

SCIENCE FOR THE PEOPLE

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AGRIBUSINESS

The Myth of Intelligence
Computer Lib

AAAS & Sociobiology
Zimbabwe Medical Drive
Universities, Corporations & South Africa

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.

ARKANSAS

Joe Neal, P.O. Box 1772, Fayetteville, AR 72701.

CALIFORNIA

Berkeley Chapter: Science for the People, P.O. Box 4161, Berkeley, CA 94704.

San Francisco Chapter: Lou Gold, P.O. Box 34-161, San Francisco, CA 94134. (415) 584-0992.

Al Weinrub, 104 So. 16th St., San Jose, CA 95112. (408) 292-2317.

L.A. Chapter: c/o Al Heubner, P.O. Box 368, Canoga Park, CA 91303. (213) 347-9992.

Shel Plotkin, 3318 Colbert Ave., Los Angeles, CA 90066. (213) 391-4223.

Santa Cruz Chapter: P.O. Box 854, Santa Cruz, CA 95060.

Paulo Dice, Thimann Laboratories, U.Ca., Santa Cruz, CA 95064.

Davis Chapter: c/o P. Hardt, 318 J St., No. 40, Davis, CA 95616.

DISTRICT OF COLUMBIA

Tracy McLellan, 2137 N. Pierce St., Apt. 12, Arlington, VA 22209. (703) 243-6982.

CONNECTICUT

N. Sadanand, Dept. of Physics, University of Connecticut, Storrs, CT 06268.

Neal and Margie Rosen, 71 Stanley St., New Haven, CT 06511.

FLORIDA

Gainesville Research Collective, 630 NW 34th Place, Gainesville, FL 32601.

Tallahassee Chapter: c/o Progressive Technology, P.O. Box 20049, Tallahassee, FL 32304.

ILLINOIS

Urbana-Champaign Chapter: 284 Illini Union, Urbana IL 61801 (217) 333-7076.

IOWA

Paul C. Nelson, 604 Hodge, Ames, IA 50010. (515) 232-2527.

KANSAS

Lawrence Chapter: c/o Steven Craig Stewart, 1313 Massachusetts, Lawrence, KS 66044.

MASSACHUSETTS

Amherst Chapter: P.O. Box 599, N. Amherst, MA 01059.

Marvin Kalkstein, University Without Walls, Wysocki House, University of Massachusetts, Amherst, MA 01002.

Boston Chapter: Science for the People, 897 Main St., Cambridge, MA 02139. (617) 547-0370.

MICHIGAN

Ann Arbor Chapter: c/o John Vandermeer, 4104 Michigan Union, Ann Arbor, MI 48109. (313) 971-1165.

MISSOURI

St. Louis Chapter: Craig Norberg, c/o Dan Bolef, Dept. of Physics, Washington University, St. Louis, MO 63130. (313) 533-1936.

NEW HAMPSHIRE

Steve Cavrak, Environmental Studies Program, Franconia College, Franconia, NH 03580.

NEW YORK

New York City Chapter: c/o D.S.C. Rm. 208, CUNY Graduate School, 33 W. 42nd St., New York, NY 10036

Stony Brook Chapter: c/o Ted Goldfarb, Chemistry Dept., SUNY, Stony Brook, NY 11794. (516) 246-5053.

Marvin Resnikoff, 84 DeWitt St., Buffalo, NY 14213. (716) 884-0497.

Tedd Judd, Dept. of Psychology, Cornell Univ., Ithaca, NY 14853.

NORTH CAROLINA

Marc Miller, 2 Pine Tree Lane, Rt. 2, Chapell Hill, NC 27514 (919) 493-1767.

OHIO

Jenny Thie, 2147 Fulton Ave., Cincinnati, OH 45206. (513) 281-6149.

OREGON

Portland Chapter: Craig Newby, 920 SE 31st Ave., Portland, OR 97214. (503) 235-1277.

VIRGINIA

Kenneth Solomon, MD, Dept. of Psychiatry, Medical College of Virginia, Richmond, VA 23298.

WASHINGTON

David Westman, 919 2nd Ave. W. No. 604, Seattle, WA 98119.

Phil Bereano, 316 Guggenheim FS-15, Univ. of Washington, Seattle WA 98195.

Chapters and Contacts Outside U.S.

AUSTRALIA

Tony Dolk, 234 Bobbin Head Rd., North Turramurra, New South Wales. 2074 Australia.

BELGIUM

Gerard Valenduc, Centre Galilee, B.P. Galilee 047, B-1348 Louvain-La Neuve, Belgium

ENGLAND

Dave Hayes, 14 Goodwin Rd., Sheffield 8, Yorkshire, England.

British Society for Social Responsibility in Science, 9 Poland St., London, W1V3DG, England. 01-437-2728.

IRELAND

Hugh Dobbs, 28 Viewmount Park, Waterford, Eire. Phone 051-75757

INDIA

D.L. Surendra, 3B, Thandava Raya St., San Thome, Madras-4, India.

QUEBEC

Bob Cedergren, Dept. of Biochemistry, Univ. of Montreal, Montreal 101, Quebec, Canada.

MANITOBA

Roy Johnstone, c/o Argyle High, 30 Argyle St., Winnipeg, Manitoba, Canada.

WEST INDIES

C. Raymond Mahadeo, Caroni Research Station, Carapichaima, Trinidad, West Indies.

A chapter consists of three or more people meeting regularly. If you want to help start a chapter or be a contact person for your area, please contact Science for the People, 897 Main St., Cambridge, MA 02139. Tel: (617) 547-0370.

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Science for the People

897 Main Street
Cambridge, Mass. 02139

MAGAZINE COMMITTEES

Production

Ross Feldberg
Kathy Greeley
JoAnn Jaffe
Flora Katz
Diane Lande
Peggy Lester
Ed Loechler
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Scott Schneider
Tallahassee Chapter
Jim Tobias
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Distribution

Bob Park
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Office Coordinator

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Magazine Coordinator

Eric Entemann

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about this issue

Science for the People has published many articles about IQ documenting the use of intelligence testing, a so-called “objective, scientific tool,” to discriminate against various minorities that potentially threaten the established power structure — Eastern Europeans, women, Blacks, the poor. While the cultural bias of IQ testing has been widely exposed, the article by Joe, Mike and Laura Schwartz and Susie Orbach goes beyond these critiques to question the very concept of intelligence.

They point out the arbitrariness of the definition of intelligence — that the testers make value judgements about different activities. What makes mathematics a more difficult, “intelligent” task (thus giving it more prestige and value in this society) than mothering — a skill we tend to take for granted that is not limited to an elite few? This article blows out the very walls of the IQ debate. Real meaningful change will not come about by merely altering the face of the problem. As the authors point out, Blacks did not call for “culture-free” testing, but rather for the elimination of IQ testing altogether. We have to learn to identify and challenge the *framework* and all the basic assumptions that accompany it. Because this is often so difficult to do from within the system, especially one in which the tools of ideology are so strong, we are grateful for articles like “The Myth of Intelligence” that shake us up and make us think about the origins of our values and assumptions.

There has always been a sexual division of labor in America. However, when the basis of the American economy was the family farm, “woman’s work” was skilled labor that was considered no less essential to survival than men’s work. At one time women were producers on the small farm, taking the raw crops farmed by the men and turning them into usable products for family consumption and often for sale as well. Industrialism maintained a division of labor between men and women, but took over the skilled aspects of women’s work. In “Farming Out the Home: Women in Agribusiness,” Sally Hacker documents how the mass production and marketing of food has degraded women’s position both within the family and within the economy as a whole. Agribusiness squeezed out the family farm, forcing some women into low-paid urban jobs, while others stayed at home, but without the fulfillment of their farm-related skills. Both the rural and the

urban woman have been turned into consumers with no control over the variety and quality of products.

In contrast to the middle-class rural housewife described in the first part of the article, Hacker also describes the life of the Chicana migrant worker, who has been assigned to agribusiness’s “dirty work.” In the fields and assembly lines of the corporate farm, she receives the lowest pay and faces some of the poorest working conditions of all agricultural workers. After this she has to work a “second shift” — trying to meet her family’s needs with the inadequate housing and health care provided by the company. Hacker details the struggle of these migrant women to win better working and living conditions from their employers. In “Farming out the Home,” Sally Hacker has given us a thorough account of how agribusiness has changed both the basis of the American economy and the day-to-day life of American women.

The pieces on corporate investments in South Africa and the appeal for medical aid to Zimbabwe support the struggle against racism in the African nations. At this time, when American leaders are raising hypocritical voices against the denial of human rights outside this country, the connections among American corporations, U.S. imperialist foreign policy, and U.S. support of racist governments in other parts of the world must be made clear. The racism in Zimbabwe and South Africa and the racism in the U.S. are part of the same system of oppression and economic exploitation. SftP needs to join together with those who are trying to make people recognize and confront U.S. imperialism. We need to extend our support to those who are fighting back.

In this issue, we include a report on SftP’s Western Regional Conference. While many of our readers are not actually members of SftP, we feel it is important for people to know that we do more than just publish a magazine. We are also an activist organization with several chapters working around the country to build a movement around the social and political implications of science and technology. The WRC report highlights some of our major activities and raises many questions about future directions for the organization. We welcome feedback on this from members and nonmembers alike.□



letters

This issue's letters section is devoted to a sampling of some general comments and evaluations of the magazine and its purpose. We received these over the last few months either as letters to the editor or as notes sent along with subscription renewals. We appreciate the variety of criticism and feedback expressed below and encourage other readers to let us know how they feel about the magazine.

Dear SftP,

I usually find your magazine relevant and I appreciate its diversity. Through your magazine I am often informed of situations which I would otherwise know nothing about. As a pharmacist I especially enjoy the articles on the medical institutions of this country.

I try to pass on some of the ideas or information I glean from this publication to my colleagues and students. I would appreciate some articles or helpful hints on incorporating "values" in education (medical or pharmacy).

Thanks for a lot of good work.

Leslie Shimp
Ypsilanti, MI

Dear SftP,

I have been reading SftP for about 1½ years. It's an invaluable perspective unavailable elsewhere. This magazine as well as communications with several of your staff had a large influence on my choice of work and my attitudes toward computers and science in general.

Continue the struggle.

Joe Pollock
Williamsville, NY

Dear SftP,

Both the quality and the timeliness of the articles have improved greatly over the past few issues. They show signs of either better writing or better editing, as repetition and wordiness is considerably decreased. Though I am not against the magazine (and organization) having an ideology, it is better, I think, to down-play or reduce the amount of political polemics, as has apparently happened recently. That is, scientific issues should be treated relatively objectively, at least in the majority of the articles, if the readership is to be expanded as you intend. In this vein, it appears that a semblance of objective scientific method has been involved in the thought leading to recent articles. The quality and "trustworthiness" of the references has improved accordingly.

I think it is a good idea to try to expand the circulation, and reach scientists who may have been turned off by the heavier emphasis on politics in the past. However, I still believe that the close relationships between politics, cultural bias, etc., and science should still be emphasized, and these new readers thus educated.

Terry Dana
Richland, Wash

Dear SftP,

The magazine is slowly working its way from scientific Marxist rhetoric to more of a people's science with feminist, Marxist ideology. I would like to see that movement continue further, striving to maintain the feminist perspective more strongly.

Betsy and Tedd's article (July-August '77 issue) on their experiences at Seabrook was a strong addition to that issue of the magazine. Sharing people's

personal feelings and experiences in this struggle, supports us all. I feel a good addition to the magazine would be to maintain a "personal" article in each month's issue similar to the editorial.

I would also be interested in seeing more articles regarding ecological issues and those pertaining to environmental education specifically. I would also be interested in maintaining some contact with the editorial group in Boston, as I'm hoping to find others in Northampton/Amherst to pursue this topic with me.

In struggle,
Denise Cormier
Hadley, MA

Dear SftP,

The magazine suffers from the anonymity of collective thinking: a tiredness and boredom with itself, a uniformity of tone which refuses to take any chances: in other words, the style of the thinking and writing is exceedingly *conservative* in its monotonic chant of a never-really-dared-to-define "wishy-Marxy" philosophy — the magazine is not effective. Perhaps because it is a collection of fragments — the magazine, the "mind" of the magazine has no tongue. (Many tongues tend to cancel each other — "balance.") Maybe what I am getting at is that the magazine is as inexpressive as the scientific establishment it stands counter to: it is as unrealized as *Scientific American*.

If your philosophical intention is to open science to the people, then open the magazine to the "people" — STOP letting scientists control its voice. Let children, blacks, mothers, artists SPEAK about SCIENCE in their lives in the magazine.

If the magazine remains *as is* it will degenerate into an advertisement for *mere* organizing, instead of a *voice* which can speak with the *passion* of many people

about the ultimate *vision* of all this organizing, struggling, etc.

In sum: To discover science you have to lose it. Make the magazine a microcosm of what you believe: that science can be real only as a part of society. So let society into your science, magazine. Speak with many voices. Sing.

Or — Remain a tired trade journal of the vague and harmless rhetorical “left.”

(You don’t have to go to China — go to Chinatown.)

Don’t analyze this letter!

Don Pollock
New York, NY

Dear SftP,

I’d like to read more Marxist-Leninist analysis of science, especially health care issues.

The exposes and investigative reports contributed by various chapters and locales are great. However, more political content is needed. Don’t be afraid of polemics, political study and dialogue.

T. Mitchell
Durham, NC

PS: To me, the “wish to increase circulation of SftP” is a shallow goal by itself. What is needed more than members is a solid organizational and ideological base.

Dear SftP,

Of all the magazines I take (12+), I like SftP the best, mainly because of its usefulness in the classes I teach (social psychology).

Steve Heeren
Regina, Sask., Canada

Dear SftP,

I have found SftP to be a useful source of information and analysis of a “critical” nature about science & technology under capitalism. There is one important aspect of SftP articles which limits their usefulness to me as a teacher about science, technology and society in a “working people’s” college program: many of the articles are addressed, in total or in part, to a professional audience. This choice of audience is evident from the knowledge of interdisciplinary ideological struggles needed for background to appreciate such an article.

In seeking a wider readership, I suggest SftP develop a more careful editorial consciousness of the orientation (and vocabulary) of non-professionals (and especially working-class undergraduates) toward the problems being considered.

I would also be interested in seeing more emphasis on areas of technology and the dialectics of social change. This may not be part of the mission of SftP; on the other hand, many of the impacts of science on society are mediated by a specific technological application in the framework of capitalist production. Perhaps I can contribute something to this end in the future.

Keep up the good work.

Sandy Orlow
Ann Arbor, MI

Dear SftP,

SftP is one of the few reviews we can get here in Italy which gives information about science from a political point of view. It is most important to have information on this subject especially when you have to teach science in a country where it is highly considered but not produced so that you hardly get first hand information.

Roberto Gori
Firenze, Italy

Dear SftP,

There is not enough emphasis on the working conditions of scientists both in universities and industrial laboratories, elitism, job insecurity, unemployment, low salaries, etc., particularly for people in postdoctoral and non-tenured faculty positions.

Robert Yaes
St. John’s, Nfld., Canada

Dear SftP

Thank you for a great periodical. We love your wide variety of topics in the area of science, pointing out the social implications of science. Keep up the good work.

Feminist Women’s Health Center
Tallahassee, FL

Dear friends,

I have recently become reacquainted with *Science for the People* magazine. Although the tone of the articles and

comment has not changed, and I continue to feel alienated by the strong political alignment, there is important information and news that I feel I have missed out on by not reading lately. When I read the last two issues, I felt much more in touch with a community of people who knew the proper direction for science and technology and it renewed my vigor in my own attempts to direct science toward human needs. I am a chemist and my area of interest is occupational health and safety. I buy SftP at my local record collective and will continue to do so.

I have been thinking again about the political content of the articles and would like to say once more how it affects me. I am used to a magazine format that presents information in articles and opinion and doctrine in the editorial, current opinion or letters section (or however many sections are so designated). My thinking about the jargon and moralizing that sometimes is sandwiched in articles is that the facts speak loudly enough to excuse it. I enjoy reaching my own conclusions and setting my own goals for change. The most effective way to convince people of the validity of your belief is to model its practice. I would like to hear more about science for the people at work such as the Baja-Mexican University Marine Science Unit call for personnel in the January-February Issue. I would also like to applaud the request for fiction, poetry, drama and art and the creative efforts of the Boston group in producing *Laboratory!*. Although there is more politics than science and more of both of these than drama, I enjoyed it. In the same issue, in a book review, the author is criticized for pronoun usage which “perpetuates the current usages and stereotypes . . .” The assignment of male or female to the characters in *Laboratory!* seems to be the same thing. In addition, the women are described by terms like organizer and “consciousness easily raised” while the men are cynical and elitist.

In any event, *Science for the People* is a unique, well-researched, diversified, timely, and creative journal and I appreciate all the work that the committees put into it.

Sincerely,
Marianne E. Giuffra
Washington, D.C.

The Myth of Intelligence

*Susie Orbach, Laura Schwartz,
Mike Schwartz, and Joe Schwartz*

For the past several years we have been trying to come to grips with some of the underlying problems raised by theories that human nature is biologically determined. Our concern for these issues derives from the IQ debate. Despite tremendous progress in refuting the particulars of the arguments for hereditary intelligence, despite the discovery and publicity of Burt's fraud, and despite the impressive political attacks against the individual proponents of scientific racism, there is no sense of permanent success. In part this failure to complete the victory is a consequence of consistent support for these pernicious ideas from foundations, extensive coverage in the media, and continued tolerance from the scientific establishment. But in part it is a consequence of the failure of anti-Jensenists to confront the underlying premises of the debate.

We suggest that a problem with most critiques of hereditary IQ theories is the uncritical acceptance of the concept of intelligence itself. We believe that intelligence as a biological entity does not exist; it is purely a social construct. From this perspective we look behind IQ testing to question the underlying assumption that intelligence is a valid description of human behavior. The label "intelligent" is the other side of an oppressive coin and words like dumb, slow, stupid, smart, quick, bright, and intelligent should all be examined for their latent (fuller) meaning, dropped from our vocabulary and replaced by accurate descriptions of what we observe. In this way we can start to free ourselves from one of the worst aspects of our socialization, the classification of people according to an oppressive myth, the myth of intelligence.

