personal report from a research frontier:

Test Sorts Out Cholesterol Sources

San Francisco

It is about 8 in the evening, on a rainy day early last month, and nurse Trisha Bruketta, R.N., at San Francisco General Hospital here is carefully threading a narrow catheter into my left arm. Earlier in the day, I was apprehensive: The only other time I had been cannulated, a continent away, was in a cardiac emergency room in New York City. On that occasion, the monitor above my head was beeping ominous messages; doctors and other attendants were laboring earnestly to rescue me from a heart attack.

Now, 18 months later, there is no monitor — and no emergency. No one is rushing. I am healthy and well, lying in a bed in a clinical research unit here, as a human guinea pig — a human research subject. I have volunteered two nights and a day, and flown to San Francisco to be part of a creative clinical experiment that may influence my own prospects for health and contentment, and those of many heart patients and other high-cardiac-risk Americans.

Method Being Developed

Clinical researcher Marc K. Hellerstein, M.D., Ph.D. is trying to answer, or better, develop a way to answer, a critical question that bedevils all Americans who worry about cholesterol or other lipids. Dr. Hellerstein is on the clinical faculty of the University of California at San Francisco (UCSF), of which San Francisco General is an affiliate. He also has an appointment in nutritional biochemistry at the University of California, Berkeley, where he directs a lipid research laboratory.

Most Americans now know much — perhaps more than they wish to — about cholesterol, diet and heart disease in general, and their own cholesterol counts in particular. What they may be less aware of is that the total cholesterol that comes back from the lab measures cholesterol from two distinct sources: Some is from food that is eaten, which is called exogenous cholesterol. The rest is synthesized in the body — in the liver — and is called endogenous cholesterol.

Data Are Not Available

What most Americans do not know is this: Neither their own doctors, nor the diet-heart experts who write nutritional guidelines know what portion of a person's total cholesterol is derived from diet (exogenous), and what portion is internally produced (endogenous).

This is the question that Dr. Hellerstein — and I — are trying to answer.

This information is not known generally for population groups, although there have been estimates. Neither is it known for individual subjects, whose cholesterol levels may vary through time. The simple reason for this ignorance is that there is no scientific method — no test — to differentiate the two sources of a person's cholesterol load.

The cannula that nurse Bruketta is threading into my upper arm is part of a method Dr. Hellerstein has invented to answer...
With this issue PROBE begins its second half year of regular publication. We are pleased to reach this early way point!

You may have noticed that PROBE (like any publication) has its own — we hope unique — agenda of stories and issues. The editorial judgment behind some of our choices may already be evident. For others it may not. So this perhaps is a good moment to explain why we are going where we are going.

It should be said first that PROBE is a news publication. We're reporting news beats — exclusives — as often as we can on science and medicine and their interface with public policy and personal health.

We are committed to science as a source of interesting and useful information. As important, we are committed to reason — and rationality — as the essential intellectual tools for readers who often must act in their daily lives on the basis of new technical information. Caution: PROBE is intended to be entertaining, enlightening, and useful. We are not offering medical advice, which we are not qualified to do. Neither are we preaching an ideology or a religion of science — which we don’t believe in.

PROBE is anti-ideological and anti-authoritarian. Our position is that science, and the free communication of information and ideas go hand in glove with nonsectarian democracy, in which the people need information — now, technical findings, in usable form — to make vital economic, political and personal health decisions.

These are a few of our topics and rationale:

Self-destruct (SD) syringes for AIDS: We (and many others) see AIDS as a critical test of all of our caring institutions and of government. If AIDS is one of our century's worst scourges — and certainly it is — then the question becomes: Are all of our resources being utilized to stop it?

The answer is no.

The SD proposal, which we and others put forward almost a decade ago, offers the possibility of slowing down this epidemic in the U.S. The idea is wholly obvious: If every syringe worked only once, then this AIDS transmission route would be pinched off, starting on day one.

Hundreds, perhaps thousands, of Americans have had this idea. Technical progress is being made to develop these instruments. But society thus far has ignored this option. Simply reporting SD developments, as we have done in several publications, did not stir the social system to move. So we have become journalist activists, in an effort — now joined by others, including ex-Surgeon General C. Everett Koop, M.D., and epidemiologists, inventors and manufacturers — to give this option a chance. Thus far, this effort has not succeeded.

