Science Skunked in Schools
By Animal Rights Agitprop

The Animal Rights Movement (ARM) is successfully penetrating elementary and high school classrooms, winning kids' and teachers' hearts and minds.

The message is: classroom dissection is evil; animal researchers are cruel; eating meat and wearing leather are unethical; and many, if not most, other human "uses" of animals are wrong. As the alternative, a changed, "compassionate" lifestyle is offered to students, based on the premise that humans and other animals are "equal."

Some observers from the science side see these ARM efforts as "religious" in nature — and question whether they belong in public schools.

The ARM efforts are extraordinarily effective, judging by a recent Gallup Youth Survey, reported in the Wall Street Journal (Sept. 2): 41% of teens surveyed support "animal rights" "very much," and an additional 26% support them "somewhat."

The ARM influence in the schools has been growing, largely unchallenged, for several years. It owes its success in part to its advocates' bold and skillful promotional efforts. It has the obvious emotional appeal of advocating "saving" innocent animals that are being put upon by unfeeling adults — as kids feel they themselves often are. But a major element in the ARM's success has been the reluctance of scientists and their many organizations and institutions to lift an effective hand in self defense.

Rather, science has sat by, almost silently, handing a sworn opponent far more territory — in childrens' hearts — than the Creationists, an earlier foe, ever claimed.

The ARM uses guest speakers in classrooms, student animal clubs, coloring books, magazines, videos, rock concerts, and telephone hot lines to spread its message. In high schools, opposition to dissection, with what one science administrator calls its high "yuck factor," is used to gain kids' attention. Since one effect of this effort is to discourage students from pursuing careers in science, the ARMS's anti-science work continues on page 6.

Analysis

Subscriptions Advanced

We failed to make up the issue we lost during the summer. So this, our 12th issue, is dated (September) October 1, 1992. All subscriptions will be moved forward one month, so readers will receive a full year's worth of PROBE.
What Is a Scientific Report?

The popular view is that science is a quest for truth. Each scientific observation or experiment described in a scientific report — a "paper" in a journal like Science or the New England Journal of Medicine — is a stepping stone along this route to truth.

Thus, if a research report is fraudulent, or simply erroneous, the path is blocked. Truth may be lost. The end result — whatever it is — grows out of the process. But this route to truth, a misstep means disaster, simply does not exist. The product, or process is not required to be phrased, to lead researchers along a narrow path to the Grail. Each clue must be discovered in its turn, and correctly deciphered, to lead researchers along a narrow path to the Grail.

Science Not a Treasure Hunt

These views of science, fortunately, all are dead wrong. Science is a quest. It is not, however, a treasure hunt, in which each clue must be discovered in its turn, and correctly deciphered, to lead researchers along a narrow path to the Grail.

The quest, first of all, does not lead to a metaphysical truth, a Divine Law, or, usually, even a Natural Law — albeit a few such formulations have emerged along the way. Rather, the research quest is open-ended — which is why science never stops being a challenge.

There are no final answers. More important, the narrow stepping-stone path, upon which a misstep means disaster, simply does not exist. The product, or end result — whatever it is — grows out of the process. But this process is not required to fulfill a specific set of cryptic instructions: There may be many ways to reach a goal.

One example is the chemical synthesis of complex compounds, such as vitamin B₁₂, where the end product — the structure of the natural vitamin — already is known. The ingenious pathways that have been worked out to recreate such a vitamin synthetically — and there may be several such methods — do not and need not mimic the biologic pathways through which the vitamin is made in nature.

Historical View Needed

Productive chains of creative discoveries lead to important and useful end products, such as drugs and vaccines. But not all discoveries are relevant or important. Only a tiny minority of them may be. But there is no way, except by looking backwards from a significant historical vantage point to decide which scientific papers were important and contributed to a major discovery or end product.

For example:

Several years ago, we wrote a history of one disease: Rh the Intimate History of a Disease and its Conquest (Macmillan, 1972). This account traced the illness erythroblastosis fetalis, also called "Rh disease of the newborn," from the time medical researchers first attained a clear understanding of it in the 1930s, until they discovered ways to relieve, cure, or prevent almost all cases, about 40 years later.