Biological determinist arguments continue to be influential in spite of the complete lack of evidence to

support them. Since Spencer's *Social Statics* in 1851(1), each generation has been forced to confront the same arguments over and over again. Biology and sex role stereotyping were used against the first wave of feminism in the 1870's and reappeared as a weapon against the suffragette movement. Genetics, crime and intelligence were repeated themes for social commentators from the latter part of the 19th century through the early 20th century.

Our generation has had to face virtually the same arguments as our predecessors. The XYY syndrome (the so-called criminal chromosome theory), the new theories of biologically ordained sex roles (from different amounts of brain lateralization to sex-linked behavior-determining genes), genetics and IQ, and the treatment of social issues as medical problems — it's the same old stuff. And even though this new round has been successfully discredited by SftP activists and others, these theories have continued to be promulgated throughout the country at one level or another.

We suggest that our own lack of clarity about what part biology does in fact play in the development of human capacities has limited the depth of our attack on the ideologies proposed by Jensen, Wilson and Herrnstein.(2) Our analysis has fallen short because we have not thought through key dimensions in the debate which in and of themselves raise questions about a socialist view of human development and human nature.

As we see it, the effectiveness of the determinist argument derives not so much from highly elaborate mathematized theories but from the repeated appeals to the common sense observation that after all people *are* different — some have blue eyes, some have brown, children look like their parents, or if not like parents at least like uncles and aunts. The simplicity and obvious truth of this observation has backed us into a corner: One of the most effective public arguments used by Jensen *et al.* when all else has failed, is to accuse their critics of rejecting biology completely. This accusation has force

Susie Orbach is a feminist psychotherapist practicing in London. Laura Schwartz and Mike Schwartz teach history and sociology respectively at the State University of New York at Stony Brook. Joe Schwartz teaches physics at the College of Staten Island.

because it is born of and feeds into the dominant western concept of human nature. We have been taught to see human nature as profoundly asocial. Developed human beings are presented as individual biological entities who then “interact” with society, grouping together out of self-interest. This view very neatly describes the prescribed behavior of people in capitalist economies. We are supposed to pursue our self-interest as relentlessly as our morality allows, joining forces with others only insofar as it aids our own selfish “pursuit of happiness.” This individualism is presented as the unalterable essence of human behavior, determining and constraining the structure of social relations in all human society.

These ideas are either actively taught to us or consistently represented in the culture through the main socializing institutions — the family, the school, the media and work. However, alternative views of human nature do exist. They arose most persuasively in the 19th century in Europe as the theoretical point of view of working people. Marx has given the most concise expression to a perspective that recognizes that the human essence is social:

... the essence of human beings is no abstraction inherent in each single individual. In its reality it is the ensemble of social relations.(3)

We understand Marx to mean that the biological being becomes human *through* social activity. It is the specifically social activities that make us human and, indeed, those biological beings raised in isolation do not become human in a way which we can comprehend. Perhaps the most startling example is the so-called wild children who have been abandoned at an early age and who do not subsequently develop as human beings.(4)

By “social activity” we do not mean passive environmental determinism. The human essence is not only the ensemble of social relations — human beings *create* those social relations. In other words, humans create themselves *through* social activity.

The present system of social relations has been created by human beings; it did not arise by natural law. A biological point of view effectively mystifies this fundamental fact. It is in the interest of those in control to try to persuade us that the system is natural, inevitable and unchangeable because it is in the biological nature of people to create capitalist patriarchal social relations. The few who control a social system at the expense of the many then turn around and say it is human nature that produces such an arrangement as if it were rational and expedient.

Paradoxically, Marx’s perspective that the human essence is social, not biological, is difficult to accept because of our social environment. In response to these conditions, we often seek to retain an image of ourselves as being human apart from the present culture. We imagine that there is an intrinsic, indivisible self who

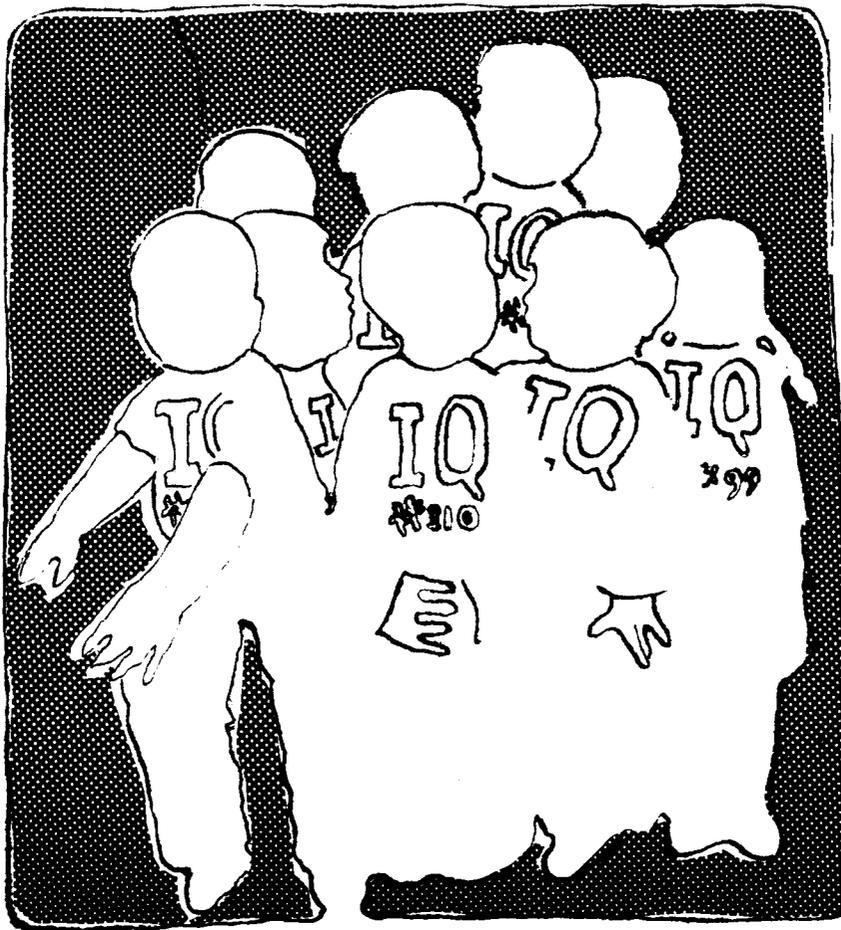
lives in the present system (world) and a self who lives outside of and in spite of it. That is, we imagine that we express our human natures outside the existing social institutions. We look to our ‘private lives’ to contact our humanity and express our individual uniqueness.

We understand this feeling as an alienation from the existing culture and an insistence that we are human in spite of our alienation. But this inner core of nonalienation isn’t biological. (The real me is *not* my DNA.) The nonalienated part of ourselves has developed in the family and in other intimate relationships. Thus, our sense of autonomy and independence is derived not from biology but is learned primarily from interpersonal relationships. We are not born autonomous. The state of nature is a myth.

It is important to enlarge this understanding because by permitting our individual sense of selves to be defined biologically, even a little bit, we cooperate in our own oppression. “The real me is my biology” deflects us into a stubborn passivity when what is really required is an active sustained mobilization to enlarge the area of nonalienated activity. This is why it is so important to recognize that we are social beings to the core. It seems to us that as long as we feel that the real self exists apart from culture we will not undertake to fully challenge those who presently control society. The biological picture mystifies the underlying social realities which need to be changed if we ourselves are to change.

The relevance of these thoughts for the IQ issue can be demonstrated by distinguishing three basic left responses to Jensenism which differ widely as to *how* the question of the biological basis of human intelligence capacity is dealt with: One approach is to ignore this question in favor of a direct attack on the data offered by Jensen et al. This has been done exceptionally well by Leon Kamin.(5) A second approach is to ignore the data offered by Jensen in favor of a theoretical attack on the premises of a society that elevates intellectual work above manual work. The possibility of innate differences in intelligence is conceded but is declared to be irrelevant. This is the position adopted by Noam Chomsky.(6) The third position attempts to synthesize the biological and environmental perspectives by arguing that the genes and the environment interact in such a way that it is impossible to sort out the relative weights of nature vs. nurture. Layzer has presented the essence of this approach in terms of a mathematical theorem.(7)

Each of these positions has strengths. But all of them share with Jensen an uncritical acceptance of the reality of individual human intellectual capacity.(8) Thus the hereditarians and the critics alike assume the existence and importance of intelligence as a desirable individual character trait. And this is where the question of biology and human nature comes into the IQ issue — not as a question of how the environment “interacts” with the genes to form the human being, but in the very



Melissa Chitwood

conception of a biological individual intelligence. The concept of intelligence serves to disguise the social processes which are the essence of the human being.

The failure to address the question of intelligence itself has considerably weakened the critique. When one has learned to think of one's value as intrinsically tied to one's intelligence, it is hard to step back and ask just what this value system means. So it is important to explore what is meant by intelligence as a description of an individual's behavior.

The basic definition most people use describes intelligence as the "capacity to learn." Since this capacity is internal (it resides somewhere in a person's brain), the judgment of its presence or absence is very tricky. In fact, that judgment can only be made inferentially — by observing behavior which is asserted to be symptomatic of great or lesser capacity. Thus, if a person learns something more quickly or more thoroughly than others, it indicates only that the individual has learned at a particular speed. It may also indicate a greater capacity to learn, but it may not. The observation of "intelligence" is always an inference of this sort and it is therefore always ambiguous. It is always a judgment. The trait "intelligence" is considered to be completely

internal. But this is a contradiction. On the one hand what is sought is an *individual* capacity to learn, while on the other hand *all* learning is in fact a social process. Such conceptions of intelligence transform the results of collective efforts into commodities which are privately owned. Intelligence becomes private property.

The ideologists of the heritability of intelligence are quite straightforward in acknowledging the judgemental meaning of the concept:

Even at best, however, data and analysis can take us only so far in saying what intelligence is. At some point it becomes a matter of definition. For example, we would reject any intelligence test that discounted verbal ability or logical power, but how about athletic prowess or manual dexterity or the ability to carry a tune or qualities of heart and character? More data are not the final answer, for at bottom, *subjective judgement must decide what we want the measure of intelligence to measure*. So it is for all scales of measurement — physical as well as psychological. The idea of measuring length, weight, or time comes first; the instrument comes thereafter. And the instrument must satisfy

common expectations as well as be reliable and practical. In the case of intelligence, common expectations center around the common purposes of intelligence testing — predicting success in school, suitability for various occupations, intellectual achievement in life. By this standard the conventional IQ test does fairly well. [Italics added] (8)

This is right from Herrnstein's pen. It could not be clearer if it came out of a radical analysis. Intelligence is a judgement. The present judge is doing what it's supposed to do; it is selecting some people for success (or reinforcing and legitimizing selection per se) and tracking the rest into suitable occupations.

Herrnstein can afford to be candid for his *Atlantic Monthly* audience. He is assuring them that this definition of intelligence works in their interest. For Herrnstein, mental activities that the few perform are difficult while the activities that the many perform are simple.

But this judgement, as Herrnstein admits, is simply arbitrary. He has no proof and he proposes none. It is an assertion based on the perspective of his own race, sex and class and grounded in his own prejudice.

But his prejudice is a prejudice shared by many radicals. People have come to believe in intelligence in much the same way that men (and to a lesser extent women) came to believe in the inferiority of women. The "common sense" that mathematics requires intelligence to learn while mothering does not is grounded in the entire structure of our society. Mathematics is highly rewarded, mothering is not paid. Mathematics is done by the few, mothering by the many. Mathematics is abstract, mothering is concrete. Mathematics is "analytic", mothering is "intuitive". But there is no evidence at all that mathematics is more difficult to learn than mothering. Our society has decided to call it so — to reward mathematics with prestige and status and to justify this reward by reference to the unproven assertion that mathematical skill is rare and precious.

If this contrast seems strained, we believe that it reflects the degree to which our thought has been conditioned by the Jensenist paradigm. In fact we can only barely conceive that mothering is a highly complex skill because the women's liberation movement is now powerful enough to articulate and disseminate the straight facts of women's oppression. The perceived "superiority" of "abstract" thought rests on the assertion that abstract thought is harder to do, but at the heart of this perception is a simple and arbitrary assumption.

Why make this assumption? Indeed, why bother with the quest for the "capacity" to learn at all?

Herrnstein (and the other Jensenists as well) has ample reason to pursue this quest. His task is a political one: he desires a proof that capitalism is just — that those on the top deserve their status and those at the

bottom do not have the capacity to rise above their station. Such a demonstration could and does justify the status quo and therefore gives theoretical backbone to the resistance to change. It is for this reason that his work — and that of the other hereditarians — has addressed the issue of "educability" so emphatically. His work is practical. It seeks to justify a system of differential treatment, a tracking system in which most people are refused access to decent jobs and decent material conditions in general.

The concept of "intelligence", therefore, is tailored to fit the realities of capitalism. The long process of division of labor has placed those whose role is least *practical* at the very top and those whose role is more practical beneath them. A class-based definition of intelligence must therefore declare abstraction as superior — thus establishing the superiority of those whose mental efforts are most removed from practical realities. Beyond this, the theory of intelligence must justify the claim which those particular people have on those elite jobs.

This justification then accompanies the search for individual "capacity". But those who have been oppressed by the system have understood these tests and classifications differently. The black liberation movement did not demand nonracist, "culture-free" I.Q. tests; it demanded the *elimination* of intelligence testing. It asserted the existence of equal intellectual capacity and attacked tracking on its fundamental assumption of



Dennis Foster

RAKMAT

In 1931, a young Soviet psychologist, A.R. Luria, set out to the remote Central Asian republics of Uzbekistan and Kirghizia to “test the Marxist-Leninist thesis that all fundamental human cognitive activities take shape in a matrix of social history.” The Soviet Union had just completed its most radical restructuring, which included collectivisation and the elimination of illiteracy. The time was ripe to “observe how decisively all these reforms affected, not only a broadening of outlook, but also radical changes in the structure of cognitive processes.” A faultless goal and an important thesis indeed. Let us see how Luria, an academically trained psychologist, proceeded to test the presence of a revolutionary transformation in thinking among the farmers of Uzbekistan.

Luria notes that “the majority of our subjects had never attended school and hence had no systematic training in theoretical operations.” He was interested in, among other things, the process of generalisation and abstraction and naturally enough asked his subjects to group objects in a list according to an abstract principle. Here is Luria’s account of his encounter with Rakmat (the sentences in parentheses are Luria’s notes on the interaction):

Subject: Rakmat, age 39, illiterate peasant from an outlying district. He was shown drawings of a hammer, a saw, a log and a hatchet and asked which one did not belong.

R: They’re all alike. I think they all have to be here. See, if you’re to saw you need a saw, and if you have to split something you need a hatchet. So they’re *all* needed here.

(Employs the principle of ‘necessity’ to group objects in a practical situation)

L: Look, here you have three adults and one child. Now clearly the child doesn’t belong in this group.

R: Oh, but the boy must stay with the others. All three are working you see . . . the boy can do the running for them . . . The boy will learn; that’ll be better, then they’ll all be able to work together.

(Applies the same principle of grouping)

L: Look, here you have three wheels and a pair of pliers. Surely the pliers and the wheels aren’t alike in any way, are they?

R: No, they all fit together. I know the pliers don’t look like the wheels but you’ll need them if you have to tighten something in the wheels.

(Again assigns objects functions in a practical situation)

Luria picks up with the original group (hammer-saw-log-hatchet).

L: Which of these things could you call by one word?

R: How’s that? If you call all three of them a ‘hammer’ that won’t be right either.

(Rejects use of general term)

L: But one fellow picked three things — the hammer, saw and hatchet — and said they were all alike.

R: A saw, a hammer and a hatchet all have to work together. But the log has to be here too!

(Reverts to situational thinking)

L: Why do you think he picked these three things and not the log?

R: Probably he’s got a lot of firewood, but if we’ll be left without firewood we won’t be able to do anything.

(Explains selection in strictly practical terms)

L: True, but a hammer, a saw and a hatchet are all tools.

R: Yes, but even if we have tools, we still need wood — otherwise we can’t build anything.

(Persists in situational thinking despite disclosure of categorical term)

It seems clear that everyone is going to be better off if Rakmat brings in the crops than if Luria does. But what is significant is that revolutionary changes in Soviet society stimulated the intelligentsia to investigate revolutionary changes in thinking without first examining their own preconceptions. Luria brought with him the class biased conceptions of thinking with which we are all too familiar. “Hammer-saw-hatchet” versus “log” is the way our thinking has always been tested by those in authority. The class with the power can define who is smart and who is stupid. “Hammer-saw-hatchet” versus “log” is a ruling class way of thought, characterized by a remoteness from the world of work. Hence this thinking easily characterized hammer-saw-hatchet as tools, to be used by someone else, apart from the actual purpose of the tool. But in truth “We still need wood, otherwise we can’t build anything.” □

differential capacity. Militants in the movement saw no purpose in the search for individual essences in the matter of learning; their approach was that the success of those already in "high places" was proof that anyone could do those jobs.

The concept of intelligence is a weapon of the ruling class. It validates the claim of elites to their position by supporting their claim of superior intellect. It is used to justify the resistance to the demands of working people, national minorities and women in the name of innate "capability". And it forces each individual personally to defend their own intellect and in so doing to validate the theory of individual achievement, thus negating the reality of social knowledge.

In short, intelligence is a concept which justifies and consolidates the broadest form of tracking in capitalism. Moreover, in daily usage the term is a pernicious destroyer of individual understanding and unity. Our lives are pervaded by judgements of the "intelligence" of other people, and these judgements serve the same destructive role in personal life as they serve in the life of our society.

The imputation of "intelligence" carries with it a stricture to heed what the other person says; a label of nonintelligent is a license to ignore. Let's face squarely what this means in our daily lives. We each establish — consciously or unconsciously — our own deference system. There are those whom we accept as our "equals", those who intimidate or inspire us as our "betters" and those whom we reject or pity as our "inferiors."

In the case of "inferiors," we have no need to listen and attend their opinions. We perceive them as incapable of digesting and analyzing information in a useful way. Their arguments are baseless and their attitudes are uninformed. It is this judgement that most interferes with our own development because our judgement of intelligence rests on our assessment of someone's thought in those realms we know best. A lack of knowledge or facility quickly leads us to the conclusion that we have nothing to learn from them. In particular, this bias acts to separate university-trained people from those with practical experience.