Our question: What is the value of a technologically advanced society if a relatively simple technology (SDs) is not developed, to at least see if it will help stop one of the worst epidemics of our century?

Scientific freedom: Prompted by Rep. John Dingell, (D-Mich.), Science and the rest of the science press, and the general press, too, condemned researcher Imanishi-Kari as "guilty" of fraud before an indictment even was written. This rush to judgment prompted us to look more closely at the suspect paper in Cell — and to suggest, based on other biologists' findings, that the paper, however flawed, also may be scientifically valid and useful.

That should give critics pause.

What should give them greater pause is the question of whether the scientific content of a research paper is fair game for congressional probers — any more than the contents of a dance concert or a painting is. There are a lot of research papers — millions of them. Some are good, some bad, some indifferent. We've read terrible papers by terrific researchers.

It happens all of the time, just as Pulitzer prize-winning journalists sometimes write clinkers. So: There are academic freedom and intellectual freedom issues here that few in the media seem willing to address — which is why we are.

We also are concerned that this issue continues to be captioned "science fraud," rather than political opportunism — which is what we think it mostly is. PROBE does not defend dishonesty or cheating. That said, all of the fiscal and other faults that have been found with science and scientific institutions over the past several years are but a thimbleful, compared to the oceans of greed and graft of the S&Ls and other scandals of the '80s — many of which occurred with the advice and consent of Congress.

Traumatic brain injury rehabs: PROBE has been fortunate to find early access to information on what some observers say is a multi-billion dollar scandal of poor care, over-charging, failure to provide billed services, etc. We were among the first to write about it, last December. Dozens of similar, scandalous tales are being told about other health care providers, such as for-profit psychiatric hospitals. We can't won't — cover them all, and delivery of services is not our sole interest. But these scandals do remind us that major reform is
### Risk Analysis from Harvard Yields Guide to Health Action

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<th>Hazard</th>
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<th>Degree of Uncertainty</th>
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Source: Harvard Center for Risk Analysis

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### Agenda...

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needed in health care delivery — although the panacea for these problems, if there is one, thus far has escaped our vision.

**Diet-heart care:** Our personal interest in this story should be clear — See story, page 1. We are one of the millions whom diet reformers claim they can help by imposing draconian nutritional standards that will affect the way all Americans eat and live. We are against all massive social (nutritional) experiments of this sort, unless it can be proven that they are safe and effective — and also feasible for ordinary men and women, and not just nutritional zealots. So we are using this issue to explore the way that scientific data is used and misused in the promulgation of medical guidelines for doctors and their patients and "health information" for the public.

**Smoking & the media:** The major health premise behind filling up newspaper and magazine columns with personal health information is that useful and sagacious advice will be given. If minor risks — like Alar on apples — are featured, and major ones — like smoking — are concealed, then the whole health-writing enterprise fails. That in fact has happened — and we're probing to find out for our readers how and why.

Smoking also is the major preventable cause of sickness and death for Americans. It is a comparably certain risk, too, as indicated in the chart above. So if, as it should be, health is a national priority, then helping people stop smoking — or not start — should top America's health agenda, since it will save money, rather than cost more.

**Reason & unreason:** Socialism and liberalism have failed, and fallen far out of favor. Social irrationality in the guise of anti-scientific movements (animal rights), religious crusades (pro-life), and cultism threaten democratic processes and social progress. This, we think, is the central underlying conflict of the day — How do we decide and act? — and we hope to report on it, from the frontlines, in PROBE.

These are some of the journalistic avenues we are pursuing in PROBE. We'll find others — and we're counting on the growing ranks of PROBE readers to alert us to new PROBE-worthy stories and issues.

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### N.Y. Times Runs Exposé Of Abuses in Brain Rehabs

Under the headline "Centers for Head Injury Accused Of Earning Millions for Neglect," the *New York Times* has published a powerful investigative report on abuses in the traumatic brain rehabilitation industry (March 16). The *Wall Street Journal* also is reportedly looking into abuses in the for-profit convalescent facilities for brain-injured people.

