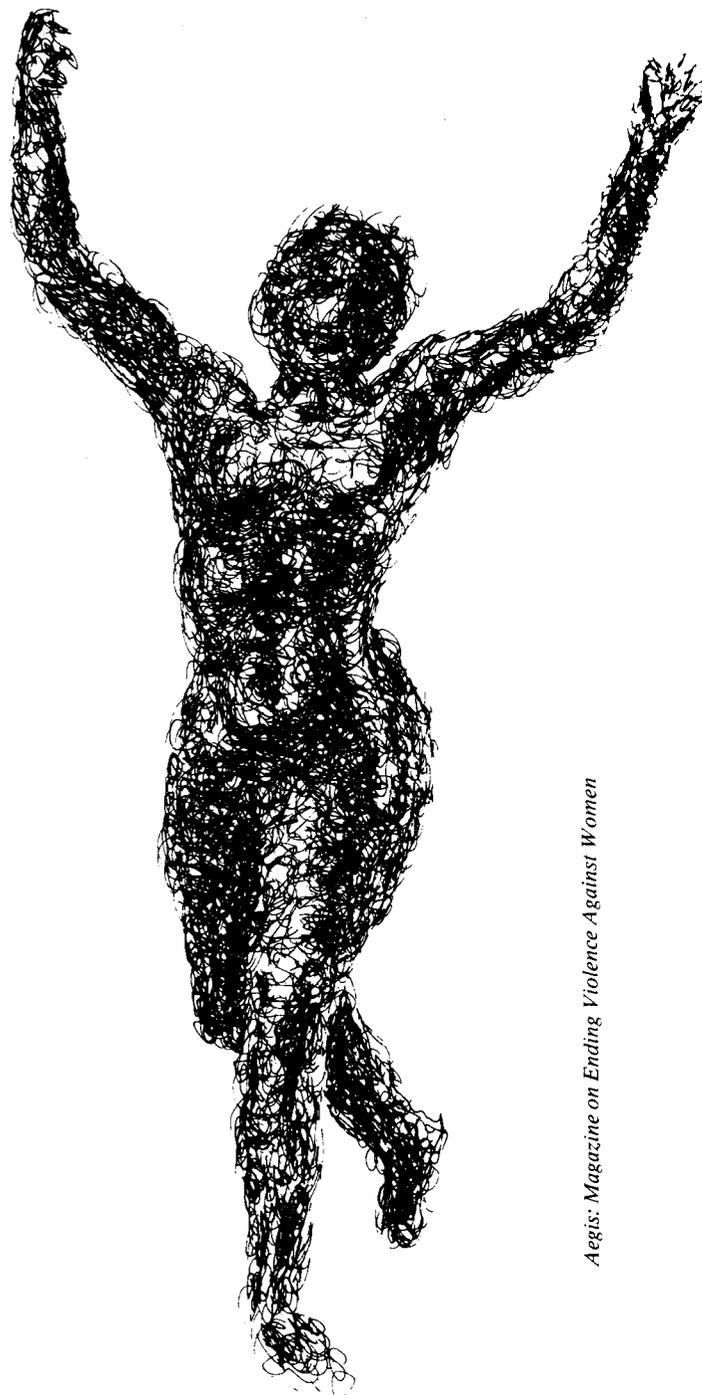
pleased by this limited program. It facilitated more efficient, comfortable teaching sessions. The feminists were dissatisfied. In a retrospective analysis they wrote that "although we gave active feedback as the exam was being performed, the physicians were the major instructors and the students looked to them to handle the tough problems and to field questions regarding pathology. We had very little control over the teaching sessions." (9) The success of these limited sessions was disquieting; the women realized that while they were ensuring more humane and better exams for women, they were also solidifying physicians' power over women by participating in training sessions in which students learned how to instill trust in themselves by making women more comfortable and informed about pelvic examinations. They saw that this accommodation to the current medical system was a way to strengthen the medical system rather than to change it. They thus proposed a new protocol, which was accepted and implemented. (10)

A Second Protocol

The second protocol included changes both in the teaching group and in the teaching sessions. The feminists created a formal group, called the Pelvic Teaching Program, and recruited community women to become members. Community women were selected using the following criteria: prior enrollment in a self-help group (this would ensure their familiarity with the concepts and practice of the self-help movement and WCHC familiarity with them); a willingness to share skills with medical students; a commitment to delineate and to critique the underlying goals of the current medical system in their teaching sessions; and a commitment to interrupt sexist, professionalistic, or otherwise offensive behaviors during the sessions. WCHC members were included on the basis of their willingness to put energy into teaching medical students and to participate in a controversial new program.

In teaching sessions, they implemented the following: two feminist instructors from the PTP met with four or five students, at least one of whom had to be a woman. Members of the PTP instructed students; and physicians, if present at all, assumed the role of silent observers. The feminists required a written contract and were paid \$50 for each session instead of \$25 for each "model" to emphasize their altered status. Each session was focused on a well-woman approach to medical care, describing the wide range of normal conditions. They demonstrated how women can examine their own genitals using a plastic speculum, light, and mirror. Each teaching institution agreed to reproduce and distribute to the medical students "How to Do A Pelvic Examination," written by the feminists from WCHC.

Part of their proposal was not accepted by Harvard. This included purchase of an information packet written by feminists for each student as well as a separ-



Aegis: Magazine on Ending Violence Against Women

ate second session to give information about women's health concerns in more detail to the students.

The Pelvic Teaching Program, now consisting of five WCHC members and six affiliated women, began to meet in an ongoing self-help group amongst themselves, to share criticisms, and perspectives about the program, as well as to devote energy to practical training, information, and skill sharing on a personal and political level. They used the group as a way to cope with embarrassing or offensive encounters and to devise strategies to avoid them in future sessions. They also used the group as a way to share their feelings about their dual roles as "models" and instructors.

They shared information about their program through meetings with other women, in reports to WCHC, and through the health center newsletters. At times, women in the PTP felt misunderstood or unsupported by WCHC. One of the ways in which the PTP and WCHC addressed this issue was by requesting that WCHC members who were not in the PTP observe teaching sessions to understand through first-hand observation what the instructors experienced. Within WCHC and the PTP individually, as well as in dialogues between the two, they addressed the controversial questions about the usefulness of an interim reform in physician education compared with other long term changes; they looked at power relations and communications between the PTP and WCHC.

The PTP wrote to *HealthRight*, a newsletter published by women's health activists, outlining their new protocol, and pointing out why specific changes were made. They requested that any women thinking of teaching pelvic examinations to medical students contact them. They thought that this would be a way of empowering themselves and other women, realizing how isolated they had been when their own program began. As a result of their own experiences they strongly suggested that any women who were going to teach pelvic examinations be involved in a group, so that they could share skills and support for each other.

The report in *HealthRight* generated criticism as well as excitement within the women's health community. Although some thought it was a victory to find members of the women's health movement being asked to teach medical professionals, others felt that training doctors was simply a cooptation of long-term strategies.

Up to this point, the PTP was similar to parts of other "Simulated Patient" programs. Responses to the PTP by students and physicians were similar to those enumerated in accounts of "Simulated Patient" programs that I surveyed: student response was favorable, with a few exceptions. Physicians who observed sessions reported that the teaching was excellent. Generally students felt more at ease, learned technical skills more thoroughly, and were better equipped to perform examinations on patients. Some of the negative responses of the students reflect the difference in the PTP from the "Simulated Patient" programs: some were distressed by the "women's libbers" stance of the feminists.

In the Spring of 1976, the members of the PTP analyzed the program and began to assert their unique political perspective. It happened in three ways:

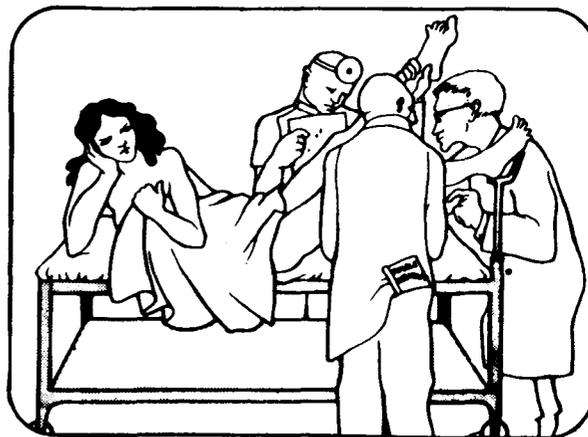
- (1) Through the political development of the group itself.
- (2) By means of the issues that the feminists, as part of the women's health movement, wanted to address through the PTP.
- (3) In the institutional response of the medical schools to the Third Protocol.

The second protocol left basic contradictions unresolved. As nonprofessionals, they taught professionals techniques that only professionals could use legally; men learned how to practice medical care for women; fragmented medical care was encouraged by the program since the feminists met only once with students, thereby offering limited and isolated information; hierarchical power relationships between provider and receiver and amongst providers were not confronted.

After their analysis of the second protocol and its implementation, the members of the PTP met as a group to write the *Position Paper* to evaluate their experiences as a group and as individuals, and to devise a new protocol that would meet their needs and serve their political purposes. The *Position Paper* outlined their self-criticism and their suggestions for questions to be raised by other women before beginning to teach pelvic examinations. They circulated this in Boston women's publications, in *HealthRight*, and in *Women and Health*, and sent out copies of it to any people who had inquired about the PTP over the past year. By this time, members of the medical profession had heard about the PTP as well, and wanted information about the program and copies of the manual written by the feminists as a sourcebook for their own programs.(11)

In discussions leading up to the formulation of the third protocol, the women in both the PTP and the WCHC addressed the ongoing issue of reform versus radical change. In their analysis of events, they concluded that as a reform within the medical system the PTP had been successful, but that it had failed to institute long term change.

In order to emphasize their self-help politics, a third protocol was devised which would make explicit the differences between their point of view and the point of view exhibited by creators of the "Simulated Patient" programs. They devised a program which would be ac-



Come Unity/cpf

ceptable to them and thereby, they expected, not acceptable to the medical schools. Rather than presenting a critique, they proposed a new program, thereby requiring that the medical school officials respond.

The Third Protocol

The third protocol included the following changes: first, teaching would be limited to women. The PTP as part of the self-help/women's health movement was committed to reciprocal sharing, and learning through reciprocity is not only different from, but more meaningful than, one-way learning. The PTP could only have integrity as a self-help experience if there was reciprocal sharing. This would entail being examined as well as examining. By definition, then, the teaching of pelvic examinations would be limited to women. By limiting the teaching to women, they wanted to force all the medical students to address the question: should men be providing gynecological care for women?

The feminists had also found that despite their efforts to the contrary, they had felt embarrassed and exploited by some of the male students — and they wished to avoid focusing attention on this part of the training. By teaching only women, they thought that it would be a more positive experience for themselves and rid them of sexual exploitation during the sessions.

Second, each teaching group of four or five women would include not only medical students, but also other hospital personnel and consumers, taught by two women from the PTP. By doing this, the feminists would address the issues of hierarchy and elitism among medical care providers and between providers and consumers, which encourage physicians to maintain a monopoly of skills and information. Instructors would exchange roles with others in the teaching group, emphasizing the need for a breakdown of the rigid hierarchy among physicians, nurses and other health workers as well as that between powerful physicians and passive "patients." They would also promote identification and recognition of similarities between provider and consumer rather than objectification and distance. This would help to demystify and defuse the physician's power and be a way of stimulating discussion about these issues.

Third, the new protocol called for three or four sessions with the same individuals to allow time for analysis of the politics of medical care, to share health information of special relevance to women, to discuss what a good examination should include, and to perform self-examination. This would challenge the teaching of medical care as fragmented and episodic. By placing the technical skills and information within the general context of the politics of medical care, they would stimulate discussion about commonly held assumptions about what students are learning and why.

Fourth, the PTP raised their fees, in recognition of their value as instructors, and of the ability and common practice of the medical schools to pay higher consultant fees. Fees were raised to \$750 for the four sessions.

The issues addressed in the third protocol were hierarchy, sexism, fragmentation of learning skills, profit, and division between provider and consumer. By this time, the PTP had been approached by the other area medical schools, Tufts and Boston University. As had been predicted by the PTP, no medical schools wanted to implement this program. Reasons varied: it was too expensive; it discriminated against men. As long as the PTP fell within the acceptable range of innovations, exemplified by the "Simulated Patient" programs, it remained an acceptable program. When it confronted basic power relations and current assumptions about the goals of medical education, the PTP became unacceptable to current teaching programs. At this stage, in the summer of 1976, the PTP ended: women received inquiries and sent out the third protocol after that date, but have no longer taught sessions.



Complaints and Disorders/cpf

Discussion

What can we learn from the experience of the PTP? One way to evaluate it is to see in what respects the women successfully implemented a reform in physician education. The PTP demonstrated that a group of non-professionals could devise and implement a program. By example, then, the women demonstrated within the medical community that "consumers" can educate themselves and become active members in the medical community. The PTP established themselves as credible teachers to both medical students and physicians. By identifying themselves as feminists, the PTP openly brought political awareness and political issues into a teaching situation and confronted sexist attitudes and practices as they emerged in the teaching sessions. In addition, by emphasizing use of common language to describe medical procedures, and by demonstrating how a woman can participate in the examination, they focused on the distinction between provider and consumer and suggested ways that the consumer could gain more power in the encounter through knowledge and skills. They self-consciously went about channeling money into the women's health movement; and got a good first-hand look at medical education. They created a need for feminists to teach pelvic examinations to medical students. They accomplished this both by their success in the first two phases, and also by their visibility in the women's health movement by doing this: medical students and health activists read about their success and the way that they went about teaching and meeting as an ongoing group, and saw by their example that it was possible.