In sum, by refusing to respect those who society and our intuition define as unintelligent we separate ourselves from the knowledge, insight, and information those of us trained as scientists have the least opportunity to acquire on our own. By using the concepts of the ruling class we do the work of the ruling class. Just as immigrant groups tried to pass for white, we in our thinking unknowingly imitate ruling class habits of thought and perception. We have been trained to do so. The "big picture", the distaste for applied research in favor of "pure research", the increasing status attached to academic disciplines which stress abstraction ("you have to be smart to do mathematics") and, in some sections of the left, the tendency to theorize without doing

the hard practical work on which genuine understanding and theory can be based, are all reflections of the status attached to a certain kind of thinking — a thinking that is called more disciplined, thorough and refined than practical thinking — "intelligent thinking". It is important to bear in mind that ruling class habits of thought are based on exploiting the practical experience of others in order to get results.

At this point we would like to suggest that as far as the concept of intelligence goes we should stop using this term. We suggest that we begin to isolate and name correctly exactly what is going on when we think of someone as being "intelligent" or "stupid". These terms assign a pernicious judgement to the observation of human activity. A student who is quick to understand the teacher is quick to understand the teacher. Calling such a person intelligent attempts an explanation for this behavior. But it is an explanation that is entirely baseless. Calling the student "intelligent" automatically clouds the social process by which the student came to be quick to understand the teacher. In its place an implied biological capacity is substituted. This is a mystification that is not in our interest because it disguises the fundamental social process that is at work.

There is another important reason for giving up the word intelligent. We are hesitant to call anyone "stupid", preferring instead to seek "environmental" explanations for someone's mental "deficiency". Thus, a student's failure to understand the teacher quickly is something to be "corrected" rather than a valid response in its own right. By rejecting the label "intelligent" we can begin to liberate ourselves from this kind of judgemental thinking.

There is a useful precedent for our suggestion. The women's liberation movement is demanding that people stop referring to women as being beautiful. The reasons are obvious. "Beauty" is a construct, a perpetually changing standard generated by a multibillion dollar fashion, diet, movie and magazine industry. It picks out correct ways to look and to be. It is clearly oppressive to women (and to men). Similarly, the word "intelligent" is a social construct. It exists as a label for behavior and it is employed to stigmatize and isolate people from each other. It creates distinctions where none should exist and it is time we began to realize this and do something about it. Rejecting the use of the word itself is an important first step to bring to awareness the buried social processes that have been hidden under the label "intelligent".

We would like to make two further points. One is about biology; the other is about genius. Some biologists and geneticists have argued that *everything* ultimately has a genetic basis to its variation. This is not so. We know *for certain* that there is no genetic component to the *variation* in human languages. There exist between 5000 and 10,000 human languages. A Chinese

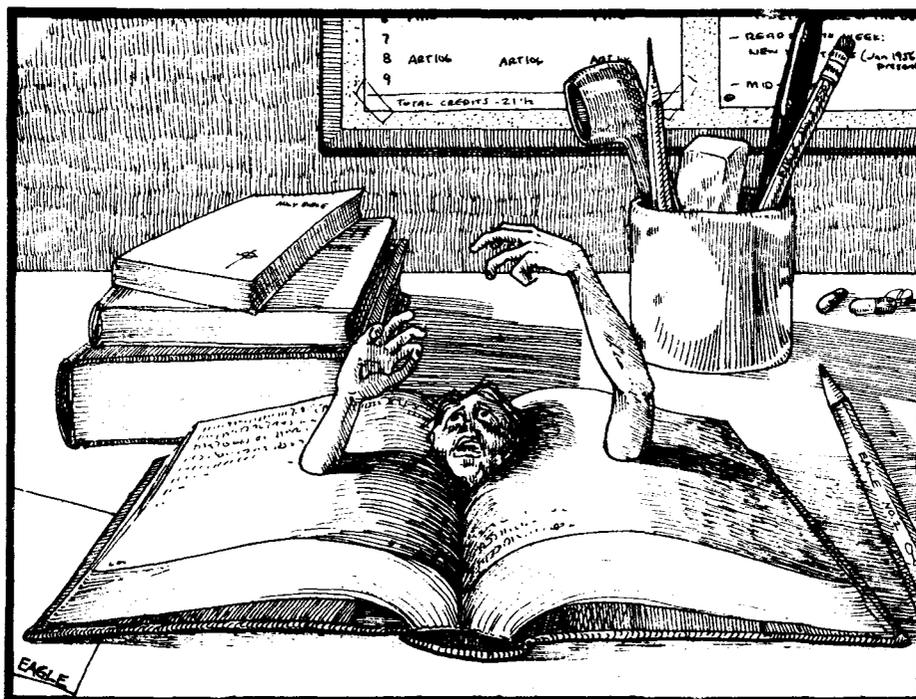
infant raised in Brooklyn by Brooklyn parents will speak perfect (Brooklyn) English and vice versa. The variety in human language is entirely cultural-historical, according to present understanding, an understanding that had to be fought for. Even now some reactionary social theorists try to resurrect the theory of "primitive" languages. In Britain a theory has been proposed that working-class speech is inferior to middle-class speech, characterised by a restricted code instead of an elaborated code.(9) In the US, analogous attempts to downgrade the speech of Black Americans have required a defense of Black English.(10) So, as a second step in giving up the label intelligent, we urge readers of SftP to examine their attitudes towards the regional, racial and class accents of their fellow Americans. These accents are learned, pure and simple. The Brooklyn accent, the Boston accent, the Southern accent and the William Buckley accent carry lots of information, but it's cultural information, without the slightest genetic component.

We see the same attitudes expressed about intelligence as are expressed about accents. There is nothing biological in this. It's a case of social prejudice and class attitudes. Some accents are thought to be superior to others. Some people are thought to be smarter than others. The prejudice in the case of accents is more transparent once it is brought to awareness. In the case of intelligence the latent attitudes are more buried but they are the same attitudes formed by growing up in a culture predicated on sex, race, and class oppression. Based on our own experience, we anticipate that increasing awareness of what is actually meant by the word intelligent will provide the mechanism for giving up this idea in favor of the social understanding that is to be found.

One powerful weapon used by the biological determinists has been the ease with which one can construct plausible biological models of human thought processes. For example, consider the transmission of nerve impulses. Enzymes exist that break down the neurotransmitter, the substance that is involved in this transmission. Every enzyme has a gene that codes for it, that is, a piece of the DNA molecule that makes up a chromosome contains a sequence of atoms that participate in the manufacture of that specific enzyme. So if there is variation in the gene that codes for the enzyme, there will (usually) be variation in the composition of the enzyme. And if there is variation in the composition of the enzyme there will (probably) be variation in the efficiency with which the neurotransmitter is formed or broken down. And if there is variation in the rate at which the neurotransmitter is formed or broken down then there you have it: genetic variation in how fast people think.

This kind of biological argument is often advanced, at least by implication. But we have never asked whether there is any relevance *at all* to this biological characterization of human mental activity. For even though humans are composed of tissues, organs and cells, and cells are composed of molecules and molecules composed of nuclei and electrons it is clear that the resolution into finer and finer parts must at some point become *irrelevant*.

As we argue the fundamentally social character of human activities, a reference to biology now may seem out of place. We have done it because the biological images are powerful and it is important to demonstrate how off the point they are. To support our earlier argument we too could draw on "science" and propose (for example) an evolutionary argument: The development



in evolution of bipedalism (i.e., walking upright) produced a narrowing of the birth canal resulting in the birth of offspring which are smaller and less developed than other primates. Thus the overwhelming part of brain development of the human infant occurs in culture, in interaction with other human beings, rather than in the womb. And it is this quality, the growth of the infant in culture, that makes the *human* being. Apart from this development in culture the infant does *not* become a human being. (11)

We suggest that biological analyses are a sterile atomistic approach. Rather, the factor relevant to human development is an understanding of human social activity.

The final point in our argument is about the question of genius. Last year, the curators of the Whitney Museum in New York City produced a show titled: Masterpieces of American Art: The Collection of John D. Rockefeller III. Radical artists in New York organised against this show. Eighty people met weekly for a year to discuss the so-called "neutrality" of art, and to analyze and expose its hidden values and its class basis. They produced an Anti-Catalogue dissecting the paintings and exposing their appeal to the vanity of rich Americans, the absence of women and Black artists, the absence of images depicting the fight that ordinary people of America have wages against a brutal ruling elite. In order to do this they had to thrash out a position on genius, because artists, even more than scientists, are chained by the ideology of genius into accepting the legitimacy of the control of painting by the museums, the schools, the media, and the wealthy under the guise of rewarding genius. Artists must overcome the feeling that if they didn't "make it" they "weren't good enough." This is the position of the Artists Meeting for Cultural Change on the question of genius:

Genius is the slow nurturing of a sensibility through countless developmental steps. It is no more intrinsic to individuals than are the clothes on their backs. An appeal to genius is a mystification of the social process whereby art is created, distributed and criticised.(12)

This is the last step. Without genius the ideology of intelligence is finished. There is only human effort in culture. Genius is the ultimate mystification of human effort in science as well as art. In physics, the high culture of the sciences, there is an old cynical saying: "Great discoveries are made one year before they are absolutely inevitable." James Watson's description in *The Double Helix* of his compulsive race against Linus Pauling toward the discovery of the structure of the chromosome illustrates this very well. Knowledge is *created* by a social process; it is only *stolen* by individuals. The belief in genius is the linchpin of the myth of intelligence which is the linchpin of the myth of individual achievement, which in our present arrangement is

the linchpin in the justification of the theft of social production by the ruling class.

We should begin by rejecting the word intelligence altogether and end its influence on our judgments and actions.

The ideology of science holds sway. In the face of detailed images from biology, critiques of the I.Q. issue to date have failed to come to grips with the deeper issues raised about the essentially social aspect of the human essence expressed individually and culturally. In our experience — as we talk with students, colleagues and political comrades — addressing the question of individual and social alienation has led us to exciting new dimensions of thinking about how our world is constituted: we must think in terms of what people do socially and how they interact; we must actively reject biological models of human social activities.□

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I grew up in a small town, and spent a lot of time on the farms of friends and relatives. Rural life, it seemed to me, offered a good blend of sensual pleasures, hard work and whole tasks. As an adult, I've spent most of my life in the largest cities of the U.S. I am familiar, then, with rural and urban living. But I wanted to know more about the transition from one to the other, and how it happened to so many of us so quickly. Especially, I wanted to know more about the changes in other women's lives—in the shift from agriculture to agribusiness.

Farming Out the Home: Women and Agribusiness

Sally Hacker

I found that this shift usually means a change from rural to urban homemaker; from farmer to clerical worker or factory hand. For migrant women, it may

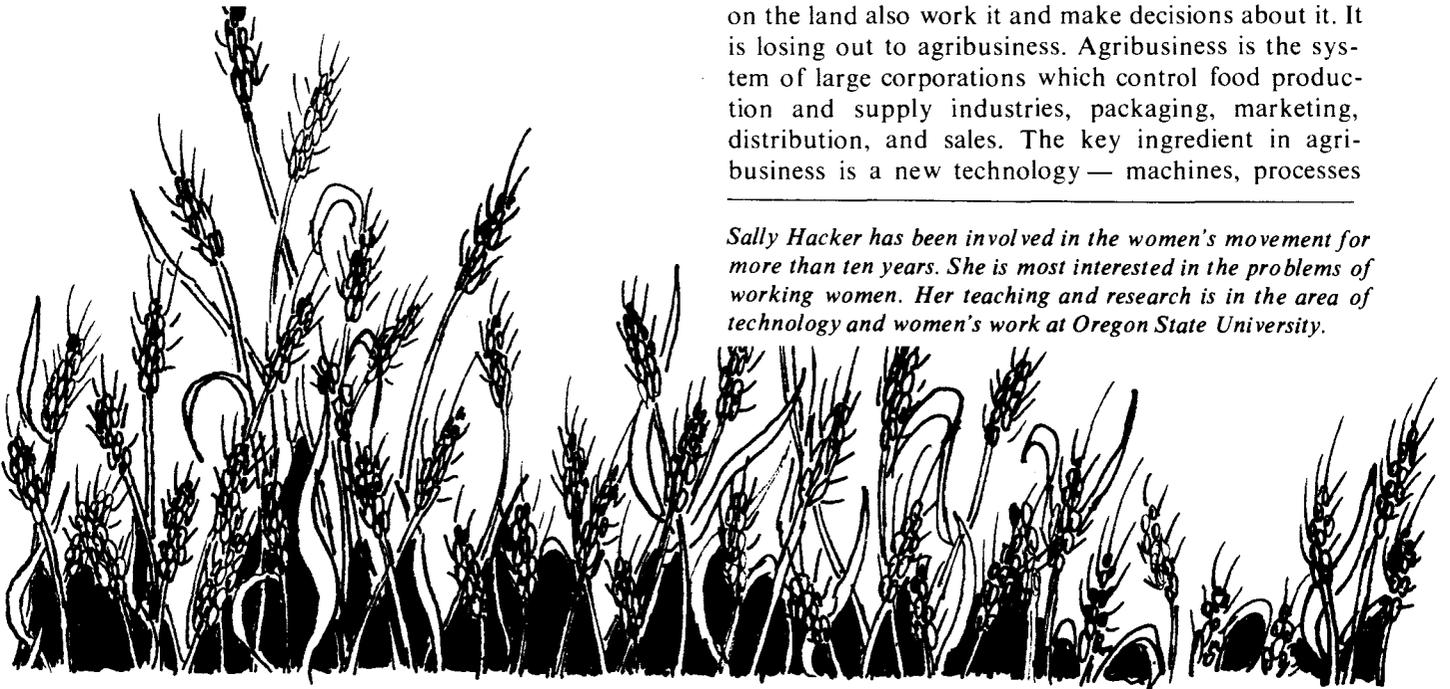
This article was originally printed in the Winter 1977 issue of The Second Wave. This journal, having begun as a project of female liberation in Boston, is one of the oldest feminist publications in the country. As a "magazine of the ongoing feminist struggle," it is committed to the development of our women's culture by providing a forum for fiction, poetry, and graphic work by/for/about women. It presents political issues, feminist analysis, health, sexuality, continuing struggles and evolving topics of importance to the women's community. To subscribe (\$6 for four issues for individuals) or contribute material to The Second Wave, write to P.O. Box 344 Cambridge A, Cambridge, MA 02139.

mean further degradation in living and working conditions, or no job at all. This interest in women and agribusiness is both personal and political. It forms part of an exploratory research project on technological change and women's work in several industries.(1) Iowa is an appropriate setting for this research. A green and lovely place, it contains the largest farming population in the country (544,000), and the third largest percentage of farmers (19.2 percent of the population).(2)

It takes a lot of money to farm these days. The average Iowa family farm represents almost half a million dollars tied up in land, buildings and machinery. Yet the annual net income of this family is only \$10,000.(3)

The family farm is a farm where people who live on the land also work it and make decisions about it. It is losing out to agribusiness. Agribusiness is the system of large corporations which control food production and supply industries, packaging, marketing, distribution, and sales. The key ingredient in agribusiness is a new technology — machines, processes

Sally Hacker has been involved in the women's movement for more than ten years. She is most interested in the problems of working women. Her teaching and research is in the area of technology and women's work at Oregon State University.





and social relations which have radically transformed the work of food production.(4)

Family farms don't lose out because they're less efficient. In fact, if one reckons efficiency in terms of energy consumption or environmental costs rather than in terms of people displaced, smaller scale farming outperforms agribusiness corporations handily.(5) The large corporation "farmer"(6) wins out in the uneven battle of land speculation, stock market manipulation and increasing control over significant industries.(7)

The U.S. farm population has dwindled from 23 percent of the total to less than 4 percent in the last 35 years. Smaller farms go first. For example, the size of the average farm in Iowa has increased from 190 to 261 acres since 1960.(8) Concern is usually cast in terms of the displaced farmer and his son. Yet census data indicate that women are pushed or pulled off the land at an even greater rate than are rural men; except for the 30-40 age group, the ratio of men to women is larger in rural than in urban areas of the U.S.(9)

Rural life was none too romantic, particularly for the poor. Their farms, like that of my grandparents, didn't stand a chance. Aunt Louise left the farm for the shoe factory, where she spent her working life. As she put it, "If we planted corn, wheat prices were up; if we planted wheat, it was a corn year." Mother was a farming woman who left to work in a film-processing shop in town. When I'd tell her I'd like to try farming, she'd say, "oh no, the work is hard and it never ends." Women's lot was the worst— hard labor often coupled with an endless round of childbirth. Cash income for

hard work would have provided some autonomy from the family unit, but there was little if any of that to be had on the farm.

Still, many of us feel we've lost a lot in the transition to urban living. We would like a life closer to the soil, where physical, social and mental work again form an integrated, organic whole. Farm life can also blend work and leisure — living in the basement until the house is finished, working outside, cleaning out the barn, spreading manure, milking, listening to fine country on the barn radio, feeding chickens and gathering eggs, cooking and eating what you've grown. Although some women are regaining this kind of life,(10) many more are still in the process of losing what they have.

Women on the Farm

The practical skills required by farming give many women and their daughters a sense of resilience, competence, and self-esteem. There is little in the way of a highly visible upper class after whom one's daughters might be styled; daintiness in dress and manner are inappropriate for most rural work. Both rural sons and daughters learn a wide range of crafts as well as the agricultural skills directly related to food production. On the farm, homemaking entails useful and highly respected skills. As one Iowa farming woman explained:

There's always something different. There's no other occupation like it, where you can spend that much time doing things with your family. In spring, you start planting. Everybody participates. Then there's the hoeing, then grain to be harvested, bailing straw, then the cantaloupes start coming on. Then there's irrigation all through this. My daughters work — they can all plow and disc. They do the same as my sons. Now, sometimes, I take care of the kids while my daughter rides the picker. I loved the sweet potatoes. The kids ravel [knock off the dirt] in the morning. My husband and one son snap during the day.

Farming women are often baffled by the (urban) feminist analysis of the degradation of the homemaker's role.

Equal pay for equal work is OK, but I want to be a wife and mother, the role God gave me. I don't want to compete, I only want to be a loved person.

A Wisconsin farming woman noted:

Most of the farm women I know declare fiercely that they are not feminists as they tramp out to

the barn to milk forty-one cows and shovel manure twice a day.(11)

In turn, adherence to traditional roles of wife and mother often baffles an urban feminist, for whom homemaking has become much less rewarding. However, many farming women realize that their way of life is threatened by the same forces that oppress women elsewhere. I spoke with a young farmer in her roadside vegetable stand. As we talked, her small daughter hammered away, repairing a crate.