Many Rh Reports Published

During this period, tens of thousands of medical reports and scientific papers were published about this fascinating condition, in which the mother's immune system "rejects" — and so may kill — her fetus because it possesses the father's Rh blood type (Rh+), rather than her own (Rh-). The literature was full of Rh papers.

Working backwards, from the conquest to earlier observations and hypotheses, using the reference notes in these papers, we found that only about 100 of these papers played roles in solving the mysteries and curtailing the disease. Beyond good intent, ninety-nine percent of the reports on Rh disease turned out, in the end, to have been worthless. In short, with Rh, as in other areas of science, most research papers didn't really

Birthday Thanks!

This is our 12th issue; we've completed our first publishing year!

We would like to acknowledge our colleagues and associates who have helped it to happen:

Our fellow newsletterists Toni Goldfarb (Medical Abstracts), Donna Buys (Workers' Comp Advisor) and Stephen Barrett, M.D. (Nutrition Forum) have generously provided counsel and encouragement.

Tom Gilgut, Jr., is an indispensable consultant — and meticulous circulation manager.

Susan Hansen is a superb copy editor, and a valued colleague.

Jon Stark is our virtuoso designer.

Tom Watkins is a trustworthy backstop.

Bruce Darling provides timely technical help and logistic support.

Hilda Greenbaum has made order from the chaos in our office.

Most important, you — our charter subscribers — have justified all of these efforts with your interest!

We — I — thank you all! You've made PROBE a terrific team effort!

— David Zimmerman
How America Failed the AIDS Test

The federal Centers for Disease Control (CDC) are world famous for epidemiologic detective work and for their successful efforts to curb mass outbreaks of illness.

The CDC published the first report that showed AIDS was caused by an infectious agent at a time when most experts doubted this was so. Then, in about 1983, when its methodical approach was most needed, CDC lost its leadership role on AIDS. It has never regained it.

In a recent, bitterly angry retirement speech, one high-ranking CDC public health specialist, Donald P. Francis, M.D., analyzed what went wrong; his text was published in the Journal of the American Medical Association (Sept. 16, 1992 [vol. 268, pp. 1444-47]). Here are some excerpts:

"The CDC's success has been marked by its ability to keep science first. It has learned from experience that organizations that base their actions primarily on scientific findings rather than political considerations survive as effective entities .... [T]hose that do the opposite lose credibility and enter a spiral of decay ...."

"Clearly human immunodeficiency virus [HIV] is the most virulent human virus .... [T]he expected [U.S.] mortality of those already infected with HIV will far exceed the cumulative American war deaths from all conflicts since and including the Civil War .... HIV is a major problem, worthy of a huge public health response ...."

"Because of CDC's concern, in late 1984 [leaders] asked me to put together a proposal for combating AIDS. The result, a $37 million proposal ... was carried to Washington, where it was scoffed at and trivialized. Instead of being told to activate the plan, we were told, 'Look pretty and do as little as possible.'"

"Of course, funding since then has increased, but the attitude at the highest levels of our government has changed little. There has been an absence of solid national leadership, and respected expert review panels continually use phrases like 'woefully inadequate' ...."

"The extreme conservatism of the Reagan and Bush years hit CDC at its core, and often forced it to follow political aides dogma rather than sound public health principles .... As a result, CDC lost sight of its role as advocate for the public's health, and inadvertently became a servant of politicians who were uninhibited by knowledge, experience or wisdom ...."

"The Gary Bauers, the John Sununus, the Richard Darmans [high White House aides — ed.] are not scientific leaders. Indeed, they appear to have little or no understanding of what government's role in the control of deadly infectious diseases has been in the past or should be in the future ...."

"A society that allows narrow political vision to guide public health policy is doomed to succumb to disease .... CDC has been forced to give science a back seat to the political whims of extremists, at great cost to the American people."

Note: Dr. Francis has a plan to restore CDC as a non-political protector of Americans' public health. If Bush wins, his plan is moot. If Clinton wins, we'll outline Dr. Francis's proposals in our December issue.

Is 'Dry Sex' An AIDS Clue?