The feminists wrote and circulated a manual for teaching pelvic examinations which is still in demand. The PTP gained considerable attention not only in the local medical and women's communities, but also nationally, through publications and networks. They continue to receive requests for protocols, for copies of their manual, and in general for information about how to implement pelvic teaching programs.(12)

However, in their own analysis, the PTP concluded that these successes were insufficient to outweigh the time and energy necessitated by the program. Their decision can be better understood if we turn to three issues: first, the PTP lacked a complete understanding of the history of "Simulated Patients" programs; second, the PTP evolved as a semi-autonomous group out of the WCHC, raising the issues of power and communication within a group of collective members and affiliated women, and between the PTP and the WCHC; and third, they carried on an ongoing dialogue about the advisability of instituting an interim reform.

In some respects, the task of the PTP had been made more arduous by their lack of complete knowledge and analysis of other programs. As we have seen,



Woman to Woman

the development of the PTP occurred through its own experiences rather than being shaped by a vision of the eventual outcome.

When the feminists designed the protocols, it was without a historical analysis of the use of "Simulated Patients" and without a complete overview of contemporaneous programs (having only looked at what had been taught at Harvard previously and screened one videotape of a program in which a physician-performed a pelvic examination on a "Simulated Patient"). If they had begun with a complete overview of precedents already set by other innovative "Simulated Patient" programs, they might have chosen other strategies with which to confront Harvard with an educated overview. The first two protocols followed essentially the same lines as "Simulated Patient" programs. What seemed to the feminists, at times, as risky and dangerous at Harvard, had already become institutionalized in other medical schools.

It was with the third protocol that the women were not only devising a better program, but were also explicitly challenging commonly held assumptions about medical care and explicitly stating some of their own political goals: to eradicate hierarchy and professionalism; to have women provide women's health care; to re-define the distinction between provider and consumer and to empower the consumer vis-a-vis the provider; and finally to challenge the monopoly over money and resources that medical schools have.

As a new program of the WCHC, the PTP was the focus of an evolving mechanism for implementing similar WCHC programs in the future. This process entailed working out problems and concerns raised during the course of the group about ways to facilitate communication and decisionmaking in a semi-autonomous program; at times this process was frustrating and stressful.

In addition, the PTP was never wholeheartedly supported by members of WCHC. Not only were the women in the PTP constantly re-examining their goals and strategies, but they were shaped by the ongoing controversy in WCHC about whether to teach medical stud-

ents. This contributed to a sense of frustration and exhaustion when the PTP evaluated the first and second protocols and drew up the third.

Finally, the task of initiating reforms in physician-training necessitates constant confrontation of the educational structures and individuals serving to oppress women. On the one hand, the struggle faced by the women to implement even the first protocol at Harvard demonstrates the threat they posed as feminist nonprofessionals entering the confines of medical providers. On the other hand, the ability of educational institutions to absorb and co-opt innovations is striking: teaching medical students ways to improve the pelvic examination for women was taken by them as a technique of managing their "patients" in sessions taught according to the first and second protocols. This ability was taken seriously by the feminists in their evaluations of the success or failure of the PTP, and must be recognized by others considering similar programs. What might appear to be positive reforms in theory might prove to be cooptations in practice, and hence not positive in the long run. Because the feminists paid close attention to the impact of their program during the process of setting it up and implementing it, they were able to evaluate it realistically.

In retrospect, we can see that the PTP was successful in some important ways and provides a thoughtful and politically responsible example of the ways in which health activists might institute change in the medical system. The experiences of the PTP also underline the necessity of an ongoing reassessment of the long range implications of short term reforms, not only in theory but in their practical application.

NOTES

*The term "patient" will be used in quotes to remind the reader of the debates over the definition of health and illness in society and over the power relations between provider and consumer of medical care.

*A person conducts a bimanual pelvic examination by inserting two fingers into a woman's vagina and feeling her cervix (tip of the womb or uterus, which extends into the vagina), and with the other hand presses down on her abdomen. In this way, the person doing the bimanual pelvic examination can feel the size, shape and position of a woman's uterus and cervix. A bimanual pelvic examination also includes checking a woman's external genitals.

A speculum is an instrument that is used to separate the walls of a woman's vagina to be able to visualize her vagina and cervix. By use of a mirror and light a woman can see her own vagina and cervix.

For complete information about what a good gynecological or pelvic examination should include, see *Our Bodies, Ourselves*, by the Boston Women's Health Book Collective.

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1. For example, see the following: Kotelchuck, David, ed., *Prognosis Negative*, New York, Vintage Books, 1976; Dreifus, Claudia, ed., *Seizing Our Bodies*, New York, Vintage Books, 1978; Boston Women's Health Book Collective, *Our Bodies, Ourselves*,

New York, Simon and Shuster, 1976.

2. Nurses, nurse practitioners and physician assistants also perform pelvic examinations. It is beyond the scope of this article to look at the differences among these professionals and between them and physicians.

3. Bart, P., Scully, D., "A Funny Thing Happened on the Way to the Orifice: Women in Gynecology Textbooks," *Am. J. Soc.* 78:1045-1050, 1973; Howell, M., "What Medical Schools Teach About Women," *N. Engl. J. Med.* 291:304-307, 1974.

4. Emerson, J., "Behavior in Private Places," in H.P. Dreitzel, ed., *Recent Sociology No. 2: Patterns of Communicative Behavior*, New York, The MacMillan Company, 1970, pp. 74-95; Shaw, N.S., *Forced Labor*, New York, Pergamon Press, Inc., 1974.

5. Teaching hospitals and clinics associated with medical schools provide services and are also training institutions. Hence "patients" receive care and provide teaching material.

6. See the following for discussions of these programs: "Announcement: Using Nonphysicians to Teach Pelvic Examinations," *Contemporary Ob/Gyn.* 11:173, 1978; Billings, J.A., Stoeckle, J.D., "Pelvic Examination Instruction and the Doctor-Patient Relationship," *J. Med. Educ.* 52:834-839, 1977; Godkins, T.R., Duffy, D., Greenwood, J., Stanhope, W.D., "Utilization of Simulated Patients to Teach the 'Routine' Pelvic Examination," *J. Med. Educ.* 49:1174-1178, 1974; Holzman, G.B., Singleton, D., Holmes, T.F., Maatsch, J.L., "Initial Pelvic Examination Instruction: The Effectiveness of Three Contemporary Approaches," *Am. J. Obstet. Gyn.* 129:2, 124-129, 1977; Johnson, G.H., Brown, T.C., Stenchever, M.A., Gabert, H.A., Poulson, A.M., Warenski, J.C., "Teaching Pelvic Examination to Second-Year Medical Students Using Programmed Patients," *Am. J. Obstet. Gyn.* 121:5, 714-717, 1975; Kretzschmar, R.M., "Evolution of the Gynecology Teaching Associate: An Education Specialist," *Am. J. Obstet. Gyn.* 131:4, 367-373, 1978; Schneidman, B., "An Approach to Obtaining Patients to Participate in Pelvic Examination Instruction," *J. Med. Educ.* 52: 70-71, 1977.

7. Information about the Women's Community Health Center (WCHC) and the Pelvic Teaching Program have been gathered from the following sources: Women's Community Health Center, Inc. "Experiences of a Pelvic Teaching Group," *Women and Health* 1:4, 19-20, 1976 (this is a reprint of the *Position Paper*, June, 1976, available from WCHC, 639 Massachusetts Avenue, room 210, Cambridge, Massachusetts 02139); WCHC, Third Annual Report, Cambridge, Mass., 1977; WCHC, "Letter to the Editor," *HealthRight*, 2:3, 2, 1976 (The address for *HealthRight* is 41 Union Square, Room 206-9, New York, NY 10003); WCHC, "Announcement," *Women and Health*, 1:1, 17, 1976; WCHC, "How to Do a Pelvic Examination," 1976; WCHC, "Proposals to Teach Pelvic Examinations to Medical Students," 1975 and 1976; Norsigian, J. "Training the Docs," *HealthRight*, 2:2, 6, 1975-76; Other sources have been informal and formal discussions with the PTP and the WCHC. As a member of both the PTP and the WCHC, I have drawn from my own experiences as well as from the above sources.

8. The development of the PTP could be analyzed from the point of view of the medical institutions as well as from its self-concept. This article will concentrate on the PTP from the feminist perspective.

9. The quote is from the *Position Paper*.

10. Through various networks, other women's health groups and publications heard about these sessions. *HealthRight*, *Women and Health*, and *Liberation News Service* published information about the program.

11. The PTP has refused to supply copies of their manual to any members of the medical profession out of context.

12. For discussions of the PTP written by members of the medical profession, see the Billings and Stoeckle article and the Announcement, listed in Note #6 above.



The Amsterdam Science Shop

DOING SCIENCE FOR THE PEOPLE

by Ad Meertens and Onno Nieman

The "magical year" 1968 initiated a trend in Holland toward democratization, especially within the university. One of the results of the student movement that brought about many such changes at the university was the Science Shop, whose development we wish to describe in this article.

The Science Shop at the University of Amsterdam resulted from the movement of progressive forces at the University of Amsterdam to create a more democratic and socially relevant university. It was a victory for the concept that not only research whose results maintain and strengthen the established institutions should be pursued, but that less powerful groups in society should have an opportunity to alter their conditions with the aid of scientific research.

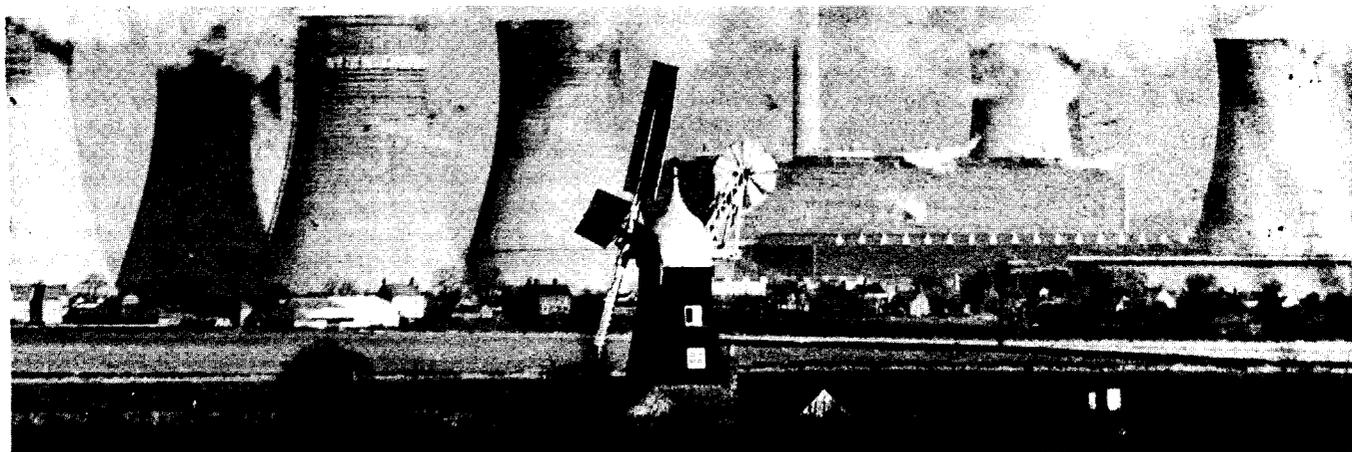
There were real differences in attitude between the student movements in the natural and social sciences. In the social sciences a dispute arose as to what was the Marxist method of research. In the natural sciences this did not occur because nobody could conceive of a "marxist method." Still the movement in the natural sciences oriented itself to methodological questions and to the relations of science and society on a theoretical level and cooperated closely with the movement in the social sciences. This had an enormous impact on the Department of Natural Sciences. Thus their early theoretical preoccupation prevented practical work in the world outside the university. It prevented almost every practical relationship to the problems of science and

society. All practical proposals were criticized in principle. In the Department of Social Sciences limited practical changes were achieved; for example, each new appointment to the Department became an openly fought issue. The most remarkable difference between the two departments was the ability of the social science movement to cope with aggression from those in authority and to return that aggression. However, in 1976, the attitude of the students in the natural sciences changed, and new interest was aroused in the possibility of practical applications of research. Until then, the ambiguous commitment to both old and new values had prevented real change.

In 1976, the Union of Scientific Laborers attacked the situation in the universities by planning new ways to organize research in socially important areas, e.g. job security and health for industrial workers. Simultaneously the government reduced and reorganized the budget for scientific research, and demanded more influence in the direction of that research. Therefore an organization of councils concerned with research priorities, which would have the participation of the government, trade unions, environmental groups, and consumer organizations, was proposed. On the initiative of the student movement and in cooperation with the science and society movement in the Department of Natural Sciences, the Amsterdam University decided in February, 1977 to work out plans for starting an agency for socially relevant research. In March 1977, the science and society movement made an unofficial start by approaching trade union and environmental groups and making an inventory of possible questions for research. In this way the as yet unofficial group found support outside the university. Confronted with this support the university decided to institutionalize the unofficial group for a trial period of one year. In other universities some groups are trying to start a Science Shop by following a different strategy; they first try to find the idea inside the university, or try to start shops dealing with particular disciplines, like physics or chemistry.



This article is a substantially edited version of one contributed by Ad Meertens and Onno Nieman, who currently live in Amsterdam, The Netherlands.



Fellowship

The Amsterdam University Science Shop is centrally organized but has separate sections in the Departments of Chemistry, Biology, and Law. Sections are also being planned for Women's Liberation and the Department of Literature.

Within the student movement, the centralized structure of the Science Shop met with some resistance. Some feared the institutionalization of the Science Shop and the consequent weakening of the original guiding ideology: some feared the "delivery" of the university to the trade unions. As might be expected from the history of the science and society movement, these arguments are "felt" philosophically, but have little meaning in actual practice.

Organization and Procedure

The Amsterdam Science Shop attempts to do research that will contribute to the strength of groups which are working for democracy and a progressive reconstruction of society. Those organizations which come to the Science Shop with a request for assistance must meet three criteria:

1. They should be unable to pay for the research.
2. They should have no commercial aims.
3. They should clearly be able to benefit from the research which they are requesting. In practice the third criterion is applied flexibly, as the requested research may be of importance to other groups or individuals.