If my husband died, I'd like to stay on the farm or rent the land. But for a woman alone in this day and age, it's impossible. She wouldn't be listened to as much as in earlier days; you really have to be strong-minded.(12) Corporate farming is coming in. You can't stop it. It's just the way society is going. Just like the grain market is controlled by the government. Bigger everything.

Bigger everything will indeed affect the lives of women. As Elizabeth Faulkner Baker points out in *Technology and Women's Work*,(13) labor in a variety of industries shifts from female to male as machines become larger and faster. Agribusiness technology affects women's participation similarly.

Training for Agribusiness

Traditionally, farm children have learned most of the technical and social skills of food production and preparation through observation and practice in the home. To learn the skills associated with the agribusiness systems, young people may attend formal educational institutions where these newer skills are taught.

To observe this training first-hand, I audited a series of vocational courses on "Agribusiness Orientation," at a central Iowa community college. The curriculum included agribusiness sales and marketing, animal science, soils, crops, fertilizers, and petroleum and petroleum products. One of the first lessons of agribusiness is that this is men's work—I was the only female.

The more fortunate go the land grant university; the poor usually don't go at all. This session, part of a two-year program, was directed toward the sons of lower- to middle-income farming families. These young men learn the skills necessary for middle-level occupations such as sales and marketing but are rarely encouraged to think about the more prestigious roles of corporate executive or scientist.

The ideology of agribusiness was most obvious in the class on sales and marketing—the only class taught by men with an urban background. They preach the



virtues and benefits of profit and expansion in guest lectures by representatives from industry, the Farm Bureau, and the state development commission; in texts, class discussion, tapes, and in films produced by the industry itself. We learned we should create and stimulate consumer needs, directly (e.g., for pork and beef) and indirectly (e.g., for microwave ovens, which increase the purchase of meat). Our teacher portrayed the ability to stimulate and create new needs as the manly art of salesmanship, as opposed to the womanly role of salesclerk, or "ordertaker," who merely supplied what a customer wanted.

Agribusiness, like any hierarchical system, is based on this rigid gendering of knowledge and experience that tells young men which occupations, attitudes, and behaviors to respect and which to ridicule and avoid. This applies even to specific classes. For example, the students in a horticulture class, including one female and a few long-haired male students, were referred to as "the flower sellers" by the agribusiness faculty. Students were encouraged to think masculine, think aggressive, and think business (more than farming) management.

The message is clear in the sales and marketing class. Question: "How does a salesman contribute to the high level of living in this country?" Correct answer: "He creates a high demand for luxuries." Question: "Why is the U.S. the richest nation in the world?" Correct answer: "Because luxury items have created new needs." The microwave oven is one such luxury item, which cooks a turkey in one hour instead

of seven. One "problem" the supersalesman must overcome is the housewife who prefers the longer cooking time, with savory aromas filling the house. The instructor is philosophic: "How do you sell against tradition like that? It would take four hours of class time to discuss it."

This experience was obviously alienating to me; I listened often in cold anger. It appeared to affect the young men as well, who could be seen playing with pieces of paper, ping pong balls, and chucking pebbles at each other.

Some students did challenge faculty statements. For example, a faculty member blamed farmers in a nearby state for overfertilizing the land. A student suggested that the fertilizer firms that sponsor grain yield contests, and the salesmen who represent these firms were responsible for the damage to the land. To this the instructor replied, "No, the farmers just wanted to get their names in the paper." Another student questioned the trend from dairy to beef cattle production. He was told "beef makes more money, and the name of the game is profit." A third asked if the instructor thought destroying food, or cutting back on its production, was wasteful or immoral. Response:

Waste is everywhere. I wasted gas driving in this morning. Could've walked. Waste is the name of it here in this country. Military men waste. I saw fifty gas masks thrown away, eggs thrown away at breakfast every morning. Some things are moral, some are immoral. Some are legal, some illegal, but let's face it — that's just the way things work in this economy. That's just the good ol' US of A.

Most students were practical; job placement could, of course, depend on apparent acceptance of consumerist dogma. From conversation and observation, those who appeared most successful on tests and class reports seemed to resist the ideology least.

Instructors acknowledge the degradation of the farmer's work. Thanks to agribusiness development, the farmer has been robbed of many craft skills. However, instructors have an explanation for this: "Farmers used to get information from their neighbors. Now they can get it from the dealer."

Further, small farmers who lose out in competition with larger operations are blamed for their own condition. As a representative of the Beef Improvement Council stated:

The name of the game is profit. How do you have a successful beef operation? Like any other business, a few inefficient operations will fall by the wayside

He, like other industry speakers, ignored any other possible causes of this development— such as the onset of technology which only a few farm families can afford. Attrition, he would have us believe, is simply inevitable.

This community college program represents an effort to ease the transition of these young men from farmers to agribusiness salesmen, merchandisers, and dealers. But the role of women is not ignored. Today's farm woman should become a volunteer and provide free labor for agribusiness.(14)

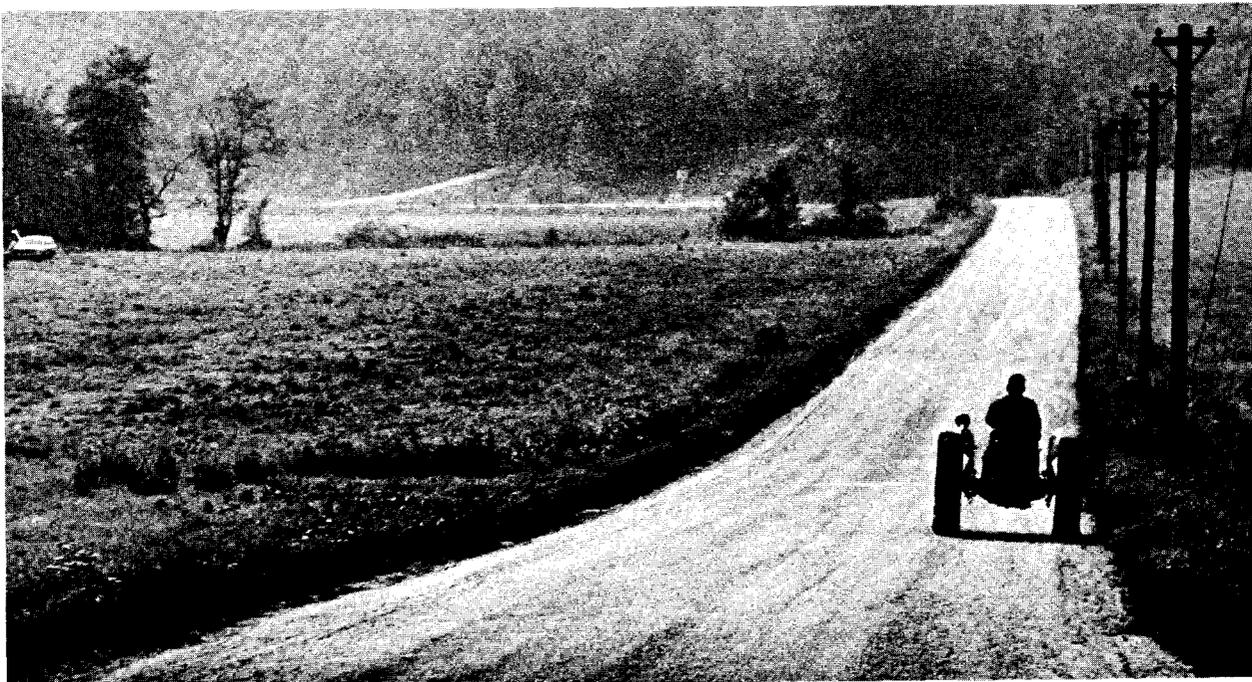


Photo by Ellen Shub



Photo by Ellen Shub

Women's "New" Role

Often women are expected to provide ideological support and promotional activities. The local Cattle-men's Association publication contains a section for their women's auxiliary, the Cowbelles, which informs women of their duties. They suggest that farm women "be knowledgeable about arguments refuting the high cost of meat and meat boycotts"(15) and "organize to help fight legislation negative to meat prices."(16)

Moreover, the woman's role is explicitly defined as a moral obligation rather than an occupation.

Lots of women are already helping their husbands in promotion of our beef industry, but we feel that belonging to our Cowbelles would make them consciously aware of their responsibility to the beef industry, and they would work a little harder on PR and beef education as well as promoting beef.(17)

The report on the accomplishments of Farm Bureau women in *Nation's Agriculture* includes promoting products, meeting with legislators, and objecting to a high school text that portrays Cesar Chavez as a hero.(18) These ideological support services, free to the industry, come from women who believe their best interests are identified with those industries and their power.

The PR campaign directed at farm women extends to attempts to alienate them from other women. Faculty contrasted the hardy, no-nonsense farm woman to the frivolous, know-nothing city woman, who might, for instance, side with environmentalists "who give blanket opposition to any chemical on the farm . . . then the New Jersey house wife is afraid of getting Iowa chemicals in her drinking water!" The urban homemaker can dangerously exercise her right of choice as a

consumer. She may choose meat analogues (vegetable additives) which, according to a representative from the Beef Industry Council, are "a cloud on the industry." The urban homemaker might boycott high-priced products, even though she "doesn't want to get her white boots dirty in the barnyard." In class, the beef boycott effort was derided, but in the *Iowa Farm Bureau Spokesman*, the boycott was elevated to a serious menace similar to organized labor and government controls:(19)

We think Mr. Meany's folks should pay for what they eat Neither he [Uncle Sam] nor the boycott gals can force us to raise meat at a loss.

As the boycott demonstrated, the homemaker still exercises decision-making power at the supermarket. However, agribusiness representatives suggest stripping even this level of skill from women, transforming it into a paid occupation for the young men:

That the housewife sets the pace is the biggest fallacy yet. She doesn't know the difference [between cuts of meat]. The housewife can't tell by looking . . . she's not educated enough to know. (Representative, Beef Improvement Corporation)

Most housewives don't know beans from apple butter. They need meat specialists to tell them what the cuts are. Meat merchandising could be a job for anyone in the room. (Representative and editorial writer, *Farm Bureau Spokesman*)

Catching my eye, he added, "Incidentally, you gals can do this too!"

In regard to women, the contradiction between agribusiness ideology and action is striking. Clearly, agribusiness representatives both fear and ridicule the urban homemaker, whom they perceive as troublesome and unpredictable. On the other hand, although

they venerate the woman on the farm, agribusiness itself hastens the transition from the rural to the urban homemaker.

In industry, more sophisticated technologies lead to increasing hierarchy on the job: the number of levels between the top and the bottom increases.(20) Management makes decisions; those at the bottom of the occupational structure are limited to routine, detail, and maintenance operations. The future agribusiness middlemen in the classroom were advised explicitly:

Don't spend dollars doing penny tasks The most productive type of labor for a manager is thought . . . plan, direct, analyze, control. If you want to be a manager, you've got to keep your head above the details. Hire somebody else to wallow in it Industry needs men who think Wars aren't won by men with small ideas! (Tape: "A Challenge for Tomorrow's Managers")

Naturally, this division of labor allocates the penny tasks to women. In another session, they learned from an ace insurance salesman that he:

had no secretary at first. Then somebody said go out and get a secretary and you'll double your business. I did, and sure enough, my business doubled. She takes care of all the details, every detail.

Sexism is the first form of social hierarchy. Valuable tasks are taken by the men; detail work is left to the women. As one manager put it:

My wife takes care of everything at home. I don't have to do any of it. Sees the lawn's mowed, takes kids to the dentist, the doctor. I don't do any babysitting.

Even more than classroom instruction, I gained insight into the future role of women by observing the experiences of women in agribusiness. ♣



Women at Work

To illustrate the number and variety of jobs available in agribusiness, the college invites the young men on field trips to agribusiness corporations and cooperatives(21) around the state. I went along, persisting in the face of a faculty suggestion that "women might be in the way."

We visited a turkey plant that employs 600 people. According to our guide, 80 percent of the workers are women. The plant was cold, smelly, noisy, and wet. Some women wore galoshes as they stood in place on the assembly line. The first in line chopped off the feet. Others performed limited disemboweling operations on the carcass, as it passed along an overhanging track winding through the plant. A woman I spoke with reported her wages as \$2.50 an hour. She said they had been organized by the Teamsters.

At a warehouse which employed some 60 people, men loaded, unloaded, and moved crates and cartons of tires by fork-lift truck. Our guide gave their starting wages at \$3.50 to \$3.60 an hour. A few women worked in the office, but he did not know their wages.

A highly automated dairy again gave no evidence of women; the guide reported that a few worked in the office, but again he was unsure of their wages. He gave the average wage for the men as \$5.50 an hour.

A similar situation existed at a large grain-loading port.(22) Here, mechanization and automation had reduced the labor force to about 27 men. Crane-loading operators earned \$9.60 an hour; once more, the guide didn't know what the "few women working in the office" made.

At a grain exchange we visited, male industry representatives, traders, and brokers on the floor earned starting salaries of \$20,000. Female chalkers, who stood at blackboards around the balcony changing the information as new statistics arrived, were reported to earn \$2.50 an hour.

The more varied and better paying occupations available in agribusiness are almost exclusively a male domain. A few women work in research kitchens, but most are limited to positions as factory hands and clerical workers. When I asked about the role of these women in agribusiness, an instructor replied, "The gals on the line? They are not considered a part of agribusiness. They do no decision-making at all."

The alternatives for most women leaving the farm are bleak. Many are on welfare. Women occupy the lowest paid, most tedious jobs in packing and canning plants around the state. Since automation and other factors seriously affect these jobs, the unemployment rate among these women is much higher than for women in other occupations, and higher than that of male operatives.(23)

Many rural women turn to clerical labor, which is also notoriously underpaid. Des Moines, Iowa, is dominated by insurance companies and other financial institutions and has the lowest clerical wages and the slowest rates of growth in clerical wages among cities in the entire north central region.(24) In fact, the state development commission invites other insurance companies to locate in the state and take advantage of low labor costs. The following advertisement appeared in *Fortune* magazine:

Iowa workers add 15 percent more value to the products they produce than the average American worker. That's 69 minutes productivity for an hour's pay, 46 hours productivity for 40 hours pay, or 59 weeks of productivity for a year's salary. But no matter how you look at it, the fact is, Iowa workers work better.

It's one reason why 165 of America's top 500 companies now operate 455 plants in Iowa. For more information, write: The Iowa Development Commission. A Place to Grow.(25)

According to the manager of another poultry processing plant I visited (which, incidentally, received a major share of its business from the Department of Defense), rural women make the best workers because they're used to hard work. This particular plant employed some 400 workers; primarily anglo women on the day shift, migrant chicanas at night. Most women worked standing in the heat and the wet and the smell, stripping cooked meat from the bones of the chicken carcasses piled in the bins before them. Recently bone and joint difficulties have increased, particularly among older women, as the tempo of work has increased. The women wanted higher pay. The night foreman, the president's nephew, wasn't sure if company response would be mechanization (e.g., a deboning machine) or a move further west to capitalize on American Indian labor. Several months later, a newspaper reported the work force had been cut to 225, then the plant closed "for renovation."(26) It never reopened, but moved out of state.

Migrant Workers

Migrant workers are located at the bottom rung of the agribusiness ladder. Some 2,000 chicana/o migrant workers are employed in Iowa each year.(27) They harvest the crops and work peak seasons in canning and meat packing plants around the state. As in the anglo community, men tend to work in beef packing; women in poultry. Some "settle out" of the migrant stream to become permanent Iowa residents.

Two chicana nurses, Sister Irene and Sister Molly,

described their reaction to migrant living and working conditions:

When I came here and saw what my people, the chicano people, were really going through . . . I became a different person . . . I was really shy and timid before . . . we're not like the nice chicana [laughter]. We used to be on a lot of boards, you know, like the token chicanas. But now they're catchin' on to that. And they're not going to ask us on too many boards because we're not going to be their little tokens, huh-uh.

According to one man:

There's this chicana woman behind all the trouble. We no more get the police to arrest some of 'em, than she's down there way ahead of the police gettin' to the station, gettin' 'em out. And not only that, she's a sister. And she's got a sister who's a sister. They're both troublemakers.

Sisters Irene and Molly spend most of their time helping the migrant field workers and their children, and those who've "settled out" get mind and soul and body together.

They have low back pain, any time they have anything wrong with the whole spinal column or a disc, from all that lugging and backbending kind of work. Pesticides, There's pesticide poisoning, and we know there is. But it's never really been documented. And I think physicians sometimes miss it too. They're not really trained as far as pesticides are concerned. But we've had incidents every summer . . . Somebody will come in all swollen all over, difficult respiration, the whole thing, and says "it was right after I was out there picking tomatoes for an hour or so." So what do you do? You document it. I think you can send it in to HEW, but there's no real follow-up on it. And there are no warning signs that this field has been sprayed. None of that . . . nothing like that. Nothing. People don't even know what the pesticides are. Sometimes the grower doesn't even know the pesticides being used because [the company] is sometimes afraid to give away that information.

Farm work is nearly three times as deadly as the national average, according to an assistant U.S. Secretary of Labor.(28) And of all farm workers, the migrants are the least protected.

Conditions in the migrant camps contribute to poor health. According to the sisters:

They had high incidence of diarrhea — they didn't like us coming in and checking the water. This was when we didn't even have a migrant health and housing law, so we had a young man



employed as a sanitarian, and he had to go out and check the water or I'd check the water. And then they had occasions when they had accidents — the lady was there getting water out of the faucet, and the cement was not really fixed there for her to step on, and she fell. And [the company] had to follow through and pay for all her health coverage. I made a point of it.

In the face of continuing public pressure, the company recently got out of the migrant business. They sold the housing to the farmers and told them to take future responsibility for contracting and housing. The farm women I talked with employed about 20/30 migrant workers. The large cannery in their small Iowa city was a subdivision of an agribusiness giant. The cannery contracted the farmers to grow produce, hence the term "grower" applied to these farmers. Until very recently, this company also contracted and housed the migrant field workers.

The farmers find it too expensive to improve the quality of housing:

They [migrants] are only here six weeks, and it would cost us \$20,000 to build new.