The *Times* story confirms and extends charges against rehab facility operators published in PROBE last December.

The newspaper report focuses on abuses at facilities operated by New Medico Health Care Systems, of Lynn, Mass. A New Medico lawyer denied the charges that related to his client.

The *Times* details examples of "bad care," "unethical marketing," and "expensive rehabilitation programs that admit and keep patients who cannot benefit from them, simply to garner insurance payments" at several for-profit facilities.

Another charge explored by the *Times* is that companies tell medical staff to file false or misleading progress reports on patients with insurance companies. The purpose is to keep patients in the rehabilitation facilities until their insurance runs out.

These abuses, the *Times* said, have created a large industry and a vast cost for patients who need rehabilitative care, following car injuries, gun shot wounds, or other trauma.

The *Times*' estimate is that the number of these facilities rose from 20 to more than 700 nationwide during the 1980s. Total cost of brain trauma injury treatment now is $25 billion a year, the paper reported.

Many of the brain rehabs are converted nursing homes, with only minimal extra equipment or staff, the *Times* reports. But instead of charging $200 per day, a standard nursing home fee, the cost of care in a brain rehab can be $1,000 per day.

A federal reform bill — the Brain Injury Rehabilitation Quality Act — has been introduced in Congress. An aide to Rep. Ron Wyden (D-Ore.) said last month that support for the bill is beginning to develop in Congress.
Faults Crush a Priest and a Doctor
In Reproductive Medicine Conflict

Crises have engulfed two protagonists in the conflict between science and its adversaries:

- A prominent Catholic theologian, who long has railed at the intolerable immorality of abortion, has been forced to resign from Notre Dame’s tenured faculty as a result of a homosexuality scandal involving students he was counseling.
- A pioneering infertility specialist has been convicted in federal court for artificially inseminating patients with his own sperm, rather than that of anonymous donors, as he had promised.

The two men’s falls from grace — and resultant damage to their causes — are in part related. They provide a glimpse into the war between reason and democracy on the one hand, and authoritarian irrationality on the other that is convulsing American society, and, we think, obstructing social progress.

Let’s look first at the priest, Msgr. James T. Burtchaell, C.S.C., a former provost of Notre Dame University: We became aware of Burtchaell a few years ago, while researching an article on what pro-life women do when they become pregnant — but wish they were not. We asked anti-abortion activists we interviewed for the name of their intellectual leader, hoping to gain better understanding of the movement’s moral base. We were referred to Burtchaell, and bought his book Rachel Weeping: The Case Against Abortions (Harper & Row, 1984). But we were defeated in trying to read it by his prolix, vehement certitudes — his casuistry simply was out-

**Taming of Stanford Bodes ill for Science**

Palo Alto

Mini-scams, blown far out of proportion, have humiliated Stanford University here — and perhaps humbled it, too. They underscore an extraordinary paradox:

Just when the federal government is embracing biotech as one of a few industries in which the U.S. holds — and might extend — its commanding lead, Washington is undermining the source of this new industrial revolution: the science-oriented universities. This is not shooting oneself in the foot — it is blasting oneself in a more vital location.

The profile that Stanford has projected has been Best in the West! — particularly in biomed, physics and their costly-but-useful intersections, such as the Stanford Linear Accelerator. The university’s sometimes imperious image was broadcast — and in part no doubt created — by a vigorous, open, quasi-independent news/public relations operation. The news/pr officers counseled and practiced candor to a far greater extent than has been the case at any other university or medical school.

**Openness Favored**

Candor, even in ugly controversies that embarrass the institution, is the best medicine, they say, because an open wound drains and heals. This was the platform if not absolutely always the practice of Robert Beyers, who was director of Stanford’s news service, and Spyros Andreopoulos, the long-time communications chief for the university’s medical center. Both are strongly committed to Stanford, and to the idea of a university — in its intellectual mission and in its forthright *modus operandi* — even in times like these of severe retrenchment and change.