If a group or individual is considered to have not met these standards, a rejection proposal is sent to the "General Board" of the Science Shop. This board is composed of twelve representatives from progressive groups outside the university and twelve representatives from the university. If this rejection proposal is denied by the board, the potential clients will usually be invited to further explain their problem.

Once a research question is accepted, it is advertised in the University's Weekly. If there is no

response from students or staff-members, a member of the Science Shop Research Committee will try to find a way to make the question a subject of research at the university by contacting individual staff-members or students. If a staff-member or student (under the supervision of a staff-member) is found, a meeting between the researcher and client is arranged in order to discuss the problem, and if necessary put it in a form suitable for a research project. After this meeting, the client and the researcher keep in touch directly if they wish, and the responsible member of the Research Committee is kept continually informed on the progress of the research. For legal purposes these arrangements are confirmed by a letter which is also signed by the Board of the University. After the final report, questionnaires are sent to the client and the researcher to see if they are satisfied.

To a certain extent, the above is a description of how things would work ideally. The eventual disposition of a research question coming into the university from the outside world is rather dependent on the voluntary cooperation of some staff-member. Therefore the Science Shop is working to institutionalize the mediation between the client and the various university departments. Several so-called "contact groups" have already been formed in different departments. Another difficulty is the frequently interdisciplinary nature of the questions. A question is seldom wholly economic, sociological, or historical. So, the Science Shop tries to structure research questions, in order to indicate the problem fields in which projects should be started.

The formal organization of all the Science Shop's activities is as follows: A General Board has the ultimate power within the Science Shop on all matters, and all the committees in the Science Shop, with a few exceptions, are responsible to the General Board. There is in addition to the General Board, a General Assembly consisting of all those who take part in the activities of the Science Shop in any way. Decisions on policy matters are made during deliberations between these two

bodies. The University of Amsterdam takes final responsibility for the activities of the Science Shop. All the research requests which come in, the progress of the research projects, and all other activities and plans are published in the biweekly newsletter of the Science Shop. This maximizes democratic control.

Results

In this section some examples of the research are presented. Of the examples given, three of the questions resulted in scientific research and the other two were dealt with by giving advice.

a. Questions asked by the Federation of Trade Unions and by the League of Environmental Defense resulted in an examination of what caused these groups to be in frequent opposition to each other. A sociologist and a group of students at the University of Groningen decided to work on this problem in cooperation with a researcher at the Institute for Environmental Problems of the University of Amsterdam. They decided to explore the relations between the positions of worker's groups and environmental groups using actual case studies. One case was that of a chemical plant of a multinational company located in the northern part of Amsterdam. Another case concerned the locating of a liquid natural gas plant in the north of Holland. At this moment this research is still in progress.

b. A lawyer representing a group of women prisoners at the Amsterdam Women's Prison came to the Science Shop in need of an expert on air-conditioning for his case on behalf of the women prisoners in their suit against the government. Within the University no one was prepared to help this group of prisoners, so the Science Shop had to search elsewhere. Finally, experts of the Institute for Research in Natural Science agreed to give informal advice on this matter. The verdict in the case meant victory for the prisoner's group, since research into the functioning of the prison's air-conditioning system was ordered by the court. This verdict was much regretted by government officials.

c. A large chocolate factory announced in a report to its trade unions, the dismissal of 60 workers. The union came to the Science Shop requesting an analysis of the factory management's arguments. An economist agreed to do so, and showed in his analysis that the financial situation of the factory was not that bad. On the basis of the arguments given, the dismissal of the 60 workers was found to be unnecessary. In the ensuing negotiations it became clear that the management had withheld some vital information from the union. This led to an arrangement entailing the gradual discharge of the workers but under more favorable conditions than previously.

d. The Graphic Worker's Union came with the complaint that some of their members working with the so-called "letterflex" process, used in printing newspapers,

were developing skin and eye irritations. The Department of Chemistry of the University of Amsterdam carried out research on this process, and concluded that despite the statements of the Labor Inspector, working with these chemicals was harmful to the workers' health. The Labor Inspector read the report and concurred with the chemists' conclusions. As a result working conditions were changed. The producer of this printing process, fearful of losing a market for his products, cooperated fully in providing complete information on the materials used by the process.

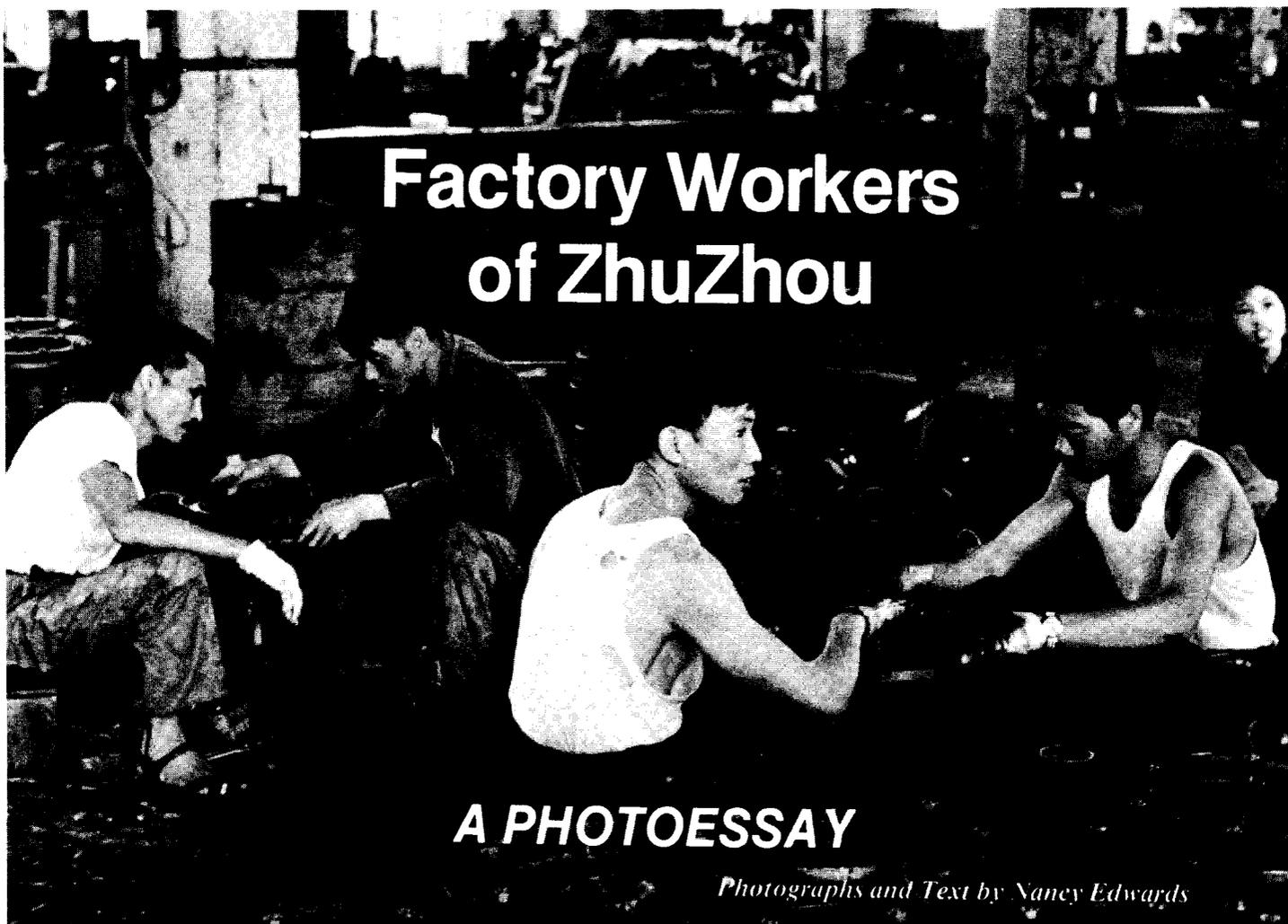


e. "Release", a progressive welfare organization, wanted to do a survey on the housing situation of migrant workers in the Netherlands. After a few meetings between researchers and "Release" people, it became clear that a research project covering a whole country would be too big an undertaking. Therefore it was agreed to research one town and one group of migrant workers, namely Turkish workers. In August of this year, two students finished their work on this problem as a final stage in their project on human ecology.

Difficulties

The Science Shop has had problems both in its contact with clients and in organizing relevant research. The first problem has been putting the client's problem into a form suitable for a research project and convincing the client to join the Board of the Science Shop. The Science Shop found that clients can have a great effect on the research done on their specific problem, so it is

(continued on page 36)



Factory Workers of Zhu Zhou

A PHOTOESSAY

Photographs and Text by Nancy Edwards

To China! — A City Neighborhood in Zhuzhou, Hunan

A fine, light rain has fallen, still caught and held by fan-shaped leaves of the ginkgo trees along the avenue. There is an earthy smell in the air. The day started coolly enough, but warmed-up quite suddenly so that by ten o'clock I already feel that little pool of sweat forming in the small of my back, reminding me that another summer, another cycle in life had come.

Nancy Edwards is an anthropologist who has done research in Central and South America, has taught in colleges and universities in the Midwest and East, and is presently involved in social

A little girl comes walking down this dusty street. She must be about four years old. Her heavy black hair is bound back in braids; like many adults crowding along the street with her, she wears plastic sandals on her feet. Bordering each side of the street are three-story apartment buildings, their casement windows thrown open to catch any stray breezes. Bamboo poles jut out overhead, bearing items of family laundry — blue pants, white shirts, pastel blouses and the occasional splash of a red garment or a brightly-colored piece of bed linen.

research in science education at New York University's Medical Center. She was a member of Science for the People's second trip to China in summer 1978.

At the intersection where this little side-street meets the boulevard is the Pork Store. The girl reaches the corner and becomes engulfed in a sidewalk crowd surrounding an older woman selling "ice suckers" (vanilla-bean flavor today) from a fancy big thermos. At the curb, four gray state cars with white side-curtains are a sure sign to all that our foreign delegation is nearby. The sidewalk crowd swells, the more curious moving over the threshold and into the store with us.

It is cooler in here, and dim; the pungent smell of smoked pork fills the air, and bottles of beer, wine and Mao-tai sparkle in rows behind a glassed enclosure. Clerks, weighing the pork and wrapping packages, stand in back of the counters, their fingers clicking across the abacus's

beads calculating bills, making change. The average consumption of pork is one *jin* (1/2 kilo) per person per week. The price is set at the provincial level, determined by local conditions, and the prices in China have been stable for nearly 20 years.

The walls of the store are shiny white tile, hung with signs, price listings, and brightly-colored, locally-made wall hangings of dyed pigskin, depicting nature scenes. In the back is a little restaurant, and comrades sit at tables lunching together. A man carrying a string bag of groceries, a furred umbrella and bamboo fan — completely prepared for the June climate — stops to rest a moment and chat with friends.

Next to the Pork Store is the vegetable and poultry market. Its produce is colorful and nicely displayed: rosy brown eggs are piled one on top of the other to form perfect little pyramids, the light from the window glistening across their shells. Overhead signs and pictures give mini-lessons in diet and nutrition. The Chinese are busy people, and the busiest time here is between 5:30 and 8 a.m. But I suspect this was always so, for this was traditionally a market town.

Market Town to Industrial Center

Today Zhuzhou is an industrial city, with an urban population of 205,000, or 803,000 if one includes the surrounding countryside. Town and country nestle in the gently arching curve of the Xiang Jiang River, whose waters flow into the Yangtze and onward to the coastal plain meeting the East China Sea at Shanghai. Zhuzhou has always been a small provincial market center — long before Liberation, before Mao Zedong and Zhou Enlai and the Red Army, before Chiang Kai-shek and the Guomindung marched across the land, even before Sun Yat-sen and the New Democracy. Local peasants pushed their porkers on two-wheeled handcarts, as they do now in the early morning, toward Zhuzhou to market and to the tannery.

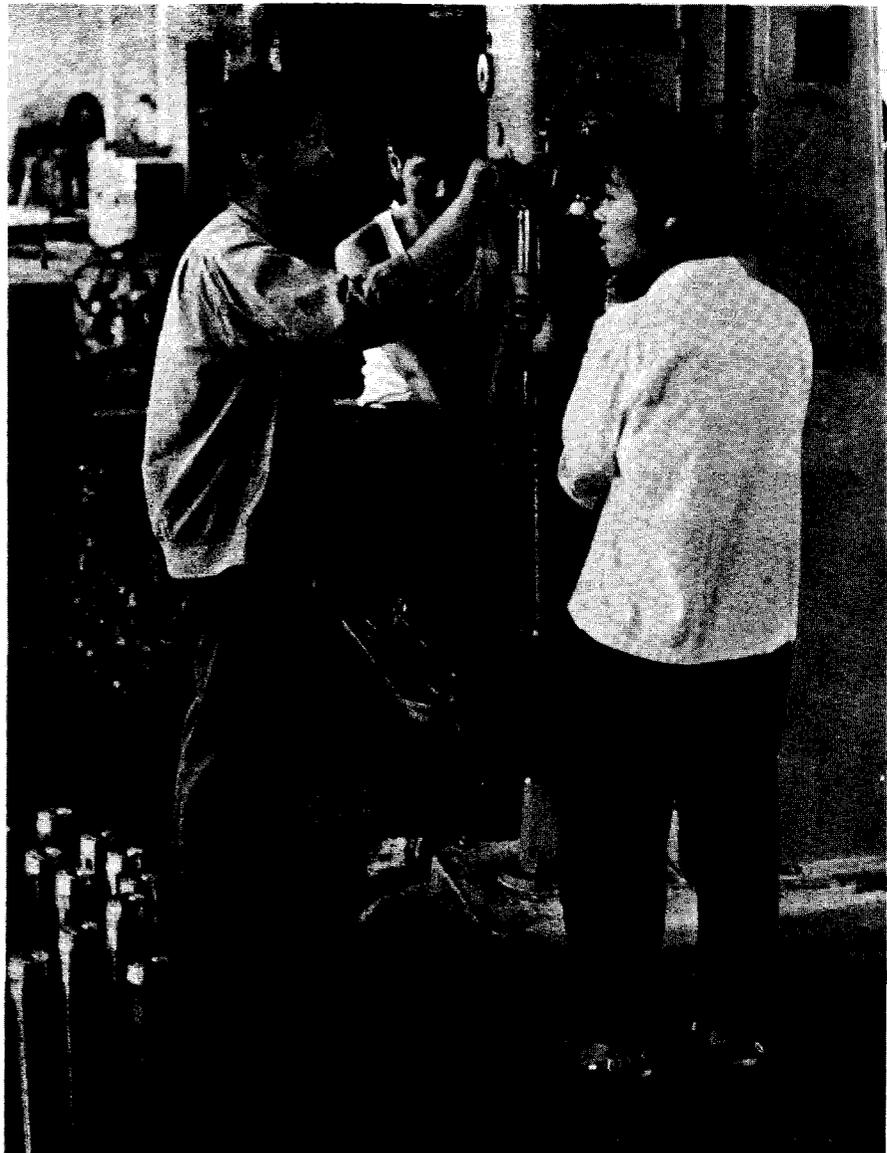
Around the beginning of the century, Zhuzhou became an important stop on the Guangzhou (Canton)-Wuhan railway line, and began to acquire prominence as the Pingxiang coal mines were connected to Zhuchou by rail. A small industrial proletariat began to emerge from the townspeople, from the peasantry.