Another reports:

[The company] used to own the houses. They saw it coming, sold the houses — and gave the

responsibility to the farmers. The houses are used only two months, but we have to maintain them during the winter. We got no increase from [the company] for this responsibility.

Placing the responsibility— and the expense— of migrant housing on the farmers led to mechanization of the field work, e.g., through the use of the mechanical tomato picker.(29) Under conditions of mechanized farming, there is a more profound division of labor. For example, one farm woman reported a migrant woman drove a truck and loaded, but this was unusual. Generally, the job of loading and driving was held by the migrant men. Almost exclusively, women and children performed stoop labor. A western Teamster official indicates that as technology becomes more sophisticated, anglo men will take over the operation of large farming equipment.(30)

As social and economic pressures continue to affect the farmer, it is likely that those who can afford it will move toward further mechanization. In 1973, the number of migrant workers coming through this area decreased by 15 percent because of mechanization.(31)

The farming women I talked with did not express hostility toward the migrant workers. They could identify with certain aspects of the migrant women's lives — the double work of homemaker and field worker— but also knew their own lot was easier:

I have another place here [the home]. Migrant women don't.

They opposed the general community feeling that poor housing conditions were the migrant women's fault:

The women said they didn't come here to keep house. They came to work in the fields, earn money and go. They want livable housing.

These farmers directed their sharpest criticism against the media picture of the horrors of working in the fields. They had experienced a lifetime of field work, although under obviously better conditions, and judged the horror overdrawn. They also resented "outsiders running through the backyard speaking for the migrants." Before the local migrant health committee had formed, church groups had provided minimal services to migrants as an act of charity. The new era of conflict and confrontation was unsettling.

Given economic conditions, and the fact that the company does not compensate the farmers for the added responsibility of migrant housing, migrant living conditions are unlikely to improve significantly. As Sister Irene says:

We had that big run-in with the grower and the inspector. I said [to the inspector], "... when you

tested that water, didn't you see that hose attached to it?" "Yes I did, but that's not my job to tell them to take the hose off." [Water may test well at its source, but be contaminated by running through the hose; this practice is illegal.] So we had a little round right there. OK. Then there was a lot of diarrhea in that camp, and that's where, possibly, the contamination was coming from. They were filling their buckets and everything.

You see a lot of staph infections, and that's just from the conditions they're living in. We had a lady that was bitten by a brown recluse spider. We wanted to document that. Oh, she had, she was a mess. She was prevented from working, the whole thing, taking care of her children. We had to dress it every day. We went out to check on the house, to document it, maybe file a suit. [The grower] burned the house that same night, or the next day.

Maternal and infant mortality rates— a key index of overall health care(32)— are reported to be more than 100 percent higher among migrants than the national average. The conditions producing these rates are immediately apparent:

Sometimes families come in large semi-trucks — carries two or three families all squashed in there.

And sometimes he doesn't make an effort to provide sufficient stops along the way, so consequently the people are really sick, and the babies arrive with vomiting and diarrhea. The mother was breast-feeding her child during the trip but her milk went dry. She didn't produce enough milk for the child and the child had diarrhea. He didn't make enough stops along the way. A lady arrived with a gall bladder attack after the long hard trip. We had another arrive in labor — we had to deliver the baby ourselves.

When you're pregnant, I don't care if you're pregnant, or what you are, a diabetic or whatever condition you have, you're out there pickin'. I mean you're here to earn some money and if you're physically ill, that really too bad. You're still out there doing it. They don't complain, they're just out there. And you say, you know, you really got to be home and elevate your legs, if it's varicose veins, or whatever, but they feel like they have to go out there. Provisions for pregnant women? No. Nothing. We say, I think you should go, you have this kidney infection, and the grower sometimes accuses us of taking his workers away from the field.

We had a maternal death here about two years ago. This was just because of a lack, a lack of pre-

natal care. She didn't have any money. They said they just didn't have the money to go and see the doctor. She arrived here in her eighth month of pregnancy. We got her to the doctor right away, and she had a history of weight loss and anemia. At about the same week she went to see the doctor, she went into labor on the weekend, and she delivered a premie, and she died of post-partum hemorrhage. The doctor from our clinic said it was a lack of prenatal care, and she wasn't followed, and they just didn't have the money.

Conditions for the children who survive are also perilous:

When you get a family history, invariably you always find at least two or three children that died at two

Woodcut by Carlos Cortez from *Industrial Worker*



years old, died at eight months. And then you ask, and they said, "well," they said, "I thought, well, I never really knew, they never really told us." And that just kills me when they say that. "We think it was pneumonia, but we're not really sure." You always get a history of somebody dying: the children.

Last summer we had a child, he was just, he had parasites; he had amoebas. He was just, he looked pregnant, like two or three months, right along, a little tummy. He was just full of them. He was just full of parasites, amoebas, the whole thing. They had to take him to Iowa City. And that's another thing. He left the area before the treatments were finally done. Treatment had to be gradual. You didn't want to irritate the worms too badly, because when you did they'd start coming out his nose, his mouth, other cavities — ultimately they would choke him. But the whole family had them. They were living in some of the most atrocious conditions over there. You know the grower doesn't understand that. They say, "It's their fault, and they're not clean."

Migrant women also provide useful, unpaid work stabilizing the community. Some growers formerly hired only single men, but no more, according to a member of the migrant health committee:

Single men? Growers don't want single men. They have more problems — more drinking, they bring girls, women there from the community. There's not one camp left with single men, and this guy will never have them again. Not because they want to keep the families together, but just, economically, it's better for the growers.

This same health committee member, a priest, comments on the role of the migrant woman:

It's really true, the migrant woman does suffer the most. It's harder for the husband in his dignity, and income and all that (compared to the non-migrant), but the woman — not only because she works right next to the husband full-time, but she still does have to take care of the kids, the cooking. There's no doubt about it. She's the child bearer, and again, with the pride issue, the maleness, and all that, the migrant, not because he's chicano, but because of the migrant situation, and the subculture, and the economic situation, children are still important. I hope they're always important; but they need more children.

Sister Irene tells of some community response blaming the victims, the migrant women, for their own conditions:

"Why don't those women take care of their kids?" they'll ask. You know, "the kids are

dirty," or this type of thing. "If they have enough time to go on to meetings and fight for this or that, how come they don't take care of the kids?" Or when they see the children running around all the time. Or they say, "why don't the women take care of their homes?" And I'll say, "well, have you thought about working your tail off for ten hours in the fields, and then come home and clean up a house, or shack, and make the food?" Who's going to worry about the house being clean? My god. Housekeeping.

A young migrant woman spoke briefly about her experience during her hurried visit to the migrant health clinic — the migrants had only recently won the privilege of time off from the fields for clinic visits. The young woman was married with two small babies. She had not come from a migrant family. Her mother was a homemaker, her father a school janitor. Because her husband couldn't find work in Texas, they joined the migrant stream. She often felt unwelcome there, in anglo motels, stores, and coffee shops. She said she wouldn't mind working in the fields so much if the pay were better but thought she would like to train to be a nurses' aid instead. "Application after application was turned down," however.

The worst part of field work was:

when it's cold and rainy or muddy, or when all eighteen women I work with line up outside the single toilet facility. Sometimes you have to wait.

She doesn't let her babies use this toilet but uses a clean can instead, for their safety. Usually she works alongside her husband, picking four rows of vegetables each. But at home:

I do it all myself. [My husband] rests while I'm bathing the babies, making tortillas, cooking, cleaning. It makes me mad, but it's just easier to do it. Maybe things will change. If sons and daughters are raised the same, maybe there will be some change.

Irene and Molly have seen many changes. The migrant health committee is beginning to work more closely with the farmers, whom they can see as allies in their struggle with the company:

Growers are really up a creek, and they know it. They don't know from year to year, from season to season, how many workers they're going to need. Because [the company] waits until the last moment to say. They say "we want every grower to cut back. . . from 100 acres to 70 acres of tomatoes." Even the growers don't know how much the other growers get paid for a ton. It kind of sets the growers against each other too. They don't know until the very last moment, when [the company] is ready to give out its plans, how many acres they will have, if they will be



contracted. . . or not. That's their concern, and they've been voicing that with us very seriously. Very openly.

For the most part however, Sister Irene and Sister Molly work with the migrants — rapping in Spanish with older chicanas about folk medicine; helping a woman whose husband's immigration papers weren't properly processed; dealing with workers' difficulties at the cannery; rushing a woman and her daughter, whose arm had been caught in a wringer, to the clinic after a local doctor put them off; printing cards with instructions in Spanish and English about rights when arrested.

Conclusion

A rigid, divisive organizational structure — rural divided from urban, chicana/o from anglo, men from women, decision-making from labor — is brought to us by "agribusiness and the companies it keeps."

Most people are convinced that the spread of agribusiness is inevitable. One farmer, describing the company's policy of secrecy about pesticide contents used under contract, was very concerned with effects on the local environment. But, she said, "there's no way to go back. I know we're taking some chances, but there's no other way to feed people here and abroad." This ideology of necessity, of course, is exactly what agribusinessmen have told her.

Neither the farming women nor the students in the agribusiness classroom had encountered workable alternatives to agribusiness as we know it.(33) They were unaware that, in many ways, agribusiness has a

detrimental rather than a positive effect on the poor in Third World countries. Susan DeMarco and Susan Sechler, in their book *The Fields Have Turned Brown*,(34) document increased unemployment and decreased protein in the diet of the poor, as Third World Countries adopt western agribusiness technology. Advocates of the new technology encourage the production of luxury crops or herds grown for export to wealthy nations. Meanwhile, land allotted to grains and other staples has decreased. The distance — in wealth and protein consumption — between the rich and the poor increases.

In auditing classes, taking trips, talking to people, looking at data, I learned a little about the transformation in women's lives when agribusiness replaces the family farm.(35) Women's work on the farm is often directed by the needs of the man. To some extent it differs from the work of that man. But compared to the way agribusinessmen organize work, farming women and men more often shared skills, tasks, responsibilities, and power.(36)

The organization of work under large corporate agribusiness diminishes the autonomy of most farmers considerably and all but eliminates it for women and migrants. It creates alienating work for many anglo men as well but keeps many of them content with minor power over others — e.g., the secretary, wife, and factory hand. Hierarchy holds it all together. You're relieved not to be at the bottom, or unemployed, but scared you will be if you're not careful. Hierarchy, with its related fear and uneasy relief, is a very effective source of control and characterizes most, but not all, forms of social organization.(37) Agribusiness, com-

Farm women are beginning to see they hold a very different economic and political position than do farming men. They are beginning to fight back in the areas of most immediate interest to them.



pared with agriculture, exaggerates hierarchy in social relations.

Profit and expansion are powerful engines in this industry which has such low regard for people in general, and women and minorities in particular. Accompanying these economic factors are older tendencies of political domination — concentrating power and decision-making among the men at the top.

Agribusiness didn't create, but certainly increases, the subordination of women, people of color, and the poor. It is not unreasonable to think that liberation from these conditions is intricately related to the problem of technology — who controls and directs it, and what kind of technology we get.

Technology — the way we organize energy and materials to get work done — can be and often is selectively developed to insure social hierarchy. Technology is not simply a collection of machines. It also includes social relations in the way that work is organized. Technology, then, is both social and technical. It doesn't simply emerge. It is not operating on its own internal principles. It is carefully selected and its development directed by those men who own and manage. And their choices are made in their own interests.(38)

Migrant workers have organized a response to agribusiness.(39) Farm women now also discern the outlines of this industry which destroys the way of life they value for themselves and their children. Few can afford the mechanization now in process. Along with migrant workers, they are increasingly excluded from the skills to use it, anyway. The land is more easily rented and bought from the farming woman, who, as one said, "isn't listened to as much these days."

Farm women are beginning to see they hold a very different economic and political position than do farming men. They are beginning to fight back in the areas of most immediate interest to them.

One farm woman wrote recently to Roxanne Conlin, a vigorous feminist and Iowa's assistant state's attorney at the time:

At the present time, if a farm husband and wife own property jointly and something happens, the *entire* property is thrown into the husband's estate and taxed. A farm wife is not considered to do a thing toward the family income. This is a very bitter pill and has caused the selling of the farm in some cases to pay the tax and [the farm] was the very lifeblood for the widow. This is very ironical when many, many farm wives spend every bit of their energy and 10 to 12 hours a day beside their husbands assisting with milking, farrowing baby pigs in -20 degree temperature when you have to be with them 24 hours a day, driving tractors 12 to 16 hours a day in 100 degree temperature, endless chores 7 days a week, cooking for hired help, chasing, sorting, loading hogs and cattle, and on and on and on. There is no time for us to go to town and get a job as we're desperately needed right here and town people resent us coming in and taking jobs they want. Yet, the way the law is now, only personal money that the wife earns from an outside job that she can prove was away from home will apply to give her any little share of that property at his death as tax exempt even though she had to sign all the notes to borrow the money and has done without

numerous things in the house, which other women regard as absolute necessities, in order to provide the necessities outside to keep the farm operation going as it is very tough to pay expenses in spite of the fact people think we're rich.(40)

Conlin points out that before this law was changed, it had deprived 3,600 women of their property each year. Even greater difficulties were faced by divorced farm women:

Farm wife married fifteen years, three children, started with nothing and bought a \$100,000 farm. She worked during his final year of school, had her babies and continued to work part-time in town as well as raise her children, keep her house and of course, help generally with the necessary farm work. After their fifteen years of marriage, he wanted a divorce. The court awarded him the farm, and the machinery. He also, of course, kept the college degree she had helped him earn. She on the other hand got one third of the value of the land, and the children to raise on her own while attempting to train herself for a paying job.(41)

Farm women are beginning to communicate with each other about many of these issues which affect them so vitally. A recent issue of *Do It NOW*, the publication of the National Organization for Women, has as its theme, "Rural Women."(42) Theme editor Nancy

Knaak describes her life as a farmer; the experiences of others in such groups as the Cowbells and Porkettes; problems with tax laws. She reviews *Country Women* by Tetrault and Thomas; and reports on a Women's Educational Equity Act study of "Rural Women's Educational Needs."(43) She announces plans for a '77 summer conference in rural Missouri of NOW's newest task force, Feminism in Rural Life.(44)

Rural feminism also poses a direct challenge to political/economic structures. One of the most recent projects in the Compliance (employment) task force is the project on Women in Agribusiness.(45) The NOW chapter in Des Moines has worked closely with agricultural and migrant issues, e.g., the local Grape and Lettuce Boycott Committee.(46) At last report, other women in that city have enrolled in the community college Agribusiness Orientation course, and have formed a study/action group of agribusiness workers. Some members of this group recently attended a San Francisco conference on "Multinational Corporations and the Food System in California."(47)

Rural feminism has a unique constituency; most of these women do not have several generations of urban, industrial, highly stratified workers behind them.(48) Their experiences provide them with different potential from their urban sisters.(49) As the growth of agribusiness subordinates women and the womanly, it helps create feminist awareness and protest. At this point, the protest promises to help clarify anti-feminist implications in our economic and political systems in general, through a focus on agribusiness in particular.□

NOTES

Notes are organized for reference and, where possible, for contact.

1. In part funded by a Ford Foundation Faculty Fellowship to study women's role in society; Drake University, Des Moines, Iowa, 1973-74. I explored telecommunications and agribusiness, and, with Irene Talbott, printing and publishing, and insurance industries.

2. *Facts on Iowa Agriculture*, Communications Division, Iowa Farm Bureau, March 1977, p. 27.

3. *Facts on Iowa Agriculture*, pp. 6 and 12.

4. Susan DeMarco and Susan Sechler, "The Green Revolution," *The Fields Have Turned Brown: Four Essays in World Hunger*, 1975. Agribusiness Accountability Project, 1000 Wisconsin Ave., N.W., Washington, D.C. 20007.

5. Michael Perlman, "Efficiency in Agriculture: The Economics of Energy," *Radical Agriculture*, Richard Merrill, ed. (New York: NYU Press), 1976.

6. A group of four or five family farmers who incorporate for the protection it affords should not be confused with corporate "farmers" such as Dow Chemical, Tenneco, Standard Oil, Del Monte, or H.J. Heinz Co.

7. Perlman, *op. cit.*

8. *Facts on Iowa Agriculture*, p. 1.

9. "Nativity by Age, Race and Sex, 1970 and 1960" Table 189, *Detailed Characteristics: U.S. Summary, 1970 Census of Population*, U.S. Department of Commerce, Social and Economic Statistics

Administration, Bureau of Census. Very recent data indicate a trend toward increased participation in farming on the part of women — Lynda Joyce, *Annotated Bibliography of Women in Rural America*, Department of Agricultural Economics and Rural Society, Pennsylvania State University, University Park, PA, August 1976, p. 3.

10. Cf. the magazine, *Country Women*, Box 51, Albion, California, 95410; Jeanne Tetrault and Sherry Thomas, *Country Woman: A Handbook for the New Farmer*, (New York: Anchor Press Doubleday), 1976. See also a fascinating book by Annette Kolodny, *The Lay of the Land: Metaphor as Experience and History in American Life and Letters* (Chapel Hill: U. of North Carolina Press), 1975. Kolodny suggests we will have to radically change the metaphors we use to think about both gender and nature.

11. Quoted in "Rural Women," Nancy Knaak, *Do It NOW*, Vol. X No. 4, April 1977, p. 4 (Publication of the National Organization for Women) P.O. Box 7813, Washington, D.C.

12. Cf. Louise Noun, *Strong Minded Women: The Emergence of the Woman-Suffrage Movement in Iowa* (Ames, Iowa: Iowa State U. Press), 1969.

13. (New York: Columbia University Press), 1964.

14. For an Iowa feminist report on volunteerism as it serves business and industry, affects the services rendered, the unemployed and the volunteer, write Louise Noun, 3131 Fleur Drive, Des Moines, Iowa.