Beyers was forced out in a dispute with his bosses in 1989, as reported in *Sciencewriters* (Fall, 1991). Andreopoulos, exhausted after thirty years, plans to retire soon. So theirs is a thoughtful and important perspective at a transitional moment — not only for Stanford, but for all research universities. These schools perform two-thirds of all research in the U.S., according to a Stanford position paper; most is federally funded.

One bitter lesson Beyers, Andreopoulos and Stanford have learned is that *candor*, even carefully practiced over decades, is an early victim at a university when the going gets rough. Both men describe a new Stanford that has come to be governed by accountants, lawyers and legalists rather than by professorial and public trust.

The change came, the two newsmen said, in interviews here, just when it was *trust* that was most needed. This was when the whistle was blown on Stanford’s chaotic but cozy accounting practices, apparently long known to government accountants, transforming the school into a high-visibility scalp for Congressman John Dingell’s belt.

**Accountants Hired**

Stanford is adding 10 to 20 administrators to its payroll just to keep better track of indirect cost-accounting, as demanded by Dingell.

“Now, scientists face having to restore their relationship with government, which will require that universities remove the taint of wrongdoing and develop more inclusive vision for the future by learning to live within affordable limitations,” Andreopoulos recently wrote (San Francisco Chronicle, Feb. 12).

The Fed cut Stanford medical’s indirect cost reimbursement from 74% to 55% in addition to direct research funding. This created a $77 million deficit for the medical school to make up over five years. The deficit has brought cuts in Stanford’s teaching, research, and medical services to Medicaid patients. The spirit of the place seems to be suffering, too.

Three decades ago, says Andreopoulos, Stanford’s medical school was “venturesome, highly innovative, with energy to be extravagant — an energy unthwarted by intricate procedures and unfettered by red tape that saps one’s energies.” But this has changed.

In those days, we were concerned with the goals to be achieved and had little concern for how . . . .

But little by little, and aided by a new breed of administrators, systems analysts and business consultants,
And America’s Hope for Biotech Business

preoccupation with method has gained subtle dominance over the whole process of goal-seeking. Little by little, throughout the university, how things are done has become more important than whether they are done at all. We form task forces and committees ....

This problem is not Stanford’s alone. It faces most industrial organizations and spells out gloom for the U.S. economy and competitiveness in the world.

The consequence . . . is the bottling up of energy, or more accurately, the channeling of human energy into the tiny rivulets of conformity and questionable ends.

Stanford has defended itself with legal arguments, and with the arrogance of reputation, and has lost in the court of public opinion — the media — and in the government accounting offices upon which, like all research schools, it depends. Dutifully, Andreopoulos acknowledges the university’s guilt, even as he hands out a 12-page list of Stanford’s stellar achievements, including the discovery of radar.

Overreaction Scored

He and Beyers lament that the press focuses on the charges of fraud and greed, and cannot see the University’s point of view. He hands out a reprint from an alternative paper, the Palo Alto Weekly (Jan. 8), which takes a different view — one that may better express his own. In this carefully researched enterprise piece, headlined “Scapegoating Stanford,” reporter Jock Friedly charges that “an overreaction to Stanford’s indirect costs controversy threatens the whole system of federal funding for research at universities — University research [is] in danger.”

The mainstream media outlets that Beyers and Andreopoulos have courted for years were less willing to go to the mat to defend the school. Mighty Stanford’s pro-active defense thus was left to a local paper (which of course has a stake in the university’s well-being). Reporter Friedly interviewed the whistle-blower who opened Stanford’s wound — U.S. Navy accountant Paul Biddle. He found fraudulent billing practices, and now says Stanford swindled up to $500 million — a charge that is unproved. Biddle, in explaining his zeal, told Friedly that he had interpreted 1989 earthquake damage to Stanford buildings as God’s sign that the university was cheating the taxpayers. Stanford’s faculty and staff, Biddle declared, were “irresponsible,” “selfish, egotistical bastards,” “white-collar criminals,” “racists,” and “not nice people” who have “no sense of right or wrong.”

Biddle was, however, ecumenical in his contempt, scorning his colleagues in government accountancy as “lazy” and “corrupt as shit.” (He described himself as a “noble warrior,” a “lone Indian in the bowels of the earth,” and a very “ballsy guy” who’s going to drag their “asses through the slough.”)