Today the factory workers of Zhuzhou are important manufacturers of railway equipment, of locomotives, and of rolling stock. Copper and zinc are mined nearby and form a part of the city's industrial

development, as do the chemical and fertilizer industries. There is a sizeable glass factory, and hemp is transformed into fine cloth at a local textile mill. And of course, there is the leatherworks — where the hides of local pigs are transformed into fine coverings for human hands and bodies.

Politics and Production: The Leatherworks and a Hemp Factory

In 1956 industry here began to develop, and in 1958, during the Great Leap Forward, the leatherwork factory emerged with 54 workers and



Young workers, as yet unmarried and still living in parental homes, claimed to be able to save nearly half their income.



It is particularly disconcerting to see a worker place his hands inside a spinning centrifuge to pack the hemp more evenly.



In virtually all cases, women as well as their husbands work.



Since 1966, the productivity of labor has increased by 50 percent, largely through technical innovation and continued mechanization.



Three-story apartment buildings border each side of the street, with family laundry hanging from bamboo poles.



Women in heavy industry tend to be employed as welders or machinists rather than doing casting, stamping, or heavier assembly work.



At left, although overhead cranes moved materials across the workshops, no one wore hardhats.

At right, work at the Boxcar Factory is organized into three shifts, with workers rotating among these shifts by the week.

150,000 yuan* in production funds. Now, twenty years later, this industry employs 341 workers, and its production funds total about 2.5 million yuan. Since 1965, the workers have produced leather goods for export.

As in many factories, workers' wages range from 38 to 80 yuan per month depending on seniority, with 50 yuan the average. The length of the working day extends from 8:00 in the morning to 5:30 p.m., with an hour and a half for lunch, six days a week. Eighty percent of the workers are women, our host tells us, "because it's light work."**

In one workshop, perhaps a hundred women sit on backless benches, stitching leather gloves on sewing machines brought here from Shanghai. The centers of the tables are piled high with glove pieces, looking nearly like soft yellow petals from exotic flowers. The windows are open; it is an airy and uncrowded

*A yuan is worth about \$.40.

**Judy the official note taker did not record whether this was said by a man or woman.

workshop. Next to each worker's machine is an enameled cup with a lid, to keep heat from escaping the pale yellow tea. From time to time, a woman takes a sip or stands up and reaches for something on the table.

A hundred or so sheets of red paper with large written characters form a colorful bulletin board along the back wall. "What's this on the wall? A production record?" Comrade Wong, an interpreter, tells me this is the "Determination of the Workers" board. "You see, after the workers study the political documents, the articles, they write their own feelings of determination. Because after smashing the Gang of Four, they are determined to do the work better than ever before."

I ask her to read one: "Just pick one, read one." She consults one of the factory cadre* and then leads the way to the bulletin board. We select one from a row near the bottom.

*The cadres are those persons who hold positions of special responsibility in the various organizational levels of Chinese econom-

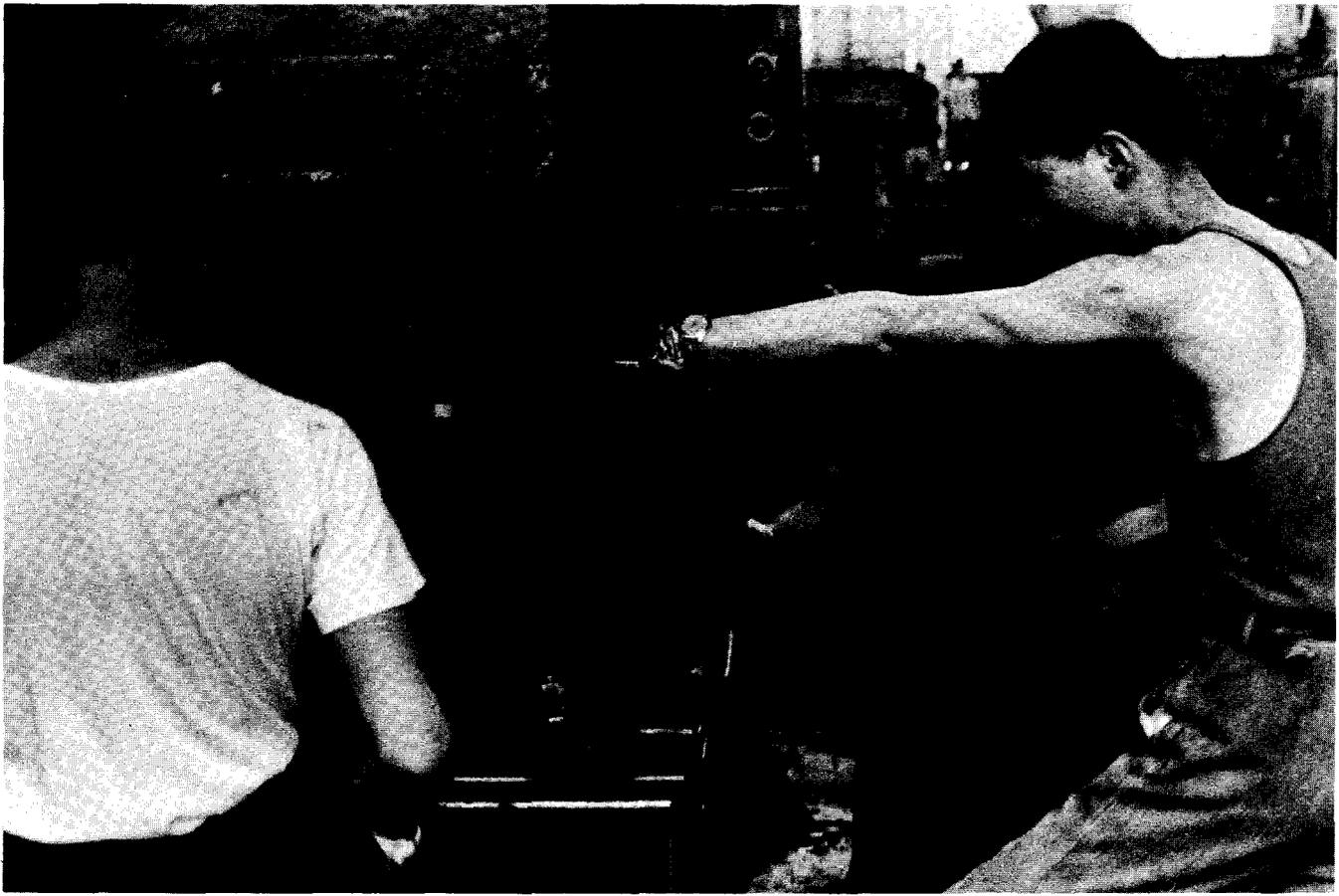
ic, political, and social life. Generally they are Party members. The Chinese term previously used for 'officials' was dropped because of its negative historical associations.

Yellow characters on the red cover give the name of the worker, and the title "Determination Article." Underneath this coversheet is a white piece of paper, with the following statement:

Under the correct guidance of the Central Committee, I must follow Chairman Hua closely and continue to criticize the Gang of Four and, in order to realize the four modernizations designated in the People's National Congress, which was also designated by Premier Zhou, I specifically made a determination, a plan:

1. I must read books of Marxism-Leninism with painstaking effort, to raise my political consciousness.
2. To take part in the movement of criticizing the Gang of Four actively, and to raise my class struggle consciousness.

ic, political, and social life. Generally they are Party members. The Chinese term previously used for 'officials' was dropped because of its negative historical associations.



3. Unite with other workers and help each other to do the production work actively.

4. I must strive to finish my tasks before the year has ended.

It would be a mistake to treat such a document as only a rhetorical exercise. Political intensity and undertone are not to be underestimated in the context of China's industrial workplace, where the dispute between the leftist Gang of Four and the Deng Xiaoping factions of the Party took on special significance.

Deng's concern with technological modernization took a number of forms, including a focus on educational ideologies and standards which affected the training of technical and scientific workers, an emphasis on the importance of expertise in the management of factories, and a renewed emphasis on techniques for increased production. Various political views, including those of the Gang of Four, held that these ideas represented a con-

servative bourgeois political line. The concept of workers' management championed by the Gang of Four is now subject to heavy official criticism for advocating practices which would ultimately have weakened and divided the masses. Its ultra-leftism is now seen by the Deng Xiaoping faction as a disguise for an essentially bourgeois line.

Again and again, cadre in various factories in Zhuzhou as well as in Shanghai emphasized that the abandonment of work rules during the Gang of Four period resulted in sabotage to production, and thus in sabotage to the national welfare. The Gang of Four faction accused Zhuzhou's Railroad Boxcar Factory of operating under the "theory of productive forces" — that is, of caring more about production than politics. As a result, during the period of the Cultural Revolution, 90 percent of the workers there, at one time or another went to the countryside to "learn from the peasants." Apart from the political considerations of such a policy, this practice

has accomplished, on a national scale, a considerable economic redeployment of urban labor into agricultural production.

With the Gang of Four-Deng disputes officially resolved for the moment, China's factories have once again reinstated work rules. At Zhuzhou's Hemp Factory, which employs 2,821 workers, productivity is said to have increased three-fold since the period of the Cultural Revolution. A corollary has been the rehabilitation to their old positions of many managerial cadres who were criticized and demoted during the Cultural Revolution. Walking through the various workshops, one notes the omnipresence of "worker emulation boards." Each workshop has a committee which grades workers on productivity, labor regulation adherence, political study, safety, and so forth. Tokens, such as fountain pens, are awarded to those scoring highest in these ratings, as psychological rather than material incentives to production.



Safety is regulated in the textile mill by cadre who have a consultative relationship with a labor committee of workers. Many phases of textile production are hot, heavy, hard work. Although some workers in the spinning and weaving phases of the process do wear face-masks to protect themselves against inhalation of particles, many others do not. The looms themselves produce deafening noise, but even simple earplugs are not worn. It is particularly disconcerting to see a worker place his or her hands inside a spinning centrifuge, just after the mechanism has been set into motion, in order to more evenly pack and balance the load of hemp.

The Hemp Factory, like the Leatherworks, has a majority of women workers — 61 percent — yet only two out of nine administrative cadre are women; of the technicians, 30-40 percent are women. Often the reason cited for this discrepancy is that time is required to rectify all of the injustices of the old order, and

that strides to do so are continually being made.

Heavy Industry: Railroad Boxcars

Water and railway connections, together with a proximity to coalfields and sources of other raw materials, have enabled the transformation of Zhuzhou from a market town to an industrial city. The Railroad Boxcar Factory, also built in 1958 during the Great Leap Forward period, employs over 4,000 workers and produces 4,000 cars per year, in thirteen varieties, some of which are exported to Tanzania. Since 1966, the total profit is twice the capital investment, and productivity of labor has increased by 50 percent, largely through technical innovation and continued mechanization.*

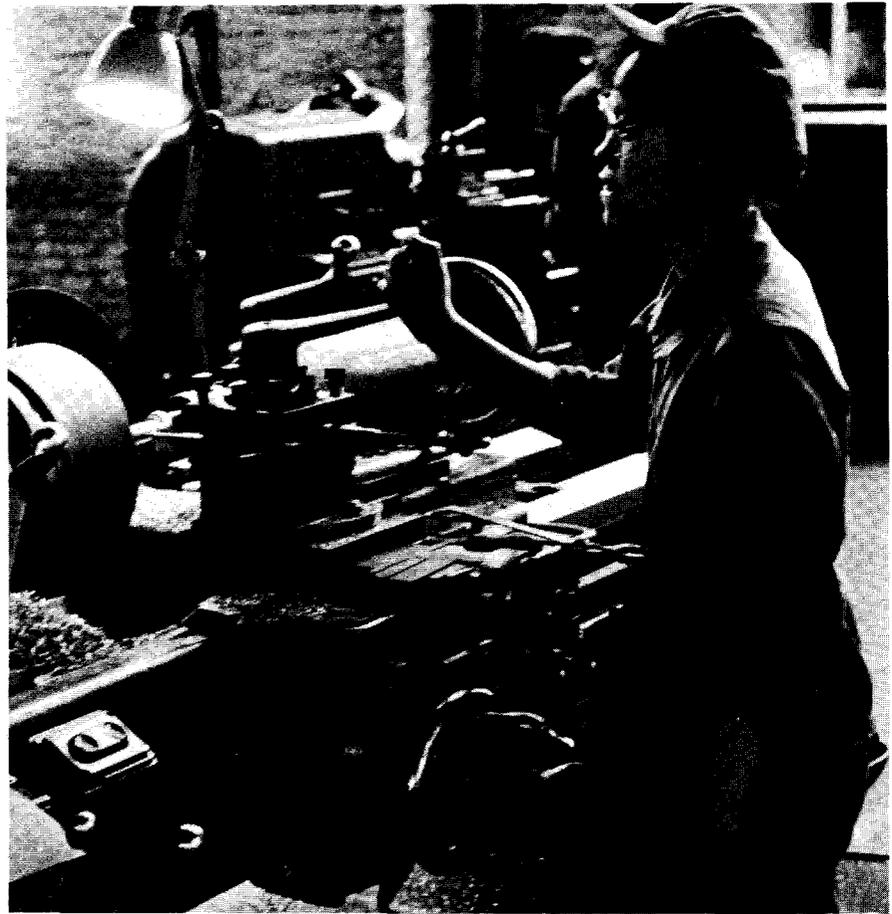
*The factory manager stated that they realized 2,100 technical innovations in the 1966-78 period, of which 200 are regarded as significant. Further, they report that the factory's half-year goal is finished a month ahead of schedule.