15. *Iowa Cattleman's Association*, Vol. 3, No. 3, 1973, "Cowbelles Corner."
16. *Ibid.*, No. 4.
17. *Ibid.*, No. 5.
18. Vol. 47, No. 1, 1972, p. 13.
19. Vol. 39, No. 44, 1973, Editorial, Dan Murphy.
20. Joan Woodward, *Industrial Organization: Theory and Practice*, (London: Oxford U. Press), 1965. In a study of British industries, Woodward found the application of "scientific" management irrelevant to business success. A firm's technology has an overwhelming impact on social relations. These relations become more hierarchical as one moves from unit to mass to process (e.g., oil refining) production technologies. Her view however ignores the fact that men carefully choose the technology they want.
21. For an analysis of the interlocks between agribusiness and large farming cooperatives, see Linda Kravitz, *Who's Minding the Coop? Farmer Control of Farmer Cooperatives*, March 1974, Agribusiness Accountability Project, 1000 Wisconsin Ave. N.W., Washington, D.C. 20007. We visited several Land O'Lakes Cooperative locations, e.g., the turkey plant and the dairy. Land O'Lakes, one of the eight largest U.S. Cooperatives, is described in Kravitz's Appendix, pp. 120-122.
22. See Martha Hamilton, *The Great American Grain Robbery and Other Stories*, 1972, also an Agribusiness Accountability Project report. Cargill, the corporation location we visited, is described on pp. 16, ff.
23. *Manpower* (sic) *Information for Affirmative Action Programs: 1975*. Iowa Security Commission Report, tables 3, 3A, 4 and 4A.
24. Table 87, "Interarea Pay Comparisons — Relative Pay Levels by Industry Div., 1967-74," *Handbook of Labor Statistics*, U.S. Dept. of Labor, Bureau of Labor Statistics, Bulletin 1905, (Washington, D.C.: U.S. Govt. P.P.), 1976, pp. 163-176.
25. May 1976, p. 167.
26. *Des Moines Register*, April 30, 1974.
27. Depending on who's counting. A federal agency reported around 2,000 migrants; a state agency reported only 637. The difference was that the latter did not count those who stay in the state six or eight months for work in the plants as migrants, but as residents. A migrant committee in southern Iowa recorded over one thousand migrants in their three county area alone.
28. *Des Moines Register*, December 12, 1974.
29. See Jim Hightower and Susan DeMarco, *Hard Tomatoes, Hard Times: A Report of the Agribusiness Accountability Project on the Failure of America's Land Grant College Complex*, Forward by Sen. James Abourezk, (Cambridge, Mass: Schenkman Pub. Co.), 1973. The book documents agribusiness rip-off of land grant college research and other resources intended to help poor farmers. The title comes from the development of hard tomatoes for the mechanical fingers of the picking machine, which in part was developed to replace troublesome field laborers.
30. Harry Bernstein, "Duel in the Sun: Union Busting, Teamster Style," *The Progressive*, July 1973, p. 20. Reprinted by American Friends Service Committee, 4211 Grand Ave., Des Moines, Iowa.
31. *Muscatine Migrant Committee Annual Report: 1973*, Summary, Section I-D. 218 West Second Street, Muscatine, Iowa, 52761.
32. The U.S. has slipped to the rank of 16th among industrialized nations. "Infant Mortality Rates for Selected Countries," data from United Nations Office of Statistics, February 1975. These data appear in literature from *Mother*, founded by Carol Downer, Edith Berg and Ginny Cassidy, 1050 Garnet, San Diego, California, to reclaim birth and motherhood for women.
33. Cf., an account of intermediate agricultural technology in China, in *China: Science Walks on Two Legs*, a report from Science for the People (New York: Avon), 1974. SftP offices are located at 897 Main Street, Cambridge, Ma. 02139.
34. *op. cit.*
35. I might have learned more. For insight into college, university and corporate resistance to this research — lying, distortion of data, secrecy, delaying, etc. — see "People's Methodology as Response to the Social Control of Critical Research." S. Hacker, in progress.
36. Ester Boserup's *Women's Role in Economic Development* (New York: St. Martin's Press), 1970, outlines the way in which western technology deepens the subordination of farming women in Third World countries as well.
37. For alternatives, see Peggy Kornegger, "Anarchism — the Feminist Connection," *Second Wave*, Vol. 4, No. 1, Spring 1975. See also Barton Hacker, "The Prevalence of War and the Oppression of Women," ms., Oral History Program, MIT, 1976, a paper which analyzes military institutions as core institutions of "civilized" societies, and women's oppression as the cornerstone of such institutions.
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39. Stephen Marglin (Harvard University), "What Do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production," *Review of Radical Political Economy*, Vol. 6, No. 2, Summer 1974 (Part I).
40. David Noble (MIT), *America By Design: Science, Technology and the Rise of Corporate Capitalism*, (New York: Alfred A. Knopf), 1977.
41. Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the 20th Century* (NY: Monthly Review Press), 1974.
42. Marglin points out that a technology which increases control over workers is often chosen over those which would merely increase profits, but leave workers more autonomy.
43. Peter Matthiessen, *Sal Si Puedes: Cesar Chavez and the New American Revolution* (New York: Dell Publishing Co.), 1969.
44. Roxanne Conlin, "Women and the Law: Protected or Neglected," Address to the Iowa Farm Bureau, June 10, 1974.
45. *Ibid.*
46. *op. cit.*
47. Report can be obtained from Women's Education Resources, University of Wisconsin Extension, 428 Lowell Hall, 610 Langdon Street, Madison, Wisconsin, 53706.
48. Task Force Coordinators: Mary Rhodes, Box 286, Nevada, Mo., 64772; Anita Wasik, 1914 Sol 20th, Grand Forks, N.D., 58201; Jennifer Hipp, 211 N. 5th St., Murray, Ky., 42071; Sally Hacker, Dept. Sociology Oregon State University, Corvallis, Ore.
49. Task Force coordinator: Judy Goans, 9237 Guyot Dr., Knoxville, Tenn. 37922.
50. Contact: Elyse Weiss, 1065 26th St., Des Moines, Ia.
51. Contact: Lynn Price, c/o 1310 7th St., Des Moines, Ia., 50314.
52. On the other hand, we share a social context similar to that of the "moral crusaders" of the 19th century feminist movement, as analyzed by Alice Rossi, "Analysis vs. Action," and "Social Roots of the Women's Movement in America," *The Feminist Papers: From Adams to Beauvoir*, (NY: Bantam) 1973, pp. 3-6, 241-282. While noting similarities, Rossi contrasts rural, small town moral crusaders such as Stanton and Anthony with their more sophisticated urban sisters of the later 18th century. Crusaders organized, others analyzed and wrote. Crusaders, however, held back from radical challenge to church and family.
53. Perhaps because of smaller scale or intermediate scale social organization, rural feminists explore utopian possibilities. Des Moines, for example, is a center of anarcho-feminist action and analysis of political and economic structures rooted in sexism. The fragmentation afflicting movements in larger areas seems slow in coming, and may be circumvented altogether; lines of communication across ideological differences are remarkably open. People seemed to be developing a hardy, earthy mix of analysis and action as they went along.

Book Review:

Computer Lib/Dream Machines

by Theodor H. Nelson (Chicago, Hugo's Book Service, 1974) \$7.
Reviewed by Boston SftP Computer Group.

Rapid technological change has in the past been accepted as the quickest and best method for developing a better society. Recently, widespread use of the electronic computer has rekindled the hopes of many people interested in using technology as a force for positive social change. Theodor Nelson's dual book, *Computer Lib/Dream Machines* attempts to deal with many of the potential consequences of today's computerized society.

Nelson argues for the demystification of computers for the non-computer oriented community. He aims to eliminate the dull and mediocre aspects of everyday life — in education, business, writing, and so on — by incorporating computers and computer programming into every phase of our lives. Nelson's "simple soup-to-nuts overview of what computers are really about, without technical or mathematical mumbo-jumbo, complicated exercises, or talking down" is a far cry from the technical elitism found in most of the computer field.(1)

Demystifying computers is certainly a difficult but admirable task for an author to deal with; *Computer Lib/Dream Machines* does provide useful insights for the highly motivated person who has had some exposure to computers beforehand. Unfortunately, it has been our experience that people with no previous contact with these

machines have great difficulty reading or even developing an interest in Nelson's book. He has arranged *Computer Lib/Dream Machines* along the *Whole Earth Catalogue* format with short, highly specific articles on programming techniques, languages, and computer design intended to give people a basic technical understanding of what computers are all about. Such an understanding would help people, Nelson believes, to take advantage of the potential usefulness of computers. While a certain amount of technical knowledge can help us gain control over the way science and technology is used in our lives, basic programming and sketches of state-of-the-art projects are not the kind of information non-computer people seem to find most useful.

One of the great strengths of *Computer Lib/Dream Machines* is the definition and unmasking of *cybercrud* — "putting things over on people using computers."

At every corner of our society, people are issuing pronouncements and making other people do things and saying it's *because of the computer* . . . Cybercrud is, of course, just one branch of *the great game of technological pretense* that has the whole world in its grasp.(2)

In fact, a computer simply follows the instructions written by a compu-

ter programmer, doing nothing in and of itself. Computer analysis of a safety hazard, for example, is limited by the analysis program developed for the problem, by the data collected for the study, and by the assumptions underlying both the problem specification and data collection. Just as numbers can be juggled to prove contradictory points-of-view, so a computer can be made to state *anything* is safe or harmful just by changing the evaluation methods or the safety limits or by using biased data. The computer's presence will in no way assure an accurate answer; rather, its power can reinforce the apparent legitimacy of errors.

Similarly, innovative applications of computer technology are not *necessarily* the best, most efficient and most just methods of accomplishing a task. Nelson repeatedly neglects this basic idea, as in his strategy for a "humane" educational system. He identifies the American educational system's major structural problems as fixed curricula and sequence which rob the student of motivation and enthusiasm, an emphasis on testing and scoring that reinforces rote learning rather than an interest in knowledge, and the division of material into subjects of specialization. The source of these problems according to Nelson, is the "inhuman teacher" and "it is to rescue the student . . . and allow him

[sic] to relate directly and personally to the intrinsically interesting subject matter, that we need computers.”(3)

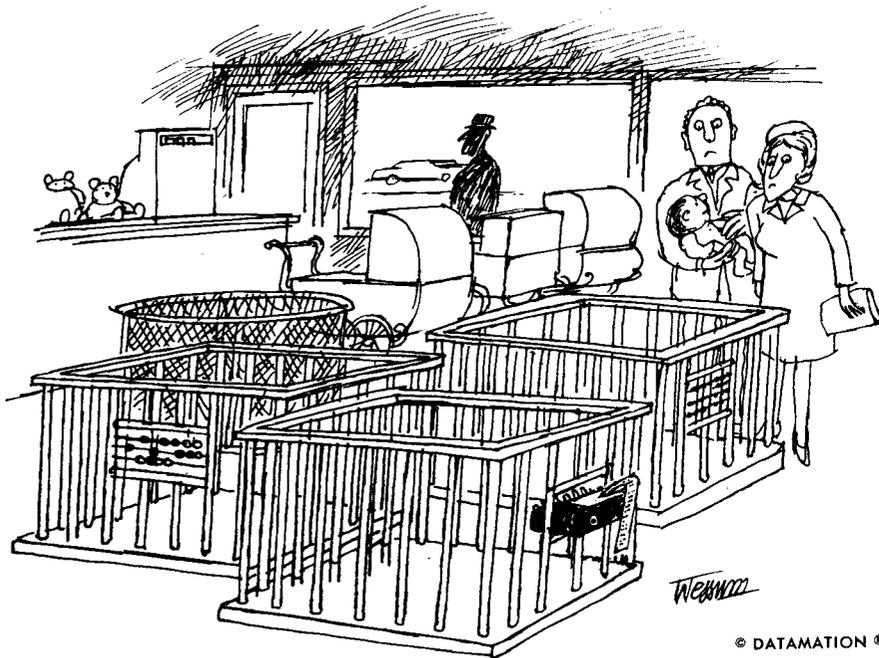
Nelson sees the computer as an educational tool of great flexibility, permitting each student to work at his/her own pace, thereby “individualizing” the instruction. The computer would also offer the advantage of “responding resources” — or “hypermedia” as he calls it — in representing written and pictorial material as needed on a video computer terminal.

Putting aside the present technical limitations on Nelson’s educational proposals, the greatest problem in the American educational system may not be so much how things are taught, but what the system is trying to accomplish. As E.P. Cubberly, an educational historian and theorist at the turn of the century, stated:

Our schools are, in a sense, factories in which the raw materials (children) are to be shaped and fashioned into products to meet the various demands of life. The specifications for manufacturing come from the demands of twentieth-century civilization, and it is the business of the school to build its pupils according to the specifications laid down.(4)

The most probable result of Computer Aided Instruction would not be the “individualized” instruction Nelson foresees, but rather a greater degree of individualized control and standardization of the product. This would be “necessitated” by the tremendous and costly programming effort involved in setting up the system. Imagine every lesson being carefully formulated by state or federal agencies and universally distributed, with minimum interference by human teachers (who now may at least sometimes present students with a dissenting view).

Computer Lib/Dream Machines contains an enlightening discussion



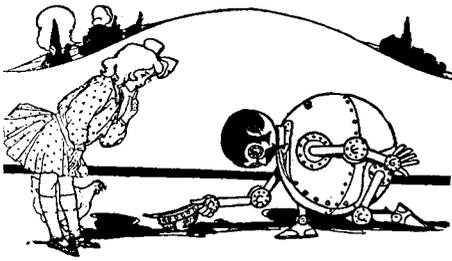
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of the practices and policies of the computer industry, particularly of its dominant company, IBM. This corporation has become the model of efficiency and growth for much of the business world. Over the last twenty years, IBM has defined and symbolized what a computer is or could be: a complex, expensive machine attended by an army of experts. “IBM seems to have molded computers in its own image,” Nelson writes, “and then persuaded the world that this is the way they have to be.”(5) Like large corporations in other industries, IBM absorbed the bulk of its market by subtly forcing those who chose IBM equipment to stay with IBM as long as they used computers. Users of IBM equipment were sometimes captured through devious marketing practices here and abroad; by blatant deception; and by a disregard for human rights. IBM designs its equipment to be incompatible with accessories designed by other manufacturers; some of these accessories add up to half the cost of a computer. Further, in a marketing technique familiar to all new car buyers, IBM delivers machines with no detailed manuals describing their internal workings. The buyer must

purchase service from IBM for even minor troubles.

Nelson points out the absurdity of the idea — fostered by IBM — that computers must be large and costly. It is the smaller, less expensive (under \$10,000), application-oriented machines currently appearing that Nelson hopes will pave the way towards a just society. While there can be no doubt that computer technology will soon be widespread, we can see no reason that this necessarily constitutes a remedy for the present injustices in the United States. Funneling hopes for social progress to the manufacturers of mini and microcomputers, who must exist in a highly competitive market, cannot be any more realistic than previous faith in the benevolence of IBM. Singling out the history of IBM provides a clue into the future of smaller companies which capture a substantial portion of the minicomputer market. We cannot accept Nelson’s implication that a small computer must come from a relatively small manufacturer, or that this supposedly small corporation will therefore hold public interest over profits.

Another aspect of *Computer Lib/Dream Machines* is most dis-



quieting — a pervasive, perhaps unintentional sexism. Although a great many women are involved in all aspects of the computer field, we see little of them in this book, except for an occasional picture of a naive Dorothy (snipped from the *Oz* books) being amazed by a decidedly male Tin Man. All photographs and drawings of people doing something relatively complex (e.g. programming) are of men. On the other hand, Nelson seems to agree that the natural sex for a keypuncher is female — at least his drawings do nothing to dispute this stereotype.

Probably the most serious injustice to women is the total lack of acknowledgement of their major contributions to the field. While we don't subscribe to the view of history as a succession of giants making individual breakthroughs, it is nevertheless galling to see Nelson carefully give credit to John Backus for developing the programming language FORTRAN, Kemeny and Kurtz for the language BASIC, and never even mention the women who literally invented computer programming. In the early 1800's an Englishman, Charles Babbage, tried and failed to build the first true digital computer. In the process, his friend and colleague Ada Augusta developed the basic principles of programming.(6) Also, in the early 1950's, debate raged over whether computer programming would best be done directly with machine languages or through software programs(7) which would allow the programmer to work in languages suited to the problems she or he was trying to solve (e.g., FORTRAN or BASIC). Dr. Grace Hopper set up the first major software develop-

ment group, against great opposition, and virtually all programming since then has been done in the way she championed.(8)

Nelson's preoccupation with computers as a technological innovation has distorted his sense of purpose: to identify and attack the many basically oppressive aspects of computer technology. In writing this book he has attempted to suggest a mechanism for social change. Like most technocrats who optimistically apply technological solutions to social ills, Nelson addresses neither the existence of our most important social issues nor their political causes. In focussing on how computer technology could make a better world, he manages to sidestep the more probable oppressive aspects of the computerized society.

In Nelson's computer future, will the political and economic structures that cause poverty vanish? If so, then he must present some idea of *how* computer technology might accomplish this task. Computers, like much technology, can be used for beneficial social applications, and they can have a place in a socialist society, but progress in the form

of computers or any other technology cannot by itself pave the way toward a just society.□

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1. Nelson, *Computer Lib/Dream Machines*, p.2.
2. *Computer Lib*, p. 8.
3. *Dream Machines*, p. 18.
4. E.P. Cubberly, *Public School Administration*, (Boston: Houghton-Mifflin Co., 1916), p. 338. This reference was found in Clarence Karier's article, "Testing for Order and Control in the Corporate Liberal State."
5. *Computer Lib*, pp. 52-56.
6. Pylyshyn, Zenon, ed., *Perspectives on the Computer Revolution*, Prentice Hall, 1970, pp. 16-28. See also Alice Hilton, *Logic, Computing Machines, and Automation*, World Publishing Co., 1963, p. 226.
7. Machine languages/software programming languages — the fundamental difference here is that a computer must eventually use a set of instructions which correspond to the actual electronic operations the machine can perform. This is the "machine language." This language is, however, very tedious for people to work with and so "software" programs (as opposed to the electronic "hardware") have been developed to translate program specifications which people write, in a more convenient language, into the machine language which is actually used when the program operates.
8. Rosen, Saul, ed., *Programming Systems and Languages*, McGraw Hill, 1967, p. 4.

ANTIPODE — RECENT ISSUES

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| Vol. 8 No. 1 | Urban Political Economy |
| Vol. 8 No. 2 | Origins of Capitalism, Politics of Space, etc. |
| Vol. 8 No. 3 | Kropotkin, Ireland, etc. |
| Vol. 9 No. 1 | Underdevelopment: I Socio-Economic Formation and Spatial Organization |
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San Francisco, 1978—SftP



West Coast Conference

The first west coast conference of SftP since 1971 was held in San Francisco on Jan. 14. By all accounts it was a great success. 65 people attended from all over California, even two stalwarts from Seattle, Diane and David Westman. There were strong contingents from Davis-Sacramento, Riverside, Santa Cruz, S.F., and Berkeley-Oakland. It all happened at the "Farm", a reconverted warehouse turned into a cozy community organizing and research center complete with chickens, cats, and organic gardens; nestled beneath a nightmare freeway offramp. The cast iron stove pipes in the meeting hall rattled all day with the welcome sound of pouring rain while unity reigned inside.