Of such stuff was Congressman John Dingell’s investigation of Stanford born.

In this light, Dingell’s probes and federal science funding policies and practices seem to be cheap skate charades. Whether one’s concern is individual human illness, or the recovery of America’s economic preeminence — which President Bush seeks — it is hard to think of a more important expenditure than the refinancing and rebuilding America’s academic scientific establishment.
Faults . . .
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from which we were able to extract a few revealing nuggets:

In a section on "What Is 'Natural,'" he inveighs against birth control, saying "one need only be a disciple of the Christian tradition" to accept that in sexual intercourse the partners are under "grave obligation" to consummate a reproductive act. He neglects to say how a homosexual act might fulfill this obligation.

Doctors Denounced

Elsewhere in the text Burtchaell does say that "the worst crimes or sins are the ones with the most helpless victims" — of course meaning, in this context, fetuses, not young men. It may be said, of course, that for Burtchaell and other Pro-lifers

"To be defiled sexually by a priest is far worse than by anyone else except a parent."

— reformist priest Andrew Greeley

the issue is simply the immorality of abortion, not some wider ideological agenda. But this is not so. Rather, the whole practice of medicine, and its premise that pain and illness should be relieved, are seen as evil.

"One of the sources of the widespread readiness to relieve oneself of an unwanted child," Burtchaell says, correctly, "is precisely an anger at being trapped. The attitude reaches out much more broadly than to the issue of child-bearing.

"Americans today are tending to believe that suffering is something we should not have to endure, whether it be a migraine headache or Parkinson's disease .... It may be no mere coincidence that the profession we turn to for surest relief" — that is to say doctors — "is the same profession that staffs abortion clinics."

This certainly says it: In Burtchaell's moral universe there is no place for drugs to relieve migraine or Parkinson's, or for abortion, or even for condoms. But sexual abuse of young men in one's care — as reported by the National Catholic Reporter — seems to have been okay.

##

A life-shattering crisis also has occurred for infertility specialist Cecil B. Jacobson, M.D., who, as most readers know, has been convicted in a federal court in Virginia of 52 counts of fraud because, among other wrongs, he secretly used his own sperm rather than that of anonymous donors in artificially inseminating some infertile women in his care. He, too, violated a trust.

We know Cecil Jacobson. We once knew him fairly well.

He has been a major journalistic source for us — for which we are very grateful.

He was — is — a pioneer in reproductive research. Specifically, he was the first clinician to perform an amniocentesis to remove fetal cells from the uterus in order to diagnose Down's syndrome (mongolism) in a high-risk family; the mother then could elect to have an abortion if genetic tests indicated the baby would be afflicted. It was our good fortune to write the first news account of this procedure, in Medical World News, in the 1960s, with Dr. Jacobson's help. This technology has been developed — and is now used worldwide.

We phoned Dr. Jacobson's lawyer to offer to make this point in his defense; our calls were not returned. Dr. Jacobson's colleagues, however, did so testify.

Dream Derailed

From our first meeting, Jacobson was chary about discussing his work because, we recall him saying that the nonprofit organizations that supported his research did not want to be involved in conflict with the Catholic Church, which, he said, opposed what he was doing.

It was Dr. Jacobson's dream, which he described to us in minute detail in about 1970, to perform the first test tube baby operation, to allow an infertile woman and her spouse to conceive, in a lab dish, so that a fertilized egg could be returned to the woman's uterus for normal gestation. But, largely, at the behest of the Church, and theologians like Msgr. Burtchaell, the federal government imposed a ban on fetal research that only now is slowly being lifted. Dr. Jacobson's research career was cut off — and the first test tube pregnancy was achieved a decade later, by doctors in England.

We lost track of Dr. Jacobson as his research career founded, and he became more involved in private practice. We learned of the desperate trouble he had got himself into only last fall, in the newspapers. We have not talked to him since, and do not understand why he did what he did — though we would like to.

We do note this: Jacobson, unlike Burtchaell (who reportedly is living in Canada), has been brought to justice.

"When my daughter was 7 or 8 months old, I took her to see Dr. Jacobson. You know, so he could see her. He must have known that [she] was his child — it must have been so peculiar. And that just makes my skin crawl."