One lingering — and critical — mystery is why AIDS is spreading in different ways in different places. In the U.S., heterosexual transmission continues to be uncommon; it accounts for only five or six percent of current AIDS cases, mostly among intravenous drug users. But in Africa, as in some other places, AIDS has been — and is — spreading rapidly by sexual intercourse between men and women.

Why the difference?

The high infection rate in some African countries has been ascribed to the high prevalence of various venereal and genital diseases, which cause genital sores, or inflammation. The sores break down the protective barrier that intact skin and mucosal surfaces normally provide — letting in the AIDS virus.

A fascinating supporting hypothesis now comes from researchers at the Christian Medical Institute, in Kasai, Zaire. They report, in a letter to the New England Journal of Medicine (Aug. 20, p. 572), that women there "insert substances into the vagina to enhance sexual stimulation for themselves and their partners.

"These substances, [the women] say, 'dry' and 'tighten' the vagina, and thus make sexual intercourse more pleasurable.'"

This practice was found to be widespread in Zaire. More than 30 substances are used, including fresh leaves and powders purchased in the market.

The leaves are rolled in a ball and inserted in the vagina for 12 hours before intercourse. The powder works faster. Over one third of married women and prostitutes in a small survey used these drying agents.

Researchers Richard C. Brown, M.D., and Judith E. Brown, Ph.D., and Okako B. Ayowa recruited several local women and photographed their vaginas and cervices before and after they inserted the drying agents. The pictures showed inflammatory reactions that lasted from a few hours to a week. "We suspect," they write, "that the [superficial] damage that results from the use of these substances can facilitate [AIDS] transmission."

This link remains to be demonstrated.
Iron: A Deadly Irony?

It is ironic: Just as widespread folic acid supplementation is being proposed, as described in the adjacent story, one of the oldest and seemingly most successful supplements programs—for iron—is being shot down. Reason: These supplements may cause heart attacks.

All Americans now get extra iron, in vitamin/mineral tablets, tonics, and vitamin-enriched bread and other food. The ostensible purpose: to prevent anemia from menstrual blood loss—which may be helpful for women, but not for men. Also: to combat “tired blood” and other symptoms, some real, some not.

Now, however, the American Heart Association has published a major new study on iron in its journal Circulation (Sept.). This report, which was front page news in many newspapers, shows that high iron levels increase men’s risk of heart attacks.

“Dietary iron intake had a significant association with the disease risk,” Jukka T. Salonen, M.D. and his co-investigators say.

“This large prospective study [of Finnish men] is a confirmation of the prediction that serum ferritin [iron] is a strong risk factor ... at levels previously regarded as normal,” an editorialist in the journal adds.

In other words, iron supplements, which raise serum ferritin levels may increase men’s risk of heart attacks.

A Life-Saving Proposal

The Federal government has taken a significant step to promote use of a vitamin: the B vitamin folic acid. Lives will be saved, and crippling birth defects prevented as the result.

The Sept. 14 announcement “recommended that all women of child-bearing age consume 0.4 mg daily of folic acid ... to reduce the risk of neural tube birth defects.”

But there are fears at the U.S. Food and Drug Administration (FDA) and among some independent experts that the action may harm some people while it saves others. There is fear, too, that this federal initiative will be manipulated as an anti-regulatory Trojan Horse to subvert FDA’s strict, but threatened, consumer protection rules.

In its natural form, folic acid is called folate; the terms are used interchangeably.

The federal announcement about it came from the U.S. Public Health Service (USPHS), and the Centers for Disease Control (CDC) in Atlanta, and not from FDA, which has regulatory purview over vitamins. The announcement’s pre-election timing suggests to us that, as in the Administration’s recent weapons authorization announcements in Texas and Missouri, politics is playing a role.

Questions Remain

Potential beneficiaries of the decision include vitamin pill makers and other members of the multi-billion dollar nutritional supplement industry, who are trying to subvert FDA rules requiring manufacturers to provide convincing scientific evidence before touting the medicinal benefits of their drugs and nutritional supplements. Such proofs now exist for folic acid and birth defects, although the appropriate dose, the risk/benefit ratio, and the target population—all key elements in FDA drug approvals—thus far remain unclear.