The factory complex itself is organized into fourteen separate workshops, and incorporates facilities for the 80 percent of the workforce who live on the site. These include a grammar and middle school, a July 21st University, a workers' hospital, a nursery, cultural facilities, and living quarters.

The monochromatic scheme of the workshops is punctuated by the presence of the worker emulation boards, which are often quite colorful (lots of red) in their graphic display of work teams' achievements. Fewer women are employed in this factory than in the leatherwork and textile industries, and those who are tend to be machinists or welders rather than doing casting, stamping, or heavier assembly work. Those working women who are nursing young children have two hours out of the working day — one in the morning and another in the late afternoon — to spend with their infants. Pregnant workers also have additional rest time and lighter work assignments.

At left, workers crowd in lines leading to small pass-through windows where food is served — here, bowls of hot rice and fancy twisted steamed bread, together with a choice from among eight or ten different vegetable or meat dishes daily.

At right, most workers dress in dark blue, and wear soft-crowned hats with narrow visors.



Most workers dress in dark blue, and wear soft-crowned hats with narrow visors. Although overhead cranes move materials across the workshops, no one wears hardhats. In like manner, very few workers wear steel-toed shoes, preferring soft cotton cloth shoes or plastic sandals. Safety glasses, while available, are used only by a few, and the general sentiment is that experienced workers have little need for such things. Most assert that they find hats, safety shoes, and glasses uncomfortable. Safety committees exist at both workshop and factory levels, and while self-criticism surrounds these issues, few accidents are claimed.

Factory Workers

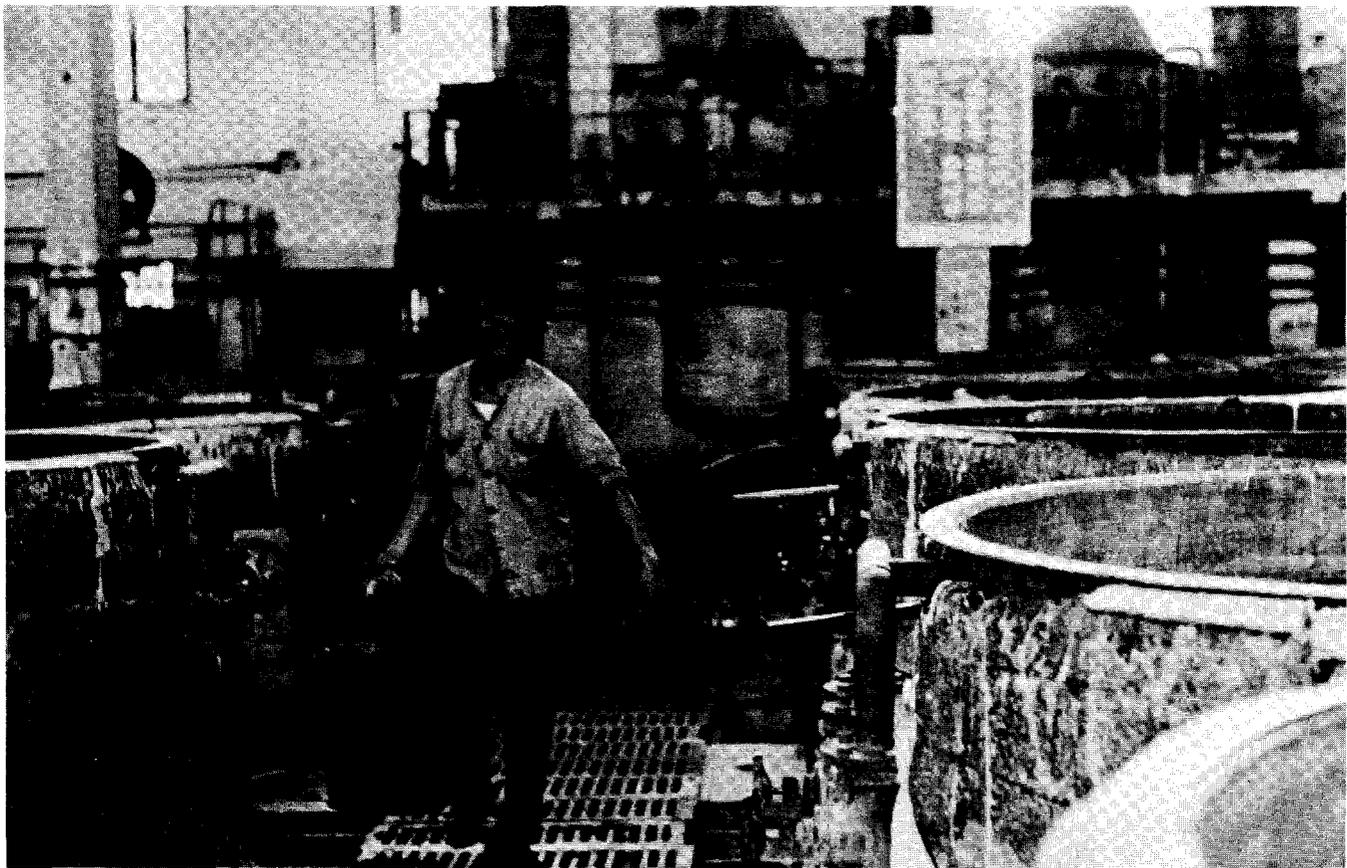
Work at this factory is organized into three shifts: 7 a.m. - 3 p.m., 3 p.m. - midnight, and midnight - 7 a.m., with workers rotating weekly among these shifts. No particular effort is made to see that husband and wife work the same shift, and in vir-

tually all cases women as well as their husbands work. Typically, in China workers have one day off per week, and those whose work is at some distance from their families or birthplace have twelve paid leave days (not counting travel time) a year to visit their homes. This is also the case for husbands and wives who have been geographically separated in work assignments. Sick time, with pay, is universal and unlimited in duration.

The factory manager — a 30-year industrial worker, husband, and father of four children — earns 137 yuan a month (compared to 90-108 yuan a non-managerial worker of comparable seniority might earn). Out of this salary, he pays 4 yuan a month for rent and utilities, and saves about 50 yuan. Another somewhat younger man, whose wife is also employed at the plant, claims a combined family income of 127 yuan monthly, of which 2 yuan is spent on rent and utilities. 70 yuan for food, and 30 yuan goes into savings. Savings tend to be used for the

purchase of certain consumer goods — such as bicycles, or watches, or are put aside for the occasion of a trip to one's family home. Young workers, as yet unmarried and still living in parental homes, claim to be able to save nearly half their income. Workers in the Boxcar Factory are also careful to point out that banked savings are regarded as being available for the state's use in socialist reconstruction and in building the new society, and one gets the feeling that a considerable campaign within political study groups has probably surrounded this topic.

The Boxcar Factory houses a July 21st College which provides two-year vocational and political courses to selected workers, preparing them to acquire theoretical knowledge and skills required to become technicians in the factory. These colleges for industrial workers emanate from Mao's famous July 21st, 1968 directive calling for a policy of "selecting students from among workers and peasants with practical experience, who should then return to



Many phases of textile production are hot, heavy, hard work.

production after a few years' study." Science and technology, and applied training are stressed in short courses; the primacy of proletarian politics is a major criterion for admission.

At the Boxcar Factory's July 21st College, most worker-students are lower-middle school graduates. Beneath classroom portraits of Mao, Hua, Lenin and Stalin, they study mathematics, tolerance, electricity, and heat treatment. They spend about 3-4 hours a day in the classroom, over a two year period. During this time, they receive their usual wage, although they do no productive labor. While they will probably not receive an increase in salary after graduation, they nevertheless will return to positions in the factory that entail greater mental engagement and stimulation than most workers are likely to find in the highly routine repetitive tasks of production.

At noon in the factory compound, workers chat among themselves as they break from the demands of

production and move with clusters of friends along the roadway joining the various workshops to the worker's lunchroom building. There, sunlight spills through tall windows into the large dining-anteroom. Wooden tables and benches are arranged along either side of an open central space, and everyone crowds in lines leading to small pass-through windows where food is served by women kitchen helpers. Eight or ten different meat and vegetable dishes are prepared each day. Above the windows, signs post the daily menu and price listing alongside the portraits of Chairmen Hua and Mao. For a few cents one can buy a heaping portion of delicious spinach in hot garlic oil, or plates of pork and mushrooms together with bowls of hot rice and fancy twisted steamed bread — all of which contend most favorably with the cuisine in the foreign visitor's dining room at the plush, Peijing (Peking) Hotel.

Many vegetables served by this kitchen are grown in gardens on the factory grounds, which provide

lovely patches of green and tilled earth between the shops and foundries. If they wish, workers may eat three meals a day here for about 15-18 yuan a month. Many buy only lunch, but others often eat breakfast here as well. The kitchen staff attempt to meet special dietary needs, and monitoring of the menu is based largely on the demonstrated popularity of various dishes. While workers quickly fill the available indoor tables, others take chopsticks and bowls and sit in little groups outside in the shade.

Watching these people eating, resting, talking, one is struck by the absolute absurdity of propaganda that conjures forth the image of "faceless masses." The experiences of even a few days among them forever replaces that fiction with the very real flesh-and-blood picture of a sincere and vigorous people. Yes, there is little doubt that China's modernization has a long way to go, but there is also no doubt that these people have already brought it very far indeed.□

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CHANGING THE FACE OF HEALTH CARE IN MOZAMBIQUE

by Marc A. Snyder and Judy A. Spelman

While they waited for the pediatrics ward meeting to begin, the workers at Central Hospital of Maputo were singing. "*A luta continua contra a sistema colonial.*" "The struggle against the colonial system still goes on." Although a ten-year war ended direct Portuguese rule in Mozambique, FRELIMO, the governing party, now leads a struggle against the colonial inheritance of undemocratic structures, and human and economic underdevelopment. That struggle finds expression in the twice monthly meetings of hospital workers

with their *conselhos do base*, representative worker councils that have been developed in all workplaces as part of a program of popular democracy.

A cleaning woman led the meeting which included a discussion of the work load of the ward kitchen, the unavailability of certain items from the laundry, and the discipline of workers found to be drunk. Several nurse auxiliaries were praised by the *conselho* for their dedicated work and were selected for upgrading of responsibilities in patient care. Finally, a theft of measles vac-

cine was analyzed by a ward doctor who explained that a person who would distribute inactive vaccine for profit was an exploiter of peoples' ignorance.

After an hour of talk, *Camarada* Guilhermina led a closing chant: "Long live the Mozambican people. Long live FRELIMO. Long live the hospital workers and patients." She smiled at the unintended irony, but it is clear that since FRELIMO decided to intervene directly in the functioning of the Central Hospital in October 1976, workers' lives are better and patients' lives are longer.

The 1600-bed institution, with 300,000 annual outpatient visits, was notorious in colonial days for its rigid divisions of wards and services according to race and ability to pay. It began to change in July 1975, a month after Independence, when all health services were nationalized and the private practice of medicine abolished. The separation of patients by class and race was ended, as was the distinction between the elite university and the substandard public services of the hospital.(1)

These measures alone could not guarantee improved medical care, because colonial attitudes still prevailed in the hospital. All but 85 of the country's 550 doctors, the majority of whom had practiced privately in Maputo, the capital, left Mozambique after Independence. Some of them, along with others who opposed nationalization, sabotaged much of the Central Hospital diagnostic and treatment equipment. Corruption was rampant. Colonial attitudes deprecating patients continued. Nursing services were sporadic and inefficient; custodial service practically non-existent.

After repeated criticisms of the hospital were brought to the Party, FRELIMO decided to intervene. Samora Machel, President of Mozambique since Independence, himself a trained assistant nurse, described the hospital as "a center of bad treatment and of humiliation of our people. There exists in the hospital a total disinterest for the poor patient which is manifested in attitudes towards him by doctor and nurse in bad hygiene in their workplaces, in liberalism and in total absence of discipline among the workers . . . The hospital has been a center of theft, immorality, liberalism, confusion, anarchy, indiscipline, in sum, a center of political, ideologic and material corruption." Why was it singled out for special treatment? "Because the Central Hospital of Maputo is our National Hospital, a unique hospital structured and organized to serve all the people . . . because (it) constitutes the major center of training and formation of health workers . . . and because the Central Hospital decisively influences, now and in the future, our fight in the field of health."(2)

Marc A. Snyder is a physician in family practice and emergency room medicine. Judy Spelman is a nurse in an intensive care unit. They are active in South Africa support work and health care politics in the Bay Area. They were in Mozambique in June-July 1978.