— infertility patient

He was indicted for fraud, but was tried, and probably convicted for using his own sperm to inseminate his patients. This in itself is a violation of trust, and stupid — perhaps crazily stupid. But using one's own sperm in this way is not a crime.

We don't know enough yet from the press accounts to hazard a guess why Dr. Jacobson did what he did. We don't know that for Msgr. Burtchaell either. But both have shattered others' lives, as well as their own.

What is still worse, we think, is the hypocrisy of people like Msgr. Burtchaell, and some of his pro-life followers who would impose on everyone else a code of behavior that they themselves do not observe. What is to be said of the many ruined lives and unwanted babies that have resulted from their efforts to subvert Roe v. Wade.

PROBE readers who missed our pilot issue on pro-life women and abortion can obtain a free copy by sending a SASE to Box 1321, Cathedral Station, NYC 10025.

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Cholesterol . . .

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this key question — and perhaps a cascade of others. These answers may radically improve the way high-cholesterol and other lipid abnormalities are diagnosed and treated.

Knowing the source of a person's lipid problem might allow for more rational preventive measures and therapy than are now available. This specific knowledge also might allow less onerous diets for millions who don't want to die, but don't want, either, to subsist on bran flakes, tofu and egg-white omelettes. This explains my professional interest in this research, as a journalist, and also my keen personal interest as a high-cholesterol patient who also likes good food.

First Trials in Rats

Dr. Hellerstein has, over eight years, developed the first such test to identify the sources of serum lipids. He has published his initial findings, and now has run the test for cholesterol, in this hospital setting, on 50 human volunteers — after tryouts on rats. This work thus far has had no media coverage.

Dr. Hellerstein has agreed to include me in his protocol as background for this PROBE report. (I have declined the $150 participant's fee.) I am a bonus subject for this study in that I am the first who is taking one of the new cholesterol synthesis inhibitors, lovastatin (Mevacor, Merck). Its specific — and apparently very effective — mechanism is to block one key step in the liver's production of cholesterol, the conversion of the precursor acetate to cholesterol. Since the drug has lowered my total cholesterol by more than 25%, the question is: Will the test show that a relatively high proportion of what is still there comes from the food I eat (exogenous cholesterol)?

# # #

A few hours after nurse Bruketta inserted the cannula, a night nurse attached an intravenous line to it; a pump now infuses a reagent into my arm: Acetate in this drip is bonded to a stable (non-radioactive) isotope, Carbon-13; I also am being given oral doses of the antibiotic sulfamethoxazole. The purpose of these tracers — C-13 and sulfa — is to do what has not been done before. As Dr. Hellerstein wrote last year (American Journal of Physiology 261: 479-86):

The essence of the problem is that the functional ("true") precursor of a macromolecule [such as cholesterol] may come from a special subcellular pool that may not be readily isolated using biochemical ... techniques, even if one has access to the tissues [which would not be the case deep in the liver]. As unlikely as it sounds, the ideal experimental solution in theory would be if one could measure or calculate the true precursor [in this case, acetate's] specific activity or enrichment [with C-13] for [cholesterol] without having to isolate biochemically the actual intracellular precursor molecule [acetate] involved. True endogenous synthesis of [cholesterol] could then be determined.

The sulfa is being employed because it is removed from the body by acetylation: It binds to acetate molecule(s) in the liver, which facilitates its excretion, via the kidneys. I will collect my own urine over about 24 hours, note its volume, and provide samples that will be used to determine how much of the sulfa and the radio-tagged acetate I am excreting. Meanwhile, my cholesterol counts will be measured from blood samples extracted periodically through a second cannula that the night nurse has placed in my right forearm.

Methods Are Complex

The analytic techniques that Dr. Hellerstein will use with my specimens in his Berkeley lab are quite sophisticated, quite mathematical — and quite complex — he had explained, when I interviewed him in the hospital snack bar several hours before checking in. The essence of the method, he explained, is to consider the liver to be a black box that contains tennis balls of two colors, either white or red. The white balls represent acetate molecules that do not contain any of the carbon-13 tag, while the rarer red ones do contain it. If a person reaches blindly into the box, and takes out, say, 6 balls at a time, some sets of 6 will all be white; a few will have one red; and far fewer will have 2 or even 3 reds out of 6.