FDA commissioner David A. Kessler, M.D., signed onto the folate recommendation. But he is discomfited by the USPHS announcement.

In a little-noticed speech in Boston, on the same day as the PHS statement was released, Dr. Kessler told Tufts University nutritionists that some “very tricky policy questions” have been raised by the folate/birth defects link. He said:

“The line between benefit and risk is apparently quite narrow .... The dose at which we see positive effects in reducing the risk of neural tube defects is uncomfortably close to the doses at which we begin to have safety concerns.”

One known risk: Folate supplements can mask the presence of another, potentially deadly B vitamin deficiency: pernicious anemia due to B12 deficiency. It also can interact with standard epilepsy drugs, triggering seizures.

Two Mandates Noted

FDA must fulfill two public health mandates, Dr. Kessler noted at Tufts: ensure that women of child-bearing age get enough folic acid, and prevent anyone from consuming too much.

“I think it’s important to note,” Kessler said, “that [the PHS] announcement—which acknowledges a link between folic acid and neural tube defects—does not say ... FDA is ready to permit a health claim for folic acid. [Much] work remains to be done [Emphasis in Kessler’s text].”

The 0.4 mg figure is not new: In fact, it is the current Recommended Daily Allowance (RDA) for pregnant women. The issue thus is not whether 0.4 mg folate is a good idea, but who should get it? How?

About 2,400 babies are born in the U.S. each year with neural tube defects (NTD), such as spina bifida, in which the spinal cord lacks the normal bony (vertebral) cover in some places, and may protrude—dangerously—outside the body. Paralysis and other serious problems afflict the growing number of these babies who survive. (Many, however, are detected during gestation, and aborted.)

About half of these neural tube defects can be linked to low folic acid levels in the mother. Estimates suggest that between a quarter and a half—that is, 600 to 1,200 American babies could be saved, and spared, by increased maternal folate intake during a critical few weeks early in pregnancy.

The PHS ignored the conservative option, based on old-fashioned middle-class
notions of how to have a healthy baby: A woman decides to get pregnant; visits her doctor for a checkup; and only then starts taking folic acid and any other supplements that she may need. Experts explain, however, that many spina bifida babies are born to poor, unmarried white women who don't get prenatal care. These defects, which are hereditary, particularly afflict Northern European people; they are very rare in blacks.

Poses Tough Regulatory Questions

Where Experts Differ . . .

"Getting 0.4 mg of folic acid into your diet every day is not hard."
—Nanci Hellmich, USA Today, July 28

"But the PHS advice raises a thorny question: How are women supposed to get this folic acid? ... [A] lot of vegetables must be eaten to ingest 0.4 mg . . ."
—Gina Kolata, N.Y. Times, Sept. 15

The PHS proposes, nevertheless, that all women of child-bearing age ingest 0.4 mg of folate daily.

Three ways to do this are listed: increased intake of folate in foods (including green vegetables, orange juice, dried beans and chocolate); daily folic acid pills for all fertile women; or increased enrichment of ordinary foods. In the latter case, men would be obliged to consume extra, unneeded folate over their entire lifetimes, as would women, who might need it only for a few months, at most, when pregnant.

Method Not Yet Clear

The PHS does not yet endorse any of these options. But in today's vitamin-enriched realm of public discourse, the agency's caution was somewhat ignored. Thus, New York Times reporter Gina Kolata (Sept. 15) said yuck to too much spinach and other green veggies, which she suggested were the only dietary source. Her editor obliged with a headline saying the PHS "advises supplements for all women of childbearing age" — which is simply not what the Fed said.

The folate gap, fortunately, may be narrower than it seems at first. In a supplement to CDC's Morbidity and Mortality Weekly Report (Sept. 11) that contains the PHS recommendation, the agency cites U.S. statistics which show that 20% of America women take multivitamin supplements — which usually contain the necessary 0.4 mg of folate.

American women also already consume, on average, 0.2 mg of folate daily in their diets, according to internist-nutritionist Irwin Rosenberg, M.D., of Tufts. Many women consume higher — protective — amounts without supplements.