In 1971, when Samora Machel spoke about the hospitals established by FRELIMO in the zones of armed struggle, he characterized them as "far more than centres for dispensing medicine and cures. A patient's stay in hospital should serve to heighten his awareness of national unity . . . Our nurses, our medical staff, besides having their specific tasks, are also instructors, teachers, political commissars."(3) In 1976 FRELIMO was determined to restructure the Central Hospital of Maputo along similar lines. The party appointed militant hospital workers to the hospital's new directive body, the "Commission of Restructuring," and it directed the setting up of *conselhos* on each ward and service.

A typical ward council includes the chief physician, the head nurse, and about 6-8 ward members elected by the workers. They meet weekly to discuss ward and hospital problems, have meetings twice a month with all the ward staff, and regularly with all workers and patients together. In the case of the pediatrics service, this has meant meetings with the mothers.

Conselhos often arbitrate arguments between individual workers and handle requests for work transfers. In one case a man working as the ward's "hygienic aide" asked to transfer to the carpentry department. The *conselho* decided that the man could go, but only after a replacement had been found.

The introduction of *conselhos* as a form of "popular democracy" has not yet changed the work attitudes of all, but for many workers it has fostered greater responsibility and pride. On several wards of the hospital, workers set up literacy classes for themselves and the patients. An elderly cook on a pediatrics ward began to take special interest in the children with tetanus. She would call the doctors when the children had convulsions or severe spasms, and call the nurses when they vomited and needed suctioning. Her efforts resulted in a precipitous fall in the death rate for these children which was displayed on a graph for all workers to see.

To deal with the problems of poor attitudes and performance, two other specific measures were instituted. One, *emulacao socialista* ("socialist emulation"), was introduced to increase productivity and develop a sense of responsibility among workers for the hospital and patients. Evaluation brigades, composed of workers from different wards, make surprise visits to the wards and services to assess cleanliness, charting, pharmacy, health education, linen, ordering of supplies, etc. Results are distributed, and each *conselho* can analyze its own strengths and weaknesses, appreciate the overall development of the hospital, and learn specific approaches to common problems that have been worked out by another ward or department. The other measure is a discipline code, which was approved by the workers and by representative neighborhood groups which periodically evaluate the hospital. A worker who hits a patient must go to a re-education camp; lateness is

fined: drunkenness may result in dismissal. The *conselhos* on each ward will assume responsibility for administering the code.

Another mechanism by which FRELIMO has fostered a transformation of the hospital, besides the creation of democratic decision-making through the *conselhos*, has been the development of links between the hospital and the neighborhoods of Maputo. The local neighborhood "dinimizing groups," one of FRELIMO's basic units of political organization, were instructed by the Party to ascertain the quality of treatment given to patients. Neighborhood groups also come to the hospital to join clean-up campaigns. Hospital workers will be organized to go out to the neighborhoods to give talks about hygiene and health, and demonstrations about nutrition. This interaction between the hospital and community has changed worker-patient relationships. Patients who are relatively better off will help feed the sicker ones; mothers of sick children will help sew torn linen and assist in washing diapers.

In a year and a half since the party's intervention, hospital services have improved dramatically. Wards are cleaner, auxiliary services prompter, and relationships between staff and patients have improved. The change in mentality was expressed by a nurse with twenty-six years experience at the hospital: "Before Independence, the doctors never looked at the patients; they just looked at the money. Now our hospital is in the service of the people."

In pediatrics changes are marked. Often, mothers refused to admit their children to the hospital because of the history of insensitive, inadequate care, and because mothers were not permitted to stay with the children during their hospitalization. With the support of the Party, the chief of pediatrics and *conselho* were finally able to change the policy to permit mothers to "room-in." Now the parents have regular sessions with the ward staff about child health, hygiene, and nutrition, including cooking demonstrations using traditional stoves and methods, but encouraging a more balanced diet including sources of protein that are available but underutilized. The profound changes in patient care resulted in a decrease in the death rate from 21 percent between February and May 1977 to 14 percent in the same period a year later,(4) despite a 15% increase in the number of admissions, and a decline in the number of doctors from 17 to 11.

The contrast between the general pediatric ward, with mothers tending to their children, learning about nutrition and sleeping alongside the beds and cribs, albeit on mats on the floor, and the pediatric surgical service, which has not yet permitted rooming-in of mothers, and has row after row of soiled, frightened children, often inadequately suspended in orthopedic traction, emphasizes the changes that have been made as well as those that still require attention.(5)

In May 1978 a two-day meeting of all the *conselhos* of the Central Hospital, together with representatives from the Party, Ministry of Health, mass organizations of women and youth, neighborhood "dinimizing groups," and health training schools, analyzed the results achieved since FRELIMO's intervention in the Hospital. Frank details of progress made, and problems that remain, in organization of hospital supplies, cleanliness, food and linen services, clinical departments, social services, pharmacy, and overall planning and management, were discussed and published in a twelve-page supplement to the daily newspaper, *Noticias*. This form of meeting and evaluation was felt to be practical and effective and will likely be repeated every few years.

The Hospital's director, Dr. Fernando Vaz, leader of the "Commission of Restructuring" summed up the major thrust of FRELIMO's work in his opening remarks to this May meeting: "It is important that our hospitals have medications and surgical instruments, but the decisive factor is the health worker, whose consciousness and attitudes can make the hospital a center in which we can concretize our political line to 'serve the masses' and achieve our political principle that 'the revolution liberates people'" (authors' translation).

FRELIMO intervened in Maputo's Central Hospital not just to transform that institution, but also to create a model of change for the entire country, especially in the ways that decision-making could be democratized and workers and patients mobilized. But a central teaching and referral hospital could not be the model for delivery of primary health care services in a country like Mozambique where most of the population is widely dispersed. Consequently, decentralization of services, in the cities as well as the countryside, is another major political goal in the transformation of health care.

In Maputo, the capital city of 500,000 people, 80 percent of the population live in neighborhoods of cane huts on the edges of the concrete city center. Since October 1977, the Ministry of Health has opened eleven health centers which provide pre-natal care, routine child health supervision, and simple treatments. They have already reduced the demand on the Central Hospital's pediatric clinic by more than a half.

The Central Hospital had consumed about a third of the national health budget before Independence. In the three years of FRELIMO leadership, the percentage of the country's pharmaceutical budget going to the Central Hospital, for example, has declined from 40 to 10 percent, while that part of the budget has actually increased eight times.

Government health planning also calls for decentralization outside Maputo. Each of the ten provincial

capitals has its own hospital and out-patient clinic services, and neighborhood health centers. Each of the 120 provincial subdivisions, or districts, has its own, smaller hospital, with ambulance transport available to the provincial hospital. Some 500 rural health centers are being developed in the smaller villages throughout the countryside. The national health scheme calls for the Central Hospital of Maputo to be the referral hospital for the entire country.

An example of this pyramidal structure can be found in Zavala district, in the central coastal province of Inhambane, with its widely dispersed population of 70,000. A Portuguese doctor had practiced in Quissico, the district capital, but the high cost of his private practice and the district hospital's relatively long distance from the rural farms effectively denied services to most of the people. Now a young British doctor has replaced the Portuguese physician, and a nurse and two "health aides" have joined the staff of two nurses and one midwife. In addition to the 30-bed district hospital, four rural health centers, each with a midwife and/or nurse, are visited weekly by the doctor. Patients are charged seven and a half escudos, about 23 U.S. cents, for any problem, including all follow-up visits, medication, and hospitalization. A pre-natal clinic, organized a year ago, originally attracted only sick women in their final month of pregnancy; now healthy women are coming as early as their fifth month, and are receiving tetanus vaccine, anti-malarials, iron pills, and lessons in childbirth and infant care. Whereas almost all women used to deliver children in their huts, with a high incidence of sepsis and tetanus, now in-hospital deliveries have doubled in the past year.

Such a statement should not conjure up images of western hospitals with monitoring equipment and tiled,

sterile surgical suites; the town of Quissico only has electricity from sundown to 10 p.m.; oxygen, forceps, suction, and incubators are not yet available, and the standard of care does not routinely include the taking of a laboring woman's blood pressure. Still, there is no doubt that newborn and maternal mortality and morbidity have dropped as a result of the changes, even if proper statistics have not yet been compiled.

Zavala's rural facilities, like those throughout the country, rely on nurses to provide most medical diagnosis and treatment. Efforts are underway nationally to improve their screening of patients and to standardize the treatment of the most commonly seen medical problems — malaria, schistosomiasis, anemia, tuberculosis, neonatal tetanus, measles, diarrhea, and simple trauma.

Mozambique, with its population of more than 11 million, has only 450 doctors now, 80 percent of them foreign *cooperantes* on two-year contracts. Because medical school training is long and expensive for the country, and because there are few people qualified to enter that training, the focus has been on upgrading existing health workers and educating a large number of paramedical technicians. Three training schools have been developed for this purpose in different provincial capitals. Here, nurses, some of whom have had little formal training, can advance their skills and become "medical technicians." "Health aides" will receive two years of training and will assume responsibilities in sanitation and health education. *Agentes polyvalentes* ("preventive health mobilizers"), the Mozambican parallel to the Chinese "barefoot doctors," will have six months training and will disseminate basic first aid and sanitation information to villages. Some 200, selected by their villages, will have completed courses by the end of 1978.



Steve Karian/Red Apple Art

Democratization of the medical structures, as well as decentralization, is a central political goal in the countryside. In Inhambane's provincial capital hospital of 235 beds, as in others throughout the country, *conselhos* have been created. In Quissico, all the hospital workers get together weekly to discuss problems, and there have even been open meetings with patients mobilized by FRELIMO to present criticisms of the staff. As a result of one of these meetings, a midwife who treated patients roughly now has a more gentle approach.

A striking example of the efforts to democratize and decentralize can be seen in the recent decision of the Ministry of Health to send all national proposals for health policy and budget to the provinces and districts for evaluation and criticism before they are adopted.

Although the process of socialist transformation has begun in Mozambique and will continue, it is still beset with very serious problems, some of which will take years, even generations, to overcome.

The country still suffers the effects of the exodus of medical personnel and the class of technically and administratively trained Portuguese who had managed the commercial and governmental sectors. Some factories and stores closed, transportation was sabotaged, import/export services were rendered inoperable.

This collapse of the infrastructure is still felt in the health sector in many ways. Rural health centers like those in Zavala often have shortages of antibiotics and aspirin. Some district hospitals do without proper suture material and have limited equipment for obstetrical care. The maternity hospital in Beira, the country's second largest city, has only one functioning oxygen apparatus which must be shared by women in labor and babies in incubators. In Maputo's Central Hospital there are a few respirators, but no trained personnel to operate them. There is a multi-channel blood chemistry analyzer, but not enough reagents to keep it working. In Quissico, the ancient jeep-ambulance frequents the garage almost as much as the health centers because spare parts are difficult to obtain. The chief pediatrician in Maputo, a British *cooperante*, wanted to encourage a hygienic measure, like handwashing between diaper changes and feeding of children, "but with no sinks on wards and no soap or towels in the bathrooms, it's not easy to do."

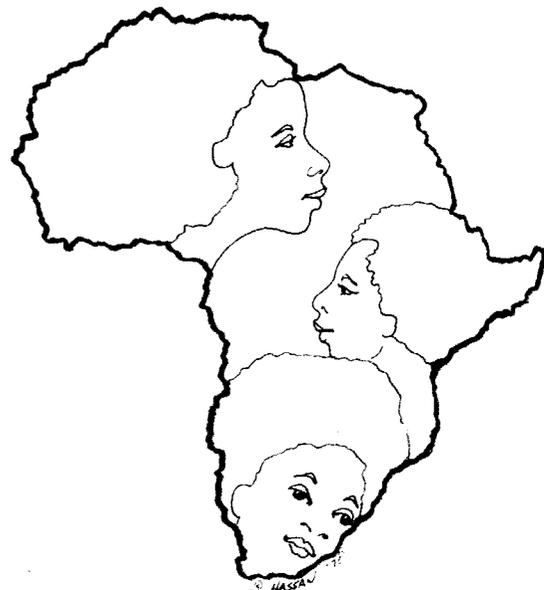
A major problem inherited from colonial times is that of a cumbersome bureaucracy. Official transactions require the purchase of special forms in one place, revenue stamps in another, and waiting in lines at a third place where the transaction will hopefully be completed. The Mozambicans who have taken over work in the government offices had been delegated very little responsibility under Portuguese management and often find it difficult to exercise authority. Consequently, today even decisions as routine as vacation schedules need

to be brought to the Ministers' desks for approval. On the district and provincial levels of bureaucracy, programs often experience long delays because of the unwillingness of local officials to make decisions and their desire for direction from higher levels in Maputo. Authoritarian attitudes still persist. In some places there is a rule that hospital workers should rise to attention when a doctor or head nurse enters a room.

One of the most basic struggles is that against illiteracy. At the time of Independence, an estimated 90-95 percent of the population could not read or write. There are 20 different tribal languages, most without written tradition; and only about half of the people, mostly men who have had contact with the colonial administration, can speak Portuguese. Frequently, the problems of a patient have to be translated by a couple of intermediaries before communication is established. A Maconde-speaking woman visiting the Quissico hospital had to be translated into Chopi and then into Portuguese.

Myths about health and nutrition abound, and many have proved harmful. Many women believe that they will become sterile if they use latrines and consequently contaminate soil and water with their wastes, contributing to the spread of communicable diseases. Bleeding following urination, caused by shistosomiasis, is believed by many to be normal. When it appears in teenage boys, for example, it is considered the male equivalent of menstruation, and no treatment is sought. It is commonly thought that eggs make children bald and that women should stop breast-feeding if they become pregnant. These myths contribute to the serious problem of malnutrition.

FRELIMO is taking a creative role in relation to harmful beliefs and practices. When a group of mothers took their sick children out of Maputo Central Hospital



Hassan Antar/cpf

because they feared the "spirit" of a child that had died there recently, FRELIMO asked the neighborhood "dinimizing groups" to find the mothers and encourage them to return to the hospital, and they directed a lengthy radio appeal against the harm caused by traditional beliefs about "spirits."