The day's agenda was agreed on without objection and the meeting began, more or less on schedule with a brief rap by Charlie Schwartz on the history of SftP followed by the keynote address by conference spark Jim Tobias. The issue workshops then began, most with 10 to 14 participants. Each group made a valiant effort to reach a consensus on the issue discussed for two hours while exchanging information and preparing a brief report. Discussion continued over lunch fueled by 80 big delicious burritos hauled in from the nearby Mission district. The conference redivided in the afternoon into recomposed small discussion groups to deal with political and organizing questions.

This format proved to be a good arrangement at least for this first coast-wide meeting. We didn't expect too much to come out of such a tightly packed schedule in the way of position papers or principles of unity. But people got acquainted, enthusiasm was created, and it was a beginning — hopefully, the beginning of a new phase of coordinated action on the west coast in SftP.

The formal conference concluded at 5:30 with a foot stomping resolution full of whereases, calling for another conference in six months to assess where we are and eat more burritos. We recoalced later that night for a wild disco party — gyrating to the music of Chuck the Disco King.

INTRODUCTORY TALK

I'd like to read an excerpt from the January newsletter of the Boston Chapter. It's a description of a discussion they had a few weeks ago, about the political development of the organization:

"Several people felt that the struggle with the Unity Caucus (a strongly Marxist-Leninist faction) had left a bad taste in people's mouths about theoretical political discussion and in reaction people concentrated on their specific issue-oriented work. Over the months, however, it has become clear that we need to fatten the trunk of the organization as well as its branches. This means recruiting more people, more concentration on the magazine, more support of the steering committee, etc. But it also means more discussion around our political strategies and goals.

"People expressed frustration about the lack of political discussion (and thus growth of the organization), but this is a rut we have fallen into: complaining about it without being able to change it. Political discussion does not fall from the sky, nor will it begin because someone rails about 'We need more political discussion!' It seems to me that it begins with careful, critical evaluation of our concrete practice in light of our long and short-range goals. Which means you first have to have some kind of overview about *why* you do *what* you do and an idea of *how* to do what you can realistically hope to accomplish. For example, we need to decide who we want to speak to — other professionals, science and technical workers, students, the general public, the "working class," all or none of the above. We need to look at what we do — publish a magazine, give mini-courses and workshops, publish papers — and evaluate how effective that is in light of what our goals are — making a revolution, stopping recombinant DNA, popularizing science, providing support

for radical professionals.

"We need to learn to be critical of ourselves without debasing our work for being bourgeois, middle-class professionals. It's about time we got beyond our guilt and defensiveness so that we can criticize our activities in such a way that we learn and grow."

That brings up an interesting point. A lot of people say one of our strong points is "we don't take a line" or we're not dogmatic. People can read the magazine and not be put off by a lot of rhetoric. That's fine, you don't have to hit people over the head to show them what's clearly going on all around them.

But let's face it, we have political differences among us and covering that up turns our strong point into a weak point. Instead of providing honest political dialogue, we look for unity in everything, to avoid arguments and keep tensions down. This can make us unclear as to our goals, ineffective, and stagnant.

Now, we don't need to go to the opposite extreme, and attack people because they put Mao on a third row of their bookcase and we put him on the first, but how can a political organization be political without politics? If we don't know what we want, how are we going to get it?

Well, it's obvious that we're not

CONFERENCE AGENDA

Saturday

9:00 am

Welcome. History of SftP by Charlie Schwartz. Keynote talk by Jim Tobias.

10:00 am to noon

Issue-oriented workshops on topics such as nuclear power, science education, etc., discussing the following questions:

- What is the political economy of this topic?
- Is it appropriate for SftP?
- What are our objectives and how do we get there?
- What ideologies are implicit in our different positions?
- What is the nature of the reforms proposed in this issue?
- Do they help us continue the political struggle, or not?

Lunch, and Berkeley SftP skit, "Uncle Samburger"

1:00-2:00 pm

Review of morning workshops and further general discussion.

2:00 pm

Small group discussion on political/organizational issues:

- 1) Problems in SftP of elitism, sexism, racism, both under- and over-assertiveness.
- 2) Politics: how does science fit into a broader political and economic picture? What general political analyses and goals can we agree on? How can we best continue our political development, i.e., Marxist study groups, etc.
- 3) Priorities: based on our political views, where do we put the energies of the organization?
- 5) Practice: recruitment, chapter building, outreach, coalitions.
- 6) National issues: how do we deal with Boston, the magazine.
- 7) Nuts and bolts: next steps, staying in touch.

Supper, Party

Sunday

Informal discussion, especially about the magazine coverage of this conference.

going to agree on a full platform today. But we should make the effort to begin to discuss the politics of science among ourselves. Not in a divisive way, but in a clarifying way, for mutual education.

—*Jim Tobias*

Morning Groups-Issue Workshops RECOMBINANT DNA

The discussion centered around the social aspects (regulations & guidelines) rather than around the possible environmental effect of DNA research. The point most stressed was the lack of public input in establishing the regulations so far. The NIH guidelines are very inadequate. They were arrived at by an elite NIH committee with vested interests in the research. 'Self-regulation' with minimal public input just doesn't work.

A few discussion participants are working on legislation at the Calif. state level. Calif. state action is now in suspension waiting for federal action. If there is no federal action a Calif. bill will be repushed. In the meantime we should push for universal application of the NIH guidelines and also more public input in the process: open meetings, lay membership on the panels, etc.

The desirability of putting recombinant organisms under public domain was also agreed on to eliminate profit.

Finally, the issue of local regulations was discussed. It is a good issue for raising consciousness about the control and politics of science but their effectiveness was questioned because of the mobility of private research.

NUCLEAR WEAPONS AND ENERGY

The tactics of both the weapons and energy struggles were discussed. It was agreed that they are both important and related struggles which SftP should be in the thick of but that mass mobilizing is more likely around the energy issue at present

because the goals seem more realistically attainable without a total overhaul of the system. The following points came out of the discussion:

—The crucial issue is not technology, but who controls it.

—We should be part of environmentalist broad coalition movements in order to secure the goals of that movement, and radicalize the environmentalists. The two main objectives of the energy struggle should be to limit nuclear fission plants and to seek decentralized solar power. These are the most fruitful demands right now.

OCCUPATIONAL HEALTH AND SAFETY

This workshop revealed much enthusiasm for strengthening West Coast SftP participation in OHS issues because OHS relates to the direct needs of working people. At the same time, many participants voiced concern that our input into OHS issues be directed at structural change rather than simply reform. We discussed taking advocacy positions and/or researching issues for labor unions. The problem is, how to do this in a political context. It serves little purpose to duplicate the efforts of many liberal research consultants already working in the OSH field. We must also contribute our political analysis.

Organizing laboratory workers was discussed (1/3 of the discussion group was lab workers) but no specific decisions were made. Another possibility that the group agreed to look into was sponsoring alternative forums at industrial hygiene conferences (similar to the involvement of SftP in AAAS conventions).

FOOD AND AGRICULTURE

First we asked what everybody in the workshop was already doing. This included lecturing on food, studying intensive farming, researching the social impact of farm

mechanization, working on food slide shows, working in peoples food distribution systems, and working with government and consumer groups on a Calif. food policy.

It was the consensus that food and agriculture present good political issues which people can relate to easily, and good illustrations of the irrationality within the capitalist mode of production. Food cannot be treated just like any other commodity because it is a basic necessity. Agriculture is the "soft underbelly of the system." These are also good issues to organize rural as well as urban people around. The farmers strike for parity was discussed as well as the difficulties of establishing urban-rural alliances against the big corporate interests. Even small Calif. farms are big business to salaried city workers. The trend toward increasing concentration of food growing and distribution into fewer and fewer hands was agreed on as the most important reality in US agriculture today, with Calif. leading the way. The question is what to do about it. Is the issue big vs small? Should we push for the breakup of corporate farms into smaller units and/or push for greater regulation of agribusiness — moving toward socialization of agriculture with more democratic control over food production and processing?

The farmworker coop movement was discussed as a refreshing, if small, counter to the growth of agribusiness. Also discussed were the ways that coops are constrained by the market economy of agribusiness.

As a first step in coordinating our activities statewide we agreed to write a collective article for the magazine on California agriculture. The topic was divided between the five chapters as follows:
Santa Cruz — Social consequences of mechanization
Davis — Nutrition
Riverside — environmental, pest control

Berkeley/SF — Political economy of corporate agriculture

Berkeley/Davis — Land use

The group concluded its discussion by agreeing to keep a closer eye on political developments in Sacramento concerning the Calif. food policy plan in the hopes of making some input.

SOCIAL ENGINEERING

This group discussed the techniques of social engineering and their use in different social systems. (No written statement was prepared.)

SOCIOBIOLOGY AND GENETIC DETERMINISM

The group discussed the level at which sociobiological theory should be criticized, the historical relationship between sociobiology and other genetic deterministic explanations, and future applications of genetic explanations of behavior.

It was voiced that sociobiology is another form of genetic determinism that must be exposed methodologically as pseudoscientific and speculative at best, and politically serving ruling class interests. If female/male differences in behavior are explainable at the genetic level, then it is not unreasonable to assign race and class differences to a genetic basis. Current genetic deterministic theories such as sociobiology are being used to explain the apparent failure of groups to gain equality in an era of increasing and unprecedented social and political "opportunities." One clear example of this that was brought up is the Dec. 1977 annual meeting of the American Economics Association in N.Y. in which an entire section was devoted to *Economics and Biology: Evolution, Selection and the Economic Principle*. Papers presented were "The Economy of the Body" (Ghiselin), "The Bio-Economics of the Family" (Trivers), and "Cooperation, Conflict, and Com-



petition in Economics and Biology" (Hishleifer). [Another example of institutional support of sociobiopolitics that has surfaced since the conference: Stanford Univ. Center for the Advanced Study of Behavioral Sciences in sponsoring a six week summer institute on *Biological Differences and Social Equality*: "Minority scholars, and young scholars (under 35) with a doctoral degree, or scholars in a wide range who are affiliated with four year colleges, colleges and universities predominantly for the Black, or regional universities are eligible to apply." (N.B. This same center invited a noted sociobiologist to spend the current 77-78 academic year there.) The group also stressed the necessity of getting wider distribution for the SftP publications on sociobiology and genetic determinism, especially the Ann Arbor book *Biology as a Social Weapon*.

SCIENCE EDUCATION

The participants all felt that it was important for SftP on the West coast to begin working around science education in an organized way. For any groups that form to deal with this area, an important initial discussion about the politics of science education is necessary. This discussion should cover the questions such as: Who does science education serve? How does it work (i.e. tracking, etc.) How are racism and sexism built into the science education? How is the mystique of science per-

petuated? Unity around these questions should not just be assumed.

Projects discussed:

- 1) Analyzing curricula materials and textbooks.
- 2) Analyzing media coverage of scientific events as well as developing our own programs for public TV & radio.
- 3) Developing resource materials and curricula on science topics for different school levels.
- 4) Coordinating science education projects throughout SftP.

Another area discussed was the question of continuing education for science and technical workers. A question that remains unanswered is who is going to organize work in this area for SftP on the West coast. The workshop participants were not a group that could begin this effort.

Afternoon Sessions — Larger Questions

Here are some of the impressions from the afternoon workshops, which focused on political and organizational questions:

RACISM—ELITISM—SEXISM

People were divided on the question of whether or not elitism, sexism, and racism were indeed problems in the organization. The small representation of third world people at the conference was indicative of part of the problem. Science education is elitist in nature, and usually the preserve of white

males, and this carried over into SftP. Articles and mini-courses designed for non-scientists were seen as important correctives — a possible means of outreach to non-scientists, women, third world people, etc.

One by-product of the structure of scientific work in this country is the isolation that occurs among scientists, and the mystification that occurs between scientists and lay people. Many feel awed by those they consider experts, both in science and in politics. Many political science issues do require expertise, but this can't be permitted to encourage superiority feelings. We must emphasize we are not an organization of scientists, but an organization of people concerned with the politics of science.

POLITICAL PERSPECTIVES

Debate occurred in almost every workshop over reform vs. revolution, and the role of SftP. We need more political discussion — lack of political consensus causes our outreach to be by convenience or default, because we have no clear view of where to look for allies. It was

generally agreed upon that we need to identify with other groups to create a "larger movement."

A wide range of anti-capitalist views were represented. Marxism was seen as an analytical tool or starting point, not a complete analysis. An open political position was seen as good in the absence of true unity of principles. SftP should have definite agreement on specific issues, but must remain flexible and progressive in general political views. People were concerned about the problem of communicating a political message without scaring people off with "rhetoric."

"FOCUSING ENERGY"

A partial list of suggestions for the future:

1. Small chapters should serve as spotters, to signal the rest of the organization when issues come up.
2. Political economy of science study groups
3. Organizing lab workers, working with unions
4. AAAS meetings — agitation and alternative forums, etc.
5. Legislative lobbying
6. More magazine articles. The

magazine is very useful and should be used more by West coast people

7. Using mass media, radio, newspapers, school resource materials, etc.

ORGANIZATIONAL ISSUES

Tactics discussed for coordinating the western chapters:

1. All groups discussed keeping in touch by some sort of newsletter. In the end it was decided Santa Cruz would bear first responsibility for assembling and mailing one.
2. Bay Area chapters should get together every few months
3. More regional conferences
4. Revive the *Internal Discussion Bulletin*
5. More internal discussion of articles and more active participation in the magazine through letters and articles.

Different theories on chapter building were presented: attracting political people by general approach or attracting people by an issue approach, developing politics later; attracting people by events. Problems with chapter building in the past have led to exploration of better ways to integrate new people. □



SftP Staff Job Openings

Science for the People is looking for new staff people, that is, a new office coordinator (OC) and a new magazine coordinator (MC), both to start around the end of May.

Responsibilities of the OC include organizing and supervising office work, compiling a monthly Boston newsletter, answering correspondence, some bookkeeping, maintaining contact with other SftP chapters, working with the Boston Steering Committee, answering phone calls and general inquiries, funneling information, and mailing the magazine.

Responsibilities of the MC include working with the editorial committee in the solicitation and editing of articles, working with people doing production and

helping to train new people, dealing with the typesetters and printers, handling magazine bookstore accounts, and helping with phone answering and general inquiries.

The jobs pay \$90 per week for a nominal 25 hours per week. The actual amount of time required may be less in some weeks, much more in others, particularly in the case of the MC. Work overload is supposed to be incentive to be more productive in soliciting volunteer help.

Preference will be given to candidates who have been active in SftP. Please call the Boston office, (617) 547-0370, as soon as possible if you are interested in either job.□

The Second SftP Trip to China

Science for the People has been invited to send a delegation of twelve persons for our second visit to the People's Republic of China. (Our first trip was in February of 1973; none of the ten persons who went on that trip are repeat delegates.) The duration of the trip is to be four weeks, starting in early June. Of the twelve delegates, four are from Stony Brook/New York City, two from Ann Arbor, one from Toledo, Ohio, four from Berkeley and one from Boston.

The proposal for this trip was printed in the May/June 1977 issue of *SftP* magazine. We hope to learn about organization, planning and decision-making at all levels of scientific activity, and, specifically, how the political process assures the connection of these endeavors to the masses of Chinese working people. We have chosen to focus upon scientific and technical activity within agriculture (including non-food crops) because of the limitations on our time, and because agriculture can be seen as having played a central role in both technical and ideological development.

Our itinerary will include communes in different

agricultural regions, processing factories and distribution facilities. We would like to spend about half our time in cities, particularly Peking, Shanghai and Tangshan (to witness reconstruction of processing factories and/or agricultural hinterland after the earthquake). We hope to visit a variety of research facilities concerned with agricultural production and crop processing both in universities and in separate institutes. A central focus will be to learn about all aspects of pest control, intercropping and soil treatment.

Our group will be prepared to split up during part of our stay in the PRC so that we can accomplish more of our goals.

We have been preparing for this trip for a long time studying Chinese history and agriculture, and learning about American agriculture. There has been some specialization so we can cover more material. Each of us has a strong commitment to do outreach work after the trip, including speaking engagements, production and distribution of a high quality slide show, writing pamphlets and a mass-circulation paperback similar to that written by the first SftP delegation.□

AAAS: Sociobiology on the Run

Jon Beckwith and Bob Lange

In early February, several members of Boston SftP made the great escape from the snowbound city to attend the Washington AAAS (American Association for the Advancement of Science). There we met with several other SftPers from Amherst, Ann Arbor, Stony Brook, Seattle, D.C., and Urbana. The meeting was very successful — in more ways than one.

First, it was good — as always — to link up with other SftP folk. We talked about what our respective chapters were doing, the Western and Midwestern Regional Conferences, revitalizing the IDB, the magazine, and plans for a national SftP conference in Ann Arbor this coming December.

Every evening there were planning/evaluation meetings for AAAS activities. The first day we targeted the session on Agriculture and Malnutrition in Latin America where we were able to bring up several important points and considerably enlivened the session. Most energy in the following days was focused on sociobiology symposiums. SftP did well on the floor, raising points, challenging speakers, etc. and many people attended our countersessions. All in all, people felt like we put in a good showing and influenced a lot of people.

A literature table was staffed every day from 8:30-6 pm where we sold a lot of our materials, talked to a lot of people and made new contacts. Hopefully this will strengthen and expand the D.C. chapter as well as our national membership. There was also a spontaneous performance of *Laboratory!* which was well-received.

We felt good about going to AAAS. We learned a lot from it, made a lot of contacts, hopefully got some people thinking. □

“They (social scientists), and most biologists, find that Wilson took all too much license, in the last chapter of his book, in trying to explain human behavior. He resurrected the nature-nurture issue in a way which ignores the conceptual advances of the last 20 years . . .” Is this an excerpt from the latest broadside from Science for the People against E.O. Wilson, author of *Sociobiology: The New Synthesis?* Hardly! In fact, it is a quote from the official abstract for the recent two-day AAAS symposium on Sociobiology — an abstract written by one of the organizers of the symposium, George Barlow, who considers himself a sociobiologist. This is just one indication of a growing reaction within the academic community against the claims of Wilson and others concerning a genetic basis for human social behavior and institutions.