This became apparent at a conference at CDC in Atlanta, last summer, where experts were assembled by PHS to review its recommendation in draft. Data presented by Boston University epidemiologic researcher Allen Mitchell, M.D., which may soon appear in the New England Journal of Medicine, indicate that the 40% of women who do not take supplements, but who do consume 0.3 mg of folate or more daily in food, have as low a risk of delivering an NTD baby as women taking 0.4 mg supplements.

Gap Is Small

Hence, as internist Victor Herbert, M.D., of Mt. Sinai School of Medicine in New York City pointed out: The critical difference may be on the order of 0.1 mg daily, and not the higher amounts that he, among other experts, had previously suggested.

Based on these findings (and much else), FDA now must decide what, if any, health claim is legitimate for folic acid supplements — and at what doses, and for whom. The FDA is specifically required by Congress to evaluate such claims for folic acid when taken as a nutritional supplement — a vitamin pill or food additive — under the 1990 Nutrition Labeling and Education Act (NLEA). This law is less stringent than the Federal Drug & Cosmetic Act (FD&C Act) and regulations under it that are the bases on which comparable claims previously have been evaluated — as claims for drugs.

The FDA, however, does not yet have protocols to evaluate nutritional health claims, or mechanisms to generate the data needed for such judgments.

Tests Needed

"From where I sit," Commissioner Kessler said in Boston, "we're breaking some new ground.

"Some might say," he added rhetorically, "'No, not really.' [They might say] that once a food lays claims to health effects, it should be subjected to the same testing requirements as a drug."

Unfortunately, he suggested, it is no longer "legally or politically feasible" to regulate health claims for food in this stringent way, due to the huge number of people "clamoring to ingest megadoses of vitamins," and the provisions of the NLEA that Congress wrote to it.

Dr. Herbert, who drafted the current RDA for folate, offers an even less sanguine view. In an interview last month, he said:

"This is an end run around FDA and the FD&C Act to use a legitimate problem — folate deficiency in women about to become pregnant — to lend legitimation to fraudulent promotion of nutritional supplements."

Diet vs. Pill: Not a Trivial Issue

If an additional 0.2 mg folic acid is all that is needed to keep women from delivering babies with neural tube defects, dietary change might fill the gap. If an additional 0.4 mg is needed, however, supplementation — meaning vitamin pills or additional folic acid enrichment of food — probably would be required. Tufts University pediatrician David Rush, M.D., speaking at the experts conference on the problem at CDC, found a profound difference between the two strategies:

"It is the difference between heating your house with oil or with electricity . . ." "The mechanism[s] of delivery . . . are radically different . . . as to how the public health would be affected, and indeed, how the American diet and American health care would be affected . . .

"We're talking about, is a dietary strategy in the long run possible, or not possible? And it seems to me that's high stakes stuff. That's not trivial stuff."
Skunked...

continued from page 1

could reduce recruitment to science careers, even though producing more qualified young scientists is a national goal.

PROBE therefore surveyed, informally, a few of the major science agencies and organizations to see what they are doing to counteract the ARM's anti-science advocacy in the schools.

No Interest at NSF

At the National Science Foundation (NSF) in Washington, D.C., which is the preeminent federal agency for basic science research, public information director Michael Fluharty said: "We're really not involved in that issue."

Science education is a major part of NSF's mission. The Federation of American Societies for Experimental Biology (FASEB), just outside Washington, in Rockville, Md., is an umbrella group for seven professional societies of biologists, with 30,000 members. The FASEB spokesman, Gar Kaganowich, said by phone, "We are not trying to support a separate program" on ARM activities in schools.

Rather, he explained, FASEB belongs to a Washington, D.C. umbrella organization, the National Association for Biomedical Research (NABR). He noted that NABR has a mission to defend scientific research and, specifically, counteract ARM attacks.

Kaganowich declined to say how much FASEB spends to support NABR's work.

(NABR has 400 organizational members, and a $400,000 annual budget, according to Gale's Encyclopedia of Organizations (1992). Averaging things out, this suggests that each biologist pays 33¢ per year to NABR, through FASEB, to protect his or her research.)