By analyzing, algebraically, the proportion of all white, 5 white + 1 red, of 4 white + 2 red sets, etc., Dr. Hellerstein said, one can deduce the proportion of red balls (carbon-13 acetate), and from this the proportion of cholesterol molecules made in the liver. Since endogenous cholesterol is made by the body from these acetate building blocks, while exogenous cholesterol is not, the proportion and also the amount of cholesterol from each source that is in the serum thus can be calculated.

Results Described

The results to date, while preliminary, also are informative: First, cross-checks persuade Hellerstein that the method works and is accurate; others will have to confirm this.

Second, in the set of cholesterol tests he has published on a handful of healthy, non-obese women, the data showed that two-thirds to three-quarters of cholesterol is self-produced (endogenous). In men, the self-produced (endogenous) proportion may be even higher than in women.

"The dietary cholesterol is not where the action is in terms of lowering cholesterol," Dr. Hellerstein said.

The new data also confirm — what has been suspected but not proven — that cholesterol is synthesized in a circadian rhythm, with the greater proportion made at night. Both men and women made twice as much endogenous cholesterol during nighttime hours as they did during daylight hours.

The results with cholesterol, if confirmed, could explain why dietary methods to control cholesterol — by eating fewer

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Cholesterol . . .

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Cholesterol-rich eggs and shrimps — are likely not to be very productive, while drugs that block endogenous cholesterol production, like lovastatin, may yield far greater reductions.

Endogenous cholesterol is made from a tiny amount of fatty precursors. So it would not be possible to control endogenous cholesterol synthesis by reducing calories, Hellerstein said.

The initial results suggest that doctors one day may be able to individualize their patients' cholesterol-lowering regimens: A person with a relatively high dietary cholesterol burden might be encouraged to try diet. One whose cholesterol burden is, say 80% endogenous in origin, could use a drug, and skip the onerous diet, the benefit of which might be small. Dr. Hellerstein said the tests also could be used to quickly evaluate the efficacy of low-cholesterol diets — perhaps within a week.

In essence, his new test method may provide a quantitative basis for designing and prescribing lipid-altering treatments — for validating or discarding diets and drugs. First, however, Dr. Hellerstein has to show that it works accurately in a variety of conditions, for a variety of lipids — which is why he invited me and others to participate in his clinical experiment.

Aside from the momentary discomfort of placing the IV catheters, the experience was wholly pleasant — a day in a hospital bed when I was not ill, provided a welcome respite for reading, writing and dozing! The food was good, the staff quite cheerful.

Did the test tell me anything useful? Analyzing the data takes a couple of weeks, which will be past this issue's deadline; so I'll report the results briefly next month.

Will other people find this test useful if Dr. Hellerstein finds a company to develop it? Probably. He recently has found that the marker substances can be ingested, say in fruit juice, rather than infused into a vein — which will enhance its appeal.

"Diet is not easy," Dr. Hellerstein said. "It does affect your life. I think a lot of people would be willing to pay a few hundred dollars for these tests in order to eat what they want!"

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PROBE's Journalistic Agenda

With this issue PROBE begins its second half year of regular publication. We are pleased to reach this early way point!

You may have noticed that PROBE (like any publication) has its own— we hope unique— agenda of stories and issues. The editorial judgment behind some of our choices may already be evident. For others it may not. So this perhaps is a good moment to explain why we are going where we are going.

It should be said first that PROBE is a news publication. We're reporting news beats— exclusives— as often as we can on science and medicine and their interface with public policy and personal health.

We are committed to science as a source of interesting and useful information. As important, we are committed to reason— and rationality— as the essential intellectual tools for readers.

We are anti-ideological and anti-authoritarian. Our position is that science, and the free communication of information and ideas go hand in glove with nonsectarian democracy, in which the people need information— now, technical findings, in usable form— to make vital economic, political and personal health decisions.

These are a few of our topics and rationale:

Self-destruct (SD) syringes for AIDS: We (and many others) see AIDS as a critical test of all of our caring institutions and of government. If AIDS is one of our century's worst scourges— and certainly it is— then the question becomes: Are all of our resources being utilized to stop it?