FRELIMO and the Ministry of Health recognize and intend to incorporate positive aspects of traditional knowledge, but the process is not simple and is complicated by the fact that these "curandeiros," "herbalistas," and "fetishistas" as they are called, are practicing privately and for profit in a country that is committed to developing socialist health care.

FRELIMO also must confront the myths and bad practices of "modern" medical treatment styles inherited from colonial times, especially the misuse of drugs. Before Independence, 13,000 pharmaceuticals were sold, all but a few available without prescription. The new Ministry of Health has reduced this to about 2,000 and has created a national formulary of about 600 drugs, listed by generic name only, which are available at nominal charge by prescription only, from state pharmacies. The process of change, however, has only been underway for a short time. There are still many private pharmacies selling non-formulary drugs at high prices and without prescription. There are a few "detail men," working as propaganda agents for international drug companies like CIBA-GEIGY, who encourage doctors to use expensive and dangerous drugs that can only be purchased from the private pharmacies. One such detail man told doctors that a certain anti-inflammatory drug, not on the national formulary, which has restricted use in the United States, should be used to treat all abscesses — a gross misrepresentation of the drug's qualities.

In addition to a national formulary, the Ministry of Health has developed standard treatment regimens for common illnesses. This process has cut back on the use of rifampicin, a very expensive anti-tuberculous drug, to those cases resistant to the first-line, less expensive, medication. The misuse of anti-diarrheal agents, common in colonial times, has been analyzed and discouraged; and health workers are instructed that penicillin should not be prescribed for every cough. Plans are underway to develop a small drug industry to help Mozambique become less dependent on multi-national drug companies which would like to extract more of the limited foreign exchange.

* * * * *

But despite the shortage of personnel and supplies, a cumbersome inherited bureaucracy, an illiterate population, and negative aspects of traditional and modern medicine, FRELIMO has had remarkable success in implementing its goals in a socialist transformation of health care. And the changes have occurred in only three years since a guerilla army took over leadership of the government. "Maputo's Central Hospital was an awful

place when I came two years ago," according to an Australian infectious diseases specialist. "Now, although there are still a lot of problems, there are democratic structures that get things done."

The changes have occurred because FRELIMO identified health problems in political terms. The Minister of Health, Dr. Helder Martins, said that "Health structures are reflections of society, so political structures are our best instruments to develop a program of health care." (6) This political approach has meant nationalization of curative health services, but more importantly, a focus on preventive medicine.

FRELIMO has mobilized people to build latrines, establish water systems, combat illiteracy, and improve agricultural production. It also organized a mass vaccination campaign against tetanus, smallpox, measles, and tuberculosis that reached four million people by August 1977 and will reach over 90 percent of the population by the end of 1978 — a spectacular achievement that has been verified and acclaimed by the World Health Organization.

Health care, although perhaps lower on the scale of national priorities than defense and agricultural production, has been given an increasing share of the national budget, from 4.1 percent in 1974 to 12.8 percent in 1977. That amounts to U.S. \$3.70 per capita, or 3.5 percent of the gross national product, a figure which compares favorably with most "less-developed" countries.

Dr. Martins told a Dag Hammarskjold Foundation Seminar last year that "the aim of our revolution was to free man and establish social justice. The most elementary measure was to place all on an equal footing when faced with misfortune and stop disease from being a motive for exploitation." (7) Mozambique has clearly gone beyond the elementary measures in health care. Through its emphasis on health education, decentralization of health services, and worker and patient involvement in the decisions of their health system, it may well serve in some ways as a model for countries that have been labelled more developed. □

1. The fusion of the Hospital da Universidade and Hospital Miguel Bombarda had taken place in October 1974 during the year of transition preceding Independence.

2. Authors' translation.

3. "Our health services' role in the revolution," speech at the beginning of a course for health care, November 1971, in *Mozambique: Sowing the Seeds of Revolution*.

4. The probability that this change could be explained as a random fluctuation is less than 1%.

5. Since the original draft of this article in June 1978, the pediatric surgical service has planned to permit "rooming-in."

6. Quoted in Watts, G., "What to do when the doctors leave," *World Medicine*, Jan. 26, 1977, p. 17-22.

7. Speech to Dag Hammarskjold Foundation Seminar, Uppsala, 12-16 June 1977.

Organizing Miners:

An Interview with a Mexican Copper Miner

by Nacozari Miners Support Committee

"The dangers of organizing are nothing compared to the price we pay in misery."

These are the words of a miner from Nacozari, Mexico. This open pit copper mining town of 18,000 is situated in the Mexican desert seventy miles south of Douglas, Arizona, in Sonora State. In this largest and richest area for copper mining in North America is La Caridad (Charity) mine. Managed by the Mexican affiliate Mexicana de Cobre, the major controlling interest of the operation is a financial combine made up of A.S.A.R.C.O. ("American Smelting and Refining Co."), Anaconda and U.S. banks.

Nacozari is a runaway mine. ASARCO pays their Mexican workers low wages, so mines in the US can lay workers off. This does not mean that "Mexicans are stealing US jobs", but rather that both groups of workers are subject to the same multinational exploitation, i.e. labor costs as low as possible. Increased tonnages of ore are being shipped north to the Phelps-Dodge Smelter in Douglas and ASARCO refineries in Arizona and Texas.

Most of the miners are housed in the infamous "Paper Shack Town Colony" on company property. Malnutrition and dysentery are rampant, there are no sanitary facilities, the people drink water from spigots fed by a reservoir containing raw sewage, chemical wastes, and radioactivity from a nearby pilot copper processing plant. The hardship on children is compounded; there is room for only half of them in half-day sessions at town schools.

The 5,700 miners at La Caridad work hours at wages worse than U.S. miners of 90 years ago. Five dollars a day for a twelve-hour day is common and company stores price food out of the reach of worker's families. The miners face the day-to-day violence of working without safety measures and one death occurs every ten days. They also suffer from silicosis and a host of other pulmonary ailments from the mine dust.

In response to these intolerable conditions, a general meeting was called in 1974. A local executive Board of the National Mine and Metal Workers of Mexico was



Labor/Labor

elected by the miners. The company responded by firing those elected, and replacing the union with a government-protected company union which signed a secret, sweetheart contract. Conditions did not improve and in 1977 the miners formed the 60-member Coordinating Committee to organize for recognition of their union. The company tried to crush the movement with labor spies, paid thugs and gunmen. In February 1978 a strike was called but it was lifted after promises were made by President Lopez Portillo that the Labor Ministry of Mexico would give the miners a fair contract. This promise and subsequent promises made by the company, Secretary of Labor and the government mine workers union all proved to be empty ones. The conflict intensified as striking workers and townspeople met with repression by the Mexican Army and company police.

Throughout the five-year struggle, the miners and their families have been united and militant in their demands for the basic rights of safety and health and democratic union representation. So far, the company

has not recognized these rights and the people are readying themselves for another strike. The following is part of an interview made in San Jose, California last June with Rolando Martinez, a young miner from Nacozari, gathering support for the struggle there. He commented on the union busting tactics of the company, "They put guards, police, soldiers — to rescind our contracts."

SftP: *Then are workers afraid of openly identifying themselves with the union?*

Rolando: It's not fear — it's fear of being fired from our jobs more than fear of being physically attacked.

SftP: *Are women actively participating in the workers' organizing?*

Rolando: Yes they are, naturally. The women who do the cleaning (in the offices and manager's dormitories) more than the secretaries. The secretaries, if they do that, very secretly. Otherwise, they might get fired from their jobs.

SftP: *Could you describe the job dangers encountered by workers everyday?*

Rolando: Workers are subject to working at high levels without any physical security.

SftP: *High altitudes?*

Rolando: 30, 40 or 50 meters. There is also the danger of the dynamite explosions. Also, during our transportation from one place to another, some of the workers get thrown out of the vehicles and are hit by other cars. There's the dust we have to breathe daily. The water we drink that's full of waste and chemicals. Just an endless number of dangers to enumerate.

SftP: *What are some of the occupational related diseases that workers are getting?*

Rolando: Silicosis. Gastro-intestinal diseases. Skin diseases. Other diseases, being a simple worker, whose names I don't know. Asthma, emphysema, all those lung related diseases. Many people have had to have limbs amputated because of the lack of medical care, they get gangrene.

SftP: *Typically, at what age do workers stop working and why do they stop?*

Rolando: Usually when the company decides that the person isn't doing their job the way they had been doing before, maybe about fifty or fifty-five years old. Others, because they're trying to protect their rights, trying to ask for better conditions.

SftP: *You mean they're fired?*

Rolando: Yes. Others, because they can't continue to live under that kind of system, under those conditions.

SftP: *Where do they go?*

Rolando: To different places, different cities — construction, fields.

SftP: *And some to the U.S.?*

Rolando: Yes.

SftP: *Could you describe the housing for the miners' families?*

Rolando: Cardboard houses. They're sustained by wood. But they're made out of cardboard and, of course, the floors are dirt. It's cold in the winter, hot in the summer and a good snow will tumble the whole thing down.

Rolando discussed the demands put forth by the union addressing the health and safety of workers and families: "We want security in the work areas, food that is not decomposed, a better form of transportation, more sprinkling with water in the areas where we're working so there's not so much dust, electricity, drinking water, doctors that have enough instruments in order to better meet the medical needs of the workers and families. These are not doctors yet . . ."

SftP: *The ones who do the medical work aren't doctors?*

Rolando: It's like their last year before they become doctors. 5,700 miners and we don't have enough facilities. There are accidents everyday, pregnant women to be taken care of, and children. We don't have any place to put them to sleep because there are only seven beds.



Miners Art Group/LNS/cpf

He was asked how people in the U.S. could support the efforts of the miner's union: "The medicine provided here for all these problems is to provide solidarity — political, moral, and economic. *Politically* speaking, to send letters to President Portillo of Mexico advising him to start finding some solutions to the miners' problems. Send letters to Jimmy Carter so that he can put pressure on the ASARCO mine so that we can find a peaceful and a speedy solution to these problems, and denouncing the conditions of the miners and their families in national newspapers and magazines such as these (*SftP*); and letting people know in Mexico that you're with them. *Morally* speaking, we should understand that in Mexico as well as here, we're exploited by the same boss. When production increases over there, not only in mines but fields, in agriculture, the people who are affected are the workers here, because they prefer to pay laborers in Mexico when it will cost more to pay American workers. We're trying to work beneath these *critical* conditions. Here work is being closed and unemployment is rising and it doesn't matter what race, what color, you're still being exploited. So the struggle is the exploited against those who are exploiting. *Economically*, there are 1,500 miners that have been laid off, and they have to be supported in order to continue the struggle."

SftP: *Is there anything else you would like to say?*

Rolando: Only that we hope the solidarity that we're looking for, economically, politically and morally becomes a reality, and that if we have a triumph in our demands, our basic demands, it's in recognition of Section 277 of the Miners Union, drawn up and voted on democratically by the miners themselves. We want to see the problems of health come first. That's what we wait for in Nacozari.

Letters from individuals and organizations and resolutions from unions (the miners already having such support from the United Mine Workers of America and the I.L.W.U.) expressing protest, and solidarity with the Nacozari Miners should be sent to President Carter, members of Congress, and President Jose Lopez Portillo, at Residencia Presidencial de Los Pinos, Calzada Molino del Rey, Mexico, D.F. Copies of these letters, to be forwarded to Nacozari, and tax deductible contributions should be sent to:

Nacozari Miners Support Committee
c/o Sacred Heart Church
974 Palm Street
San Jose, CA 95110 Tel. (408) 292-0146 □

SCIENCE SHOP

(continued from page 17)

stimulating for both staff members and student researchers to meet the clients. Results of the research have proven useful to a limited extent in solving the problems, but often more specific follow-up research needs to be done in order to fully resolve the problem. Contact with the client leads to new research methodologies, in particular the abandonment of *rigid* scientific standards. For example, a specific aspect of the problem will not be researched to the fullest extent, but rather several aspects will be researched more generally.

For instance, a question was asked about the connection between car racing and aggressiveness on the part of the public. The small town of Zandvoort in Holland is terrorized each year by the Grand Prix races. Researchers in the field of criminology conclude that a "full" scientific report was impossible and unnecessary. It was determined that some sociological research on the public, the local police, and a comparison of the situation in Zandvoort with the situation in other towns which hold Grand Prix races could result in a report with conclusions relevant for the local situation.

The clients' interest in such cases is important in that it motivates the students in moments when every-

one is ready to forget the whole business, and it provides the justification for writing preliminary conclusions or finishing the research at a stage earlier than that which "purely scientific standards" would demand. In short, contact with clients can lead to a whole shift in the emphasis of the research.

There is also the question of how the influence of the clients affects the general organization of the research. Twelve representatives from the client groups are on the Board of the Science Shop and participate in the political and structural discussions about how the research ought to be organized. Originally it was thought that society should have the power to mandate how the University ought to spend its research budget and how to integrate political issues into traditional research. However our experience has been that most of the general political discussions in the Science Shop have been around issues concerning university politics.

On the other hand, among the scientific community at large, the Science Shop is seen as a means for achieving a number of different goals: popularizing science to improve its standing with the public, doing socially relevant research in order to obtain more money for traditional research, doing research which will make the university socially relevant, doing research which will further radical political aims and so forth.

These considerations minimize concern for merely local university problems. When the question of organizing socially relevant research is put on a purely ideological level, only the members of the university community are able to participate in the debate. Some of the clients enjoy the fighting, others are astonished, but none feel capable of participating. If the questions are posed on a more immediate level, for example, how to organize research on the problems of youth unemployment or noise pollution, then the clients feel that it is important to participate in such decisions on research priorities, and they feel that they are able to make a contribution to this discussion.