Concern Voiced

At NABR, executive vice president Barbara Rich said, by phone, "We're certainly very concerned" about ARM activity in the schools. NABR is acting on the basis of this concern, she said: It is convoking a conference of its affiliates early this month (October) to explore what biomedical researchers can do to "make the grade with students." Rich said NABR hopes to find "gaps" in its current informational programs, and fill them. (A NABR affiliate, the Foundation for Biomedical Research, has an information kit for students; see story, P. 7).

Neither NABR, nor, apparently, any other science organization has as yet prepared an analysis of the ARM threat to science in the schools, or a detailed action plan to combat it, Rich indicated.

"Part of what we hope this conference does," she explained, "is to pull together what we know is going on."

The U.S. Public Health Service's lead agency for defending science against animal rights activists is the National Institutes of Health (NIH), according to virologist Louis Sibal, Ph.D., who is in charge of the issue at the Bethesda, Md. research campus. He directs NIH's office of laboratory animal research, working closely with NIH chief Bernadine Healy.

Kid Stuff Coming

"Our biggest concern is the future generation," Sibal said, when asked about ARM activities in the schools. The NIH and other federal agencies already publish some booklets and other educational material on the need for animal studies. But, he indicated, little of this material, thus far, is targeted to students, and very little if any of it directly

Sampler...

continued from page 1

are questioning the world view which condones humanity's use, and even abuse of animals," she writes, "others do not believe that humans ought to be concerned about how animals are treated." Some of the latter group, she says "may think that kicking a dog is no worse than kicking a desk or a television set."

The simplistic all-or-nothing morality, in which people either care for animals as equals, as animal activists claim to, or thoroughly disdain them, is encapsulated in Weil's admonition to students:

"As you read this book, consider whether you find yourself in sympathy with animal rights or an animal welfare perspective, or whether you do not believe in protecting animals' interests at all."

###

The Humane Society of the United States publishes a classroom newspaper KIND News, for its Kids In Nature's Defense Clubs, and a teachers guide, KIND Teacher. In one issue of the guide (Sept. 1991), teachers are given a words-and-pictures game for young children. The kids are directed to respond yes or no to propositions such as:

- It is wrong to hunt for sport.
- People who cause oil spills should be jailed.
- It is cruel to rope calves.
- Most persons who fail to neuter or spay the pets they own should be heavily fined.
- Traps with steel legholds should be banned.
- The earth should be saved now.

###

The ARM is succeeding in defining the issues between people and animals not only in their own publications, but in the mainstream children's press, too. In the venerable Weekly Reader (edition 2), for April 10, there is a full page "debate on the news." A large picture shows two men in white coats and masks injecting a monkey. The debate topic is: "Should Animals Be Used to Test New Medications?"
Counterattack Launched in Florida

On October 8, if schedules are met, the very first teacher workshops designed specifically to blunt Animal Rights Movement (ARM) anti-science activity in schools will be conducted— for Florida junior high and high school teachers.

The anti-ARM workshop was developed by biologists and science educators at Florida State University (FSU) in Tallahassee. The project is federally funded; it is directed by science education specialist Patricia Hayward, Ph.D., of FSU.

The aim, she explained last month by phone, is to reach all of Florida’s 10,000 science teachers within the next two years. The workshop’s main thrust, she said, is to convince teachers of the absolute necessity for continuing basic animal research, as the basis for medical advances and other applied targets ARM “lies” and their sources.

“There are some people who are beginning to develop things for kindergarten through 12th grade to combat some of that stuff,” he said. Some NIH material, for “very young children” is designed to “tell young people that scientists care about animals,” Sibal said.

He added, in response to a question, that he did not know how much NIH is spending on these efforts.

Downtown in Washington, at the American Association for the Advancement of Science (AAAS) — which has 135,000 individual members and 300 organizational ones — ARM in the schools is a major concern. But there is as yet no major effort to fight it.

“I can’t tell you how important this is!” declared Deborah C. Runkle, who is the AAAS “point person” for animal rights issues. More outspoken than her counterparts at other agencies, Runkle said, bluntly, that science is losing with the kids.