The answer is no.

The SD proposal, which we and others put forward almost a decade ago, offers the possibility of slowing down this epidemic in the U.S. The idea is wholly obvious: If every syringe worked only once, then this AIDS transmission route would be pinched off, starting on day one.

Hundreds, perhaps thousands, of Americans have had this idea. Technical progress is being made to develop these instruments. But society thus far has ignored this option.

Simply reporting SD developments, as we have done in several publications, did not stir the social system to move. So we have become journalist activists, in an effort— now joined by others, including ex-Surgeon General C. Everett Koop, M.D., and epidemiologists, inventors and manufacturers— to give this option a chance. Thus far, this effort has not succeeded.

Our question: What is the value of a technologically advanced society if a relatively simple technology (SDs) is not developed, to at least see if it will help stop one of the worst epidemics of our century?

Scientific freedom: Prompted by Rep. John Dingell, (D-Mich.), Science and the rest of the science press, and the general press, too, condemned researcher Imanishi-Kari as "guilty" of fraud before an indictment even was written. This suspect paper in Cell— and to suggest, based on other biologists' findings, that the paper, however flawed, also may be scientifically valid and useful.

That should give critics pause.

What should give them greater pause is the question of whether the scientific content of a research paper is fair game for congressional probers— any more than the contents of a dance concert or a painting is. There are a lot of research papers— millions of them. Some are good, some bad, some indifferent. We've read terrible papers by terrific researchers. It happens all of the time, just as Pulitzer prize-winning journalists sometimes write clinkers. So: There are academic freedom and intellectual freedom issues here that few in the media seem willing to address— which is why we are.

We also are concerned that this issue continues to be captioned "science fraud," rather than political opportunism— which is what we think it mostly is. PROBE does not defend dishonesty or cheating. That said, all of the fiscal and other faults that have been found with science and scientific institutions over the past several years are but a thimbleful, compared to the oceans of greed and graft of the S&Ls and other scandals of the '80s— many of which occurred with the advice and consent of Congress.

Traumatic brain injury rehabs: PROBE has been fortunate to find early access to information on what some observers say is a multi-billion dollar scandal of poor care,
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over-charging, failure to provide billed services, etc. We were among the first to write about it, last December. Dozens of similar, scandalous tales are being told about other health care providers, such as for-profit psychiatric hospitals. We can’t — won’t — cover them all, and delivery of services is not our sole interest. But these scandals do remind us that major reform is needed in health care delivery — although the panacea for these problems, if there is one, thus far has escaped our vision.

Diet-heart care: Our personal interest in this story should be clear — See story, page 1. We are one of the millions whom diet reformers claim they can help by imposing draconian nutritional standards that will affect the way all Americans eat and live. We are against all massive social (nutritional) experiments of this sort, unless it can be proven that they are safe and effective — and also feasible for ordinary men and women, and not just nutritional zealots. So we are using this issue to explore the way that scientific data is used and misused in the promulgation of medical guidelines for doctors and their patients and “health information” for the public.

Smoking & the media: The major health premise behind filling up newspaper and magazine columns with personal health information is that useful and sagacious advice will be given. If minor risks — like Alar on apples — are featured, and major ones — like smoking — are concealed, then the whole health-writing enterprise fails. That in fact has happened —

Smoking also is the major preventable cause of sickness and death for Americans. It is a comparably certain risk, too, as indicated in the chart above. So if, as it should be, health is a national priority, then helping people stop smoking — or not start — should top America’s health agenda, since it will save money, rather than cost more.

Reason & unreason: Socialism and liberalism have failed, and fallen far out of favor. Social irrationality in the guise of anti-scientific movements (animal rights), religious crusades (pro-life), and cultism threaten democratic processes and social progress. Thus, we think, is the central underlying conflict of the day — How do we decide and act? — and we hope to report on it, from the frontlines, in PROBE.

These are some of the journalistic avenues we are pursuing in PROBE. We’ll find others — and we’re counting on the growing ranks of PROBE readers to alert us to new PROBE-worthy stories and issues.

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