Acupuncture: Fertile Ground for Faddists and Serious NIH Research

Acupuncture is being admitted to the ranks of the scientific Establishment. Apparently it is also joining that class of enterprises which blatantly commercial opportunists seize as a passport to a fast dollar.

Ever since American physicians returned from China a few months ago full of wondrous tales of patients chatting happily over a glass of juice while surgeons cut away at their insides, Westerners have been overwhelmed with curiosity about the art of acupuncture. Conditioned by the precepts of modern Western medicine to scoff at the notion that one can induce anesthesia, reduce chronic pain, or treat disease by sticking a long, slender needle into a person's wrist or earlobe or whatever, it was not easy at first to cope with what respected American physicians such as E. Grey Dimond of the University of Missouri and Victor Sidel of the Montefiore Hospital and Medical Center were saying: that acupuncture works, that they had witnessed it.

By now, the scarcely veiled thought that acupuncture is some kind of a hoax has lifted, and most Western scientists who have had contact with men who constitute the closest thing available to an authority on the subject are convinced that acupuncture works—in China. The question is, Why?

Late last month, Robert Q. Marston, director of the National Institutes of Health (NIH), announced that the NIH intends to delve into the many aspects of acupuncture. The agency is initiating a formal research program that will begin by concentrating on the use of acupuncture in anesthesia and in the relief of chronic pain. The intent is to determine whether acupuncture will work in America. Investigators, supported by NIH funds, will seek an explanation of the acupuncture phenomenon that makes sense in terms of traditional Western knowledge of human physiology and psychology.

According to Merlin K. DuVal, assistant secretary for health and scientific affairs in the Department of Health, Education, and Welfare, it is crucial that the basis of acupuncture be explored "seriously and responsibly," particularly in light of the fact that it may burst upon the U.S. marketplace at any time. Clearly, government and medical officials are fearful of what might happen to individuals who, swept up in a fad, turn to untrained acupuncturists to treat their arthritis or back pain or headache. Equally grim is the prospect of do-it-yourself acupuncture.

As far as *Science* could ascertain, acupuncture needles are not commercially available in the United States as yet, although physicians interested in the subject say that some companies are contemplating their production. Meanwhile, the fine gauge, octahedral needles must be imported from Hong Kong. Some entrepreneurs, it is reported, are anxious to market acupuncture kits and have approached various anesthesiologists and others for endorsement. One investigator who has been approached told *Science* that he not only finds the very thought of acupuncture kits "upsetting and morally wrong," but that he is so anxious to avoid any involvement in acupuncture exploitation that he even refused to take the card of an individual who offered to get needles for him from Hong