The inability of the clients to participate in abstract discussions of science policy reflects the level of the discussion of science and science policy in society generally. Our main clients are trade unions and environmental groups, so we asked the trade unions for their policy with regard to science and the Science Shop. They answered that only at the national level, for example the Federation of Trade Unions, was there a policy and this policy included the idea that people affected by science should be entitled to participate in decisions about the uses of science. One member of the science policy group of the unions suggested that the scientists themselves had to take the responsibility for decision-making about science policy. Generally, then, most groups that became clients of the Science Shop had not previously developed positions on science policy. In order for the clients to participate fully on the Board of the Science Shop, the debate on science policy has to be made relevant to them. Trying to accomplish this now has the full attention of the Science Shop Board.

This leads us to a second concern, the research policy of the university. Some fields of research are concentrated within special institutions, which makes it difficult for students to participate in research in those fields. For example, it is hard for students to research noise problems in Amsterdam because research on noise is done elsewhere in the country.

The Science Shop is legally an advisory committee to the University Board and as such advises on how socially relevant research should be organized, and it experiments with ways to fit this research into the traditional research of the university. In the beginning (March 1977-March 1978) the Science Shop limited itself to being a mediator for clients. It called on individual researchers and asked them to do research on our clients' problems. As of last September, it had mediated 192 questions. As a result of the enormous number of questions (326), and the similarities between many of the questions, the Science Shop concluded that a coherent research policy had to be developed. This development was in accordance with the original expectation that opening the university to groups working for social change, trade unions, etc. would have a significant influence on the university's research policy. There is also

substantial influence on the educational system which results as students participate in the Science Shop projects.

An initial effort has been made to cluster all the research questions into some basic issue areas. The following are some such possible areas: industrial security and health, energy, unemployment, democracy and participation in industrial and governmental organizations, the effects of the restructuring of industry and labor, social consequences of the restructuring, welfare assistance, city development, women's liberation, part-time work, housing, legal aspects of industrial development, other aspects of industrial development (such as the position of workers and the effects of industry on the population around industrial areas).

Organizing research in these fields will require a tremendous effort. In the first place these topics are mostly of an interdisciplinary nature. Secondly, fitting these topics into the university's educational and research system will require experts in these fields. Thirdly, research on a general issue has a tendency to develop in a unique fashion, in which case it may lose its socially relevant character.

Conclusion

The Amsterdam University Science Shop began as a result of several different developments: the desire of students in the natural sciences for more practical research and education (leaving the methodological questions to philosophers), and socio-economic changes resulting from the energy crisis (new science policies, unemployment, democratization of industry, new class conflicts and as a result a more practical attitude towards processes of change). The difference between the students in the natural sciences and the social sciences has had its impact on the Science Shop movement. For one part of the movement the standard of success lies outside the university, i.e. in helping the client as much as possible; the other part has its standard within the university. For the latter consisting mostly of people from the social sciences, the Science Shop is a means of changing the educational and research system. Their strategy implies a process of cultural change and is a continuation of the movement for change begun in the radical upheavals of 1968. The scientists, on the other hand, orient themselves more towards society and believe that the changes in the university are taking place at the sociopolitical and economic levels.

We expect that the structural changes occurring in industry today, including the introduction of new technologies and the automation of production processes, will trigger actions at the cultural and socio-economic levels of society, directed at value changes. These value changes, by changing the educational system, will make the university politically and socially more relevant than it has been in the past. □

resources

Please send your items and suggestions for this column to Tallahassee SftP, c/o Progressive Technology, P.O. Box 20049, Tallahassee, FL 32304.

ELECTRONICS IN THE THIRD WORLD AND IN THE U.S.A.

The **Pacific Studies Center** (867 West Dana Street, #204; Mountain view, California 94041) is a progressive research organization which focuses on U.S. foreign policy. It was founded in 1969 as an outgrowth of the anti-war movement in the Santa Clara Valley of California. The two most recent issues of its periodical, *Pacific Research*, include articles that will be of interest to *SftP* readers. Volume 9, 3-4, is a special issue on the Philippines. It features an article on the electronics industry that treats such concepts as an historical overview of the industry, sexploitation, health and safety, union struggles, political economy, and others. Volume 9, 5-6, is a special issue on the changing role of women in Southeast Asia. It features a sixteen-page article entitled, "Women's Place in the Integrated Circuit." Both issues are available for \$1.50 each; a subscription goes for \$10/two years.

Members of the Center are also involved in workplace organizing. Their recently published, *Silicon Valley: Paradise or Paradox?: The Impact of High Technology on Santa Clara County*, is a case study that has more than local significance (\$1.50). Their newly formed, Project on Health and Safety in Electronics (PHASE), is a creative example of science activists in action.

ENDANGERED FOOD CROPS

The Graham Center (Rt. 3, Box 95-E; Wadesboro, NC 28170), a non-profit demonstration farm and training center operated by the Rural Advancement Fund, announces the publication of the *Graham Center Seed Directory: A Gardener's and Farmer's Guide to Sources of Traditional, Old-Timey Vegetable, Fruit and Nut Varieties*. It is available for \$1.00.

"Many old traditional varieties of fruits and vegetables have disappeared from the pages of commercial seed catalogs. An alarming number of varieties

are becoming extinct. As these varieties fall out of use, we lose a valuable national treasure — the heritage of numerous ethnic groups and countless generations of our ancestors who, for literally thousands of years, have developed these varieties, saved their seed and passed them down from generation to generation. When a traditional variety falls out of use or becomes extinct, genetic diversity in that food crop is diminished. If this happens repeatedly, valuable genetic material important in breeding crops with natural resistance to pests and diseases is likely to be lost."

DEVELOPMENT & UNDERDEVELOPMENT, FOOD PRODUCTION AND ENERGY USE

The Wealth of Some Nations, Malcolm Caldwell, Zed Press (London), 1977, 191 pp., \$6.00 (P), available to U.S. readers via Monthly Review Press (16 West 14th Street; New York, New York 10011).

"A provocative introductory text — the first to integrate the Western energy crisis with the Third World food shortage, analysing the history and politics which have led to this explosive situation. Why are two thirds of the world impoverished? Have we exhausted the soil's capacity to feed our present world population? What part does food production play in the generation of national wealth, and should we knowingly destroy our natural energy resources coal and oil? Caldwell examines both the scientific and sociopolitical principles governing food production and energy usage in the world today."

The Malcolm Caldwell Memorial Trust Fund was established shortly after Malcolm's murder in Phnom Penh on December 23, 1978. Its purposes are to promote scholarship and research in Asian studies, and in a variety of additional fields in which Malcolm worked, including nationalism, development and underdevelopment, world trade, natural resources and their use, and problems of conflict resolution, violence and social

change. The trustees invite donations to the fund at its permanent address, c/o The Institute of Race Relations; 247-249 Pentonville Road; London N1 9NG ENGLAND.

MATHEMATICS AND POLITICS

The Summer, 1978 (Vol. XLII, #2) issue of *Science and Society* (John Jay College, CUNY; Room 4332; 445 West 59th Street; New York, New York 10019) has an article by Beatrice Lumpkin, entitled "History of Mathematics in the Age of Imperialism." Chandler Davis has written an article for the *Boston Studies in the Philosophy of Science* (Vol. XV, "For Dirk Struik") that is entitled "Materialist Mathematics." *Historia Mathematica* (Vol. 4, 1977) has published "Karl Marx and the Foundations of Differential Calculus," by H. Kennedy. *Isis* (June 1972) includes an article by Stephen Salaff, "A Biography of Hua Lo-keng," that describes this famous mathematician's actions during the various campaigns in People's China. *On Systems Analysis: An Essay Concerning the Limitations of Some Mathematical Methods in the Social, Political, and Biological Sciences*, Davis Berlinski, MIT Press, 1976, is a book stating that systems analysis is largely a sham, and that such content as it has involves nothing more than the purely ornamental use of mathematics.

If these titles sound interesting, you should write to Tallahassee SftP and ask for its reading list, "What is a People's Mathematician?"

THIRD WORLD INFANT MALNUTRITION

One of the fastest growing citizen action groups these days is the Infant Formula Action Coalition (INFAC). Over 350 chapters across the country have organized to expose the ways in which multinational corporations, through unethical promotion of infant formula in developing countries, are causing infant disease and death.

California Newsreel (630 Natoma Street; San Francisco, California 94103) is making a concerted effort to get educational materials in the public eye by distributing three important films on this subject: "Into the Mouths of Babes," "Formula Factor," and "Bottle Babies." If interested, you should write

to them for descriptive information about film content, rental rates, scheduling, etc.

For more information about the Nestle Boycott and other action projects, write to National INFACT; 1701 University Avenue, S.E.; Minneapolis, Minn. 55414. As with most activist groups who are working on a sub-profit basis, one should enclose at least \$1.00 when asking for samples of their literature.

MEDICINE IN CUBA

Transaction Books (Rutgers-The State University; New Brunswick, New Jersey 08903) has published *Cuban Medicine*, R.S. Danielson, 1979, 247 pp., \$14.95. "Health services have long been characterized by inequities and contradictions — urban concentration of health resources versus a dearth of rural services and, within the urban situation, relatively efficient services of a few large institutions versus the conglomeration of small, inefficient, and largely autonomous units. Using the Cuban system as a model, Danielson discusses the ingredients involved in the transformation into an equitable medical system. The sociopolitical formation of new health workers, the continu-

ous emphasis on rural and primary services, the involvement of all groups, including specialists, in the general planning process, and a pragmatic style of politically inspired leadership at all levels of organizations are examined in this context. The author also considers the need for heavy economic investments and popular support for social reform as prerequisites for establishment of equitable medical services. According to Danielson, medical and social revolution are closely linked."

LENIN AND SCIENCE

A recently translated book from the Soviet Union, *Lenin and Modern Natural Science*, Progress Publishers (Moscow), 1978, 422 pp., \$5.95 (H), is available from Imported Publications (320 West Ohio Street; Chicago, Illinois 60610). It contains chapters on modern genetics, earth sciences, cybernetics, biological sciences, philosophical and methodological problems of the natural sciences, etc., that demonstrate current Soviet thinking on these topics.

People interested in the writings of the British scientist J.D. Bernal, will be happy to know that his previously unpublished "Lenin and the Sciences" has been included as a chapter.

LETTERS

(continued from page 7)

present names and go back to that of other men — our fathers' — seems no great advance. However while Steven and I write together, share quite a lot of political ideas together, we are actually different people with different lives.

Now Charlie Owen's mistakes wouldn't matter if it wasn't the case that as usual they are almost invariably at the woman's expense. I would have really enjoyed reading that Steven Rose ceased to be active in 1975 because Hilary felt pissed off by the sexism of the radical science movement, and that she joined a women's group while he became invisible (presumably made the tea for our meetings). Actually as I look back I think we struggled to make the tea in turns, while I was in my group. Steven was working with a group of teachers, parents and other activist scientists on racism. But that is his story and not really relevant to my point.

Solidarity,
Hilary Rose

(Editor's Note: The article by Hilary and Steven Rose appeared in the July/August 1978 issue of SftP. Charlie Owen's letter in response appeared in the March/April 1979 issue.)

EDITORIAL GUIDELINES

The goal of **Science for the People** is to examine the role of science and technology in society, in order to encourage progressive political activity.

Articles in **Science for the People** come out of the experience and interest of its readers. We urge everyone to contribute to the magazine. We welcome articles written collectively. Good articles can evolve from collective and individual political work, from research, or from other activities. Articles can take the form of book reviews, personal accounts, reports of events, analytical essays, etc. Writing done for another purpose can often be adapted for **Science for the People** and is welcome.

Contributions to the magazine should: 1) deal with issues of science and technology from a radical perspective; 2) sharpen political awareness; 3) stimulate political action on issues of science and technology. It is important to use straightforward English and to keep technical terms to a minimum.

Procedure: 1. New articles: submit 3 copies (manuscripts are not usually returned, so don't send originals unless

you have kept a copy for yourself). The Editorial Committee works hard in revising articles and discussing them with authors. You may want to send an outline of a proposed article to the Editorial Committee in advance for response to content and emphasis, and suggestions for source materials. Final substantive changes are cleared with authors. In the "About This Issue" column, the Editorial Committee may describe the range of opinions on a particular issue, point out unexplored questions, or draw some additional implications from the articles.

2. Articles written for another purpose: submit 3 copies, along with a letter describing the article's origin, and whether or not it may be adapted.

3. Current Opinion: Submit 3 copies. Contributions should be about 500 words, tightly argued positions on timely subjects, including occasional contributions from the Editorial Committee. The Editorial Committee may discuss with authors changes which clarify debate.

4. Readers are also encouraged to contribute letters, News Notes — news

items on the social and political role of science and technology, and especially reporting people's activities around these issues, Chapter Reports and SftP Activities — brief summaries essentially assured of publication, and graphics — cartoons, designs, photographs, etc., not necessarily original but with credits.

Science for the People is a collective effort of the Editorial, Production, and Distribution Committees (volunteer) and the Magazine and Office Coordinators (paid). All committees are accountable to the membership of Science for the People through the annual Eastern Regional Conference. Members of Science for the People outside the Boston area are encouraged to participate (by mail or in person) in the work of the Editorial Committee. People interested in reviewing and editing articles should contact the Magazine Coordinator through the Boston SftP office.

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AAAS 1980

The American Association for the Advancement of Science (AAAS) will be having its 1980 Annual Meeting in San Francisco this coming January. The Bay Area SftP chapters are organizing the SftP presence there. Several members have applied for officially sanctioned seminars, and others are preparing to target other seminars. It's a great place to reach sympathetic scientists, technicians, and interested lay people!

For more information, write to:

San Francisco SftP AAAS, c/o Lou Gold, PO Box 34-161, San Francisco, CA 94134.

We are also planning to attend the October National Science Teachers Association Western Conference in Portland, Oregon, and welcome any interested individuals who wish to help.

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