While the initial reaction nearly three years ago to Wilson's book was universally positive, this was broken with the publication of a letter from the Sociobiology Study

Group of Science for the People in November of 1975 in the *New York Review of Books*. In that letter we exposed the lack of scientific foundation for the sociobiologists' claims concerning human behavior and the political function of this and other biological determinist theories. Our letter opened up an often acrimonious debate which reached an important stage at the AAAS symposium this February, in Washington, D.C.

The very fact of the AAAS sponsoring this symposium on the “controversy” is an indication of the success we have had in making the claims of the sociobiologists controversial. What caught many of us in Science for the People by surprise at the AAAS meetings was the extent of the spreading negative reaction to sociobiology. At this meeting, and at another recent meeting in which we participated at Wellesley College, sociobiologists seemed very much on the defensive. Many have rushed to dissociate themselves from Wilson. At the AAAS meetings, the discrediting of

human sociobiology was reflected in the content of the symposium itself, in numerous private and public discussions which Science for the People held with those attending the meetings and in the receptivity to our ideas and literature.

The symposium itself was divided into two morning and two afternoon sessions with about five speakers at each session and question periods following the talks. Of the approximately 20 speakers, about six were directly critical of sociobiology, with several of them, including Steve Gould, Eleanor Leacock and Stephanie Shields, expressing also the political implications. A few, David Barash, Steven Emlen and Wilson, spoke on human behavior. Most of the rest restricted themselves to rather neutral sounding animal studies. We raised many questions from the floor during the sessions, trying particularly to get people to focus on the political implications of sociobiology and the way it had already been presented in the popular media and the schools.

At the same time, we got the

organizers to agree to let us use the symposium room for our own sessions which were held in the period between the morning and afternoon sessions. At one of these, we showed "Sociobiology: Doing What Comes Naturally," a film for high school and college students which includes interviews with sociobiologists Wilson, DeVore and Trivers, and is a blatant example of the way in which these ideas are used to support the status quo. (See Tedd Judd's review of the film in the last issue of *Science for the People*). Several hundred people attended and a good discussion followed. Both the Ann Arbor SftP group and the Boston Sociobiology Study Group brought to the meetings articles they had written on various aspects of sociobiology. We sold nearly a thousand copies of these articles.

The high drama of the meetings came on Wednesday afternoon, when the center of the controversy, E.O. Wilson, was to speak. The session began with a beautiful critique by SftP member Steve Gould, who spent some time demolishing a study by David Barash, an ardent sociobiologist who was the next speaker. (Barash is the author of one of the most outrageous works in the field — *Sociobiology and Behavior* — an Elsevier

paperback which is widely used in college courses.) Gould's talk received the largest ovation of the symposium. After Barash's rather lame presentation, Eleanor Leacock, an anthropologist, tore into Wilson's claims, citing much anthropological and other evidence. She also exposed and demolished the shoddy logic leading to some of the blatantly sexist assertions found in Barash's book. At this point in the symposium, as Wilson was introduced as the next speaker, the tide seemed more than ever against him and his followers.

He was about to begin his talk when a group of 10-15 members of Committee Against Racism (CAR) marched onto the stage, yelled "Racist Wilson you can't hide, we charge you with genocide," and poured water over Wilson's head. After a few minutes of confusion, and screaming both from CAR members and the audience, the former left the room and the moderator decried the incident, whereupon a large segment of the audience gave Wilson a standing ovation. He then proceeded to give one of the more outrageous and superficial of his speeches, attempting to claim that a large number of studies supported his claims for a genetic basis for human social behavior.

One of us rose at the end of Wilson's talk to dissociate ourselves from the CAR action. Unfortunately, the atmosphere created by the CAR attack on him made it difficult to immediately challenge the downright distortions and exaggerations in his talk. However, in the final discussion period, we were able to continue our politicizing questions and criticisms.

While our general feeling was that the anti-Wilson-Sociobiology sentiments were not seriously diminished by the CAR action, it did provide Wilson with at least a momentary respite from the criticisms and restored some respect to his position. Furthermore, the press coverage of the opposition to sociobiology focussed excessively on this incident; *Science for the People* must develop ways of reaching the press to get coverage of our positions and actions, in spite of the occurrence of such distractions.

We feel that the trend that the sociobiology debate is taking is a clear victory for *Science for the People*. Large numbers of people have been alerted to the fallacies and dangers of these theories and many outside of SftP are joining the critics. It may well be that human sociobiology is in some disrepute in the academic community. However, and this is extremely important, the academic refutations of these ideas do not prevent them from continually being presented in the popular media and school texts. Recent examples are the August 1, 1977 cover story of *Time* magazine on Sociobiology, "Why You Do What You Do," and an article in the March, 1978 issue of *Psychology Today* by David Barash. The struggle must be continued, for history teaches us that biological determinist ideas from eugenics to Jensenism can have powerful social impact and must be combatted both in the academic and public arenas. □

SOCIOBIOLOGY LITERATURE

Available from *Science for the People*

Biology as a Social Weapon, ed. by Ann Arbor Science for the People, Burgess, Minneapolis, 1977. \$5.00

Critique of Sociobiology Packet Total \$2.00

The packet is composed of various articles and reprints written by members of the Sociobiology Study Group of Boston Science for the People. Articles also available individually.

—"Sociobiology: A New Biological Determinism," by Sociobiology Study Group, in *Biology as a Social Weapon*. 50 cents

—*Sociobiology: The New Magic Box*, by Sociobiology Study Group. 50 cents

—*A Methodological Critique of Sociobiology*, by J. Alper and H. Inouye, in *Philosophical Forum* (in press). 30 cents

—*Sociobiology is a Political Issue*, by J. Alper, J. Beckwith and L. Miller. From *The Sociobiology Debate*, ed. by A. Caplan, 1978. 30 cents

—*The Ethical and Social Implications of Sociobiology*, by J. Alper. To appear in a book published from the proceedings of the AAAS symposium on Sociobiology — San Francisco, June 1977. 1978 30 cents

"The New Sexist Synthesis," by B. Chasin, and "Are Sex Roles Biologically Determined?" by F. Salzman. Reprinted from *Science for the People* magazines. 30 cents



Health Care in Zimbabwe

The Medical Drive Needs Your Support

Zimbabwe Medical Drive Coalition

A liberation struggle to return control of Zimbabwe (Rhodesia) to its people has been raging for many years, led by ZANU (Zimbabwe African National Union) which is now a component of the Patriotic Front. The 6 million Africans of Zimbabwe, 96% of the population, are ruled by ¼ million white settlers. This racist regime has close ties economically and politically with the U.S., Britain, and South Africa. This regime owns half of the land (all the fertile land) and controls the political and economic structure of the country. The Patriotic Front is uniting the liberation forces and coordinating the armed struggle. Presently one-third of Zimbabwe is liberated territory administered by the liberation forces.

The health care needs of the Zimbabwean people are many. It is important to recognize that most of the disease and illness is a direct result of colonial oppression, racism, and exploitation. Under the settler regime health care services have been totally inadequate or non-existent for the African population. The white population has a ratio of one M.D. per 1800 persons, while the rural African population is served by one M.D. per 100,000 persons. As the war of liberation intensifies, the Rhodesian government has been withdrawing what little health services exist in the rural areas. They do this by closing district health centers and hospitals; meanwhile they are constructing modern hospitals in the cities to serve whites.

Communicable diseases are the most prevalent. Malaria, parasitic diseases, especially schistosomiasis and helminthiasis, tuberculosis, various dysenteries, and childhood diseases are epidemic. These are all public health problems which could be eradicated through education and a vigorous campaign to wipe out the intermediate hosts (mosquitoes, snails, etc.) and vaccinate the population.

The Zimbabwean people suffer greatly from malnutrition and other less severe forms of dietary deficiencies because they have had no access to fertile lands. Among Africans the main causes of death were pneumonia (from overexposure); measles, ill-defined infant disorders; avitaminosis (caused by lack of vitamins) and other states of dietary deficiency, gastroenteritis and colitis, and tuberculosis. Of these deaths recorded, about 35% were among infants." (*Area Handbook for Southern Rhodesia*, Nelson et al., U.S. Government Printing Office, 1975). The infant mortality rate for blacks is more than 300 per 1,000, fifteen times that for whites.

Biological warfare has been used by the Rhodesian government against the people in the liberated zones. In mid-1974 a cholera epidemic broke out in the northeast, where cholera had never been a problem. Smith's regime had vaccinated the few white settlers before the disease broke out. The Liberation forces learned that the settler authorities had purposefully contaminated the water supplies with cholera organisms when captured

white soldiers, who were suffering from thirst, refused to drink the water. The World Health Organization provided ZANU with cholera vaccines, thereby recognizing that ZANU was responsible for the population's health. ("Introductory History of the Zimbabwe Liberation Struggle," Brown and Komatsu, *Political Discussion*, 11/76).

In the liberated zones, an area including 2 million people, ZANU/Patriotic Front has guided the people in creating a health care system that truly serves their needs. This means working towards being self-sufficient, training people to provide health education and services to the population. In the refugee camps in Mozambique ZANU/Patriotic Front is responsible for meeting the health needs of almost 100,000 people. In the recent attacks on the refugee camps by the Smith regime, a clinic serving 10,000 people at the Chimoio camp was destroyed. The liberation forces must also treat the war injuries of the freedom fighters and care for their families.

Medical supplies are urgently needed *now* in Zimbabwe. A drive is under way in the U.S. to raise money and supplies for the struggle in Zimbabwe. We can aid the medical drive in many ways. Donations of money, textbooks, supplies and resources are the kind of material aid we can provide. Any amount will be useful: 30 cents will buy a vial of penicillin; \$15 a half-pound of quinine to treat malaria; \$100, IV tubing for an entire ward; \$3,000, a mobile medical van. We can also

inform our co-workers and friends of the liberation struggles in Zimbabwe and the rest of southern Africa and urge them to support the medical drive.

Other material aid might include technical reports in the areas of nutrition, sanitation and tropical medicine; preparation of medical literature packets; donations of medical supplies and instruments; arranging contacts with progressive medical professionals; and fund raising. A "dossier" of specific medical needs prepared by the Zimbabwe African National Union (ZANU) in the liberated zones of Zimbabwe and independent Mozambique can be sent on request.

Please address correspondence to Ralph Beitel, Medical Advisory Committee, Zimbabwe Medical Drive Coalition, 133 Cortland Ave., San Francisco, CA 94110, U.S.A. Telephone: (415) 648-2251.□



Black Panther/cpf

The Corporate/University Connections to South Africa

Charles Schwartz

A host of powerful businessmen dominate the boards of regents or trustees of the nation's universities;

A handful of select professors and university administrators sit on the boards of directors of major corporations; and, less well-known,

A myriad of advisory councils and visiting committees attached to individual campus departments are heavily populated with high ranking executives from important corporations.

This extensive interlocking provides a basic means by which the policies and programs of American higher education are shaped to meet the requirements of the reigning economic powers. There is nothing conspiratorial or subversive about

these arrangements — although much of this is not well known — it is simply the natural way for modern capitalism to attend to its own needs.(1)

The flow of influence in this campus-corporate channel might conceivably go the other way. It is not likely that a few liberal-minded professors or college presidents would persuade their corporate benefactors to abandon some noxious but profitable activity; however, a strong student movement, acting on an issue with broad public support, might be able to bring considerable pressure to bear on these exposed tentacles of corporate power.

The apartheid policy of South Africa, supported by U.S. business investments in that country, is just such an issue. The main strategy to

date has been calling attention to university investments in the stocks and bonds of corporations doing business in South Africa and calling on regents or trustees to divest the university of such holdings. For a number of reasons this approach may prove to be limited (the desire to protect the value of the endowment and retirement funds invested; the minimal impact of divestment on the corporations); and other strategies that might hurt the corporations in real economic terms (such as an effective consumer boycott) are very difficult to organize and maintain. Thus, a program to expose and bring pressure to bear on campus-connected officials of major corporations doing business in South Africa may provide an important supplementary strategy for campus activists.

UC-BERKELEY'S CORPORATE CONNECTIONS TO SOUTH AFRICA

Administration and Faculty:

Chester O. McCorkle, Jr., vice-president of US, is a director of *Del Monte*
Luis W. Alvarez, professor of physics, is a director of *Hewlett-Packard*
Kenneth S. Pitzer, professor of chemistry, is a director of *Owens-Illinois*
Charles H. Townes, professor of physics, is a director of *General Motors*

Board of Regents:

Edward W. Carter is a director of *Del Monte* and also
of *Western Bancorporation*
Donald G. Reithner is Corporate Resident Manager-West for *IBM*

College of Engineering Advisory Board:

Arthur G. Anderson is a vice-president of *IBM*
Robert Bromberg is a vice-president of *TRW*
W. Dale Compton is a vice-president of *Ford*
Edgar J. Garbarini is a director of *Bechtel*
Eneas D. Kane is a vice-president of *Standard Oil of California*
George J. Stathakis is a vice-president of *General Electric*

Department of Chemical Engineering Advisory Board:

W. Kenneth Davis is a vice-president of *Bechtel*
Herbert D. Doan is a director of *Dow Chemical*
Richard E. Emmert is an executive of *Du Pont*
John W. Scott is a vice-president of Chevron Research
(*Standard Oil of California*)
Frank B. Sprow is an executive of *Exxon*

Schools of Business Administration Advisory Council:

(latest list from 1975)

James E. Gosline, a director of *Standard Oil of California*
Walter E. Hoadley, a vice-president of *Bank of America*
Richard G. Landis, president of *Del Monte*
James W. Porter, managing partner of *Arthur Young & Co.*

UCB (Alumni) Foundation Board of Trustees:

Edgar J. Garbarini is a director of *Bechtel*
Henry F. Trione is chairman of the board of *Wells Fargo Mortgage*
Rudolph A. Peterson is a director of *Bank of America* and
Standard Oil of California

In addition, the Members of the Business Associates Program (UCB School of Business Administration) includes ten companies doing business in South Africa.

UC is also a member of The Bay Area Council, a group of business and civic leaders concerned with long-range planning for the San Francisco Bay Area. Chancellor Albert Bowker was on their board of directors until July 1977, when he was replaced by Earl Cheit, Dean of Berkeley's School of Business Administration. On the Council's Executive Committee are found the following:

Ernest C. Arbuckle, chairman of the board of *Wells Fargo Bank*
H.J. Haynes, chairman of the board of *Standard Oil of California*
Arjay Miller, a director of *Ford*
A.W. Clausen, president of *Bank of America*
Edmund W. Littlefield, a director of *General Electric*

Preliminary research shows that there are plenty of opportunities for applying such a plan. At UC Berkeley I have already found the official presence of some two dozen top executives of corporations identified as doing business in South Africa(2), as shown in the box below.

For another perspective, I surveyed the lists of directors and top executives given in the latest annual reports of 13 major U.S. corporations doing business in South Africa, looking at the *Who's Who* biography of each person to find any university connections. A total of 212 such connections were found: GM had the most (40), then came IBM (34), GE (25), B of A (21), H-P (19), Ford (15), Western Bancorp (14), Cat. Tract. (11), Exxon (10), Texaco (8), 3M (7), SOCal (5) and FMC (3).

The universities' connections with these 13 corporations ranked as follows: Stanford (14), Harvard (12), Cal Tech (9), MIT (8), UCal (7), Cornell (5), Dartmouth (5), Yale (5), etc.

Obviously, there is much more data of this type waiting to be uncovered; and the campaign being suggested here would benefit from coordinated action on a number of campuses. The detailed tactics should, of course, be carefully devised to maximize the educational opportunities found in bringing the issue of corporate investments in South Africa down to the local departmental level on campus. □

REFERENCES

1. For a good discussion of the relevant history on this subject, see David N. Smith, "Who Rules the Universities?" Monthly Review Press, 1974.
2. Sources for this identification: Letters from the corporations written in response to an inquiry by the UC Treasurer, summer 1977, a list compiled by the American Consulate General, Johannesburg, S.A., May 1976, and distributed by The Africa Fund, New York City.

resources

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

Medical Aid for Zimbabwe is a group of health workers, community people and activists who have come together to provide material aid to the liberation struggle in Zimbabwe. Write to them for a copy of their brochure that outlines the ways one can participate. They can also provide general information about the struggles of the Zimbabwe African National Union (ZANU). Medical Aid for Zimbabwe, P.O. Box 181, Bronx, New York 10453.

Mazingira. A brand new journal ... the world forum for environment and development ... published in English, French and Spanish. Mazingira means environment in Swahili ... a Bantu language spoken in East Africa and the Congo. *Mazingira*, Headington Hill Hall, Oxford OX3 0BW United Kingdom.

"Electronics: The Global Industry". Three articles on this general topic make up the April 1977 issue of NACLA's *Latin America and Empire Report*. Available for \$1.25 from North American Congress on Latin America, P.O. Box 57, Cathedral Station, New York, New York 10025.

Directory of Major U.S. Corporations Involved in Agribusiness by A.V. Krieb, 47 pp, \$3.50 is available from Agribusiness Accountability Project-West, P.O. Box 5646, San Francisco, California 94101. Profiles of top 126 firms.

Perspectives in Marxist Anthropology, Maurice Godeller, 1977, Cambridge University Press, \$22.95 but a paperback edition is soon to be available.

Minerals in African Underdevelopment, Samuel A. Ochola, 1975, 148 pp, Bogle-L'Ouverture Pubs., Ltd., 141 Coldershaw Road, Ealing, London W13 9DU England. A study of the continuing exploitation of African resources.

Agriculture, Capitalist and Socialist, Jack Dunman, 1977, Humanities Press, \$10.00.

The Brain Bank of America: An Inquiry into the Politics of Science, Phillip Boffey, McGraw-Hill, 1975. This is an extensive study of the National Academy of Sciences. Early chapters of the book focus on the "honored" elite, special interests, how the brain bank functions & malfunctions. Later chapters give several case studies of areas the NAS has handled ... and how conflicts of interest were involved.

Now there is a journal for those interested in alternative community-based service programs. Resource information and articles. *C/O: Journal of Alternative Human Services*, 1172 Morena Blvd., San Diego, California 92110.

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

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