Idealism Exploited

“Teenagers are idealistic, they are forming values, and they are very vulnerable to the seemingly compassionate ARM message,” Runkle said by phone. “Teenagers are somewhat rebellious, and the ARM can take advantage of this, and tell them that scientists are not good people, and are doing this for profit.” She added:

“A lot of kids don’t like to do dissections because of the yuck factor. So that’s something they can rally the kids around. The teachers are unprepared to fight back against relatively well financed animal rights groups. They are not getting good support from their institutions.”

Runkle said that animal rights groups hold workshops for teachers on “human educational curricula” that include environmentalism, healthy diet, and animal rights. The healthy diet part, she said, turns out to be vegetarianism. The teachers, and through them their students, are told that eating pieces of animals is bad for you. They are told, too, that you cannot be a good environmentalist without being an animal rights activist.

Describing one such workshop that she attended last year, Runkle said participants were told to avoid schools’ administra-

tive offices, and, rather, find a sympathetic teacher in order to get into the classroom. The animal rights people are patient, she said, and they are willing to plant ideas, such as asking students to just do one thing — like give up meat, or not buy leather. Students are encouraged to gradually grow into this lifestyle.

“It’s like a religion,” Runkle said.

Researchers Not Exciting

Putting bench scientists into classrooms to counteract this propaganda is not productive, Runkle said. “Scientists don’t fight back. They are insistent on their own sort of distinguished discourse. They just don’t get it!” from the students’ viewpoint.

“What they say doesn’t excite the students. It doesn’t arouse them. It’s good that the scientists are going to talk to the students, and it’s even good that they talk about their research. But it is not effective in countering the emotional appeal of the Animal Rights groups.

“It does not call the Animal Rights Movement on their lies and distortions.”

Pro-Science Programs Made for Schools

The Foundation for Biomedical Research in Washington, D.C., which supports humane scientific experimentation, has prepared an “Animal Research Info Pak” for students. The need for animal research and the safeguards in place to prevent unnecessary suffering are described. The Foundation can be reached at 202-457-0654.

A thick and sophisticated educational program for classroom use has been produced by the Massachusetts Society for Medical Research in Waltham, Mass. It is called “People & Animals: United for Health,” and includes study units on such topics as the regulation of biomedical research, and the housing and care of laboratory animals. The program is being distributed to Massachusetts schools. The organization’s executive vice president and contact person is Debra H. Cavalier (617) 891-4544.
Major contributors to solving the mystery sometimes wrote two, three or a dozen research papers. But for most of these men and women, only one or two discoveries really counted.

The other papers were too preliminary or were repetitive, or, simply, wrong.

One final conclusion from the Rh record: When the time was ripe for key discoveries, they were made, at virtually the same moment, in two or three places, by different researchers, pursuing different evidentiary trails. There was not one, but several right answers; conceivably there could have been others.

In short, the path or paths to progress may be narrow, but they are not predetermined. Mistakes, even dishonest ones, fill journal pages, but cost little. Science moves forward fitfully, and in so doing corrects its own errors — mainly by neglect.

Developmental Insights

PROBE readers who are fascinated — but perplexed — by the roles played by genetics and other factors in developmental biology now can find help: In a colorful and clearly written report, From Egg to Adult, editor Maya Pines and several other topnotch science writers have explored new discoveries in this currently hot research area.

For a free copy of the 60-page publication, write to Robert Potter, Office of Communications, Howard Hughes Medical Institute, 6701 Rockledge Drive, Bethesda, Md. 20817.

Special Charter Subscription Offer for PROBE

You are cordially invited to reserve your charter subscription to PROBE, the new, critical, wholly-independent newsletter of science and medicine. PROBE will publish investigative articles, analyses, and interpret developments of science and technology. It will explore their links to public policy and personal health.

YES, count me among those who support independent medical and scientific reporting. Enter my one-year subscription to PROBE at the special charter publication price of $53.

[ ] My check for $53 is enclosed. Please add a bonus extra month to my subscription.

[ ] Please bill me $53.

Make checks payable to:
David Zimmerman, Inc. — PROBE
Box 1321, Cathedral Station
New York, New York 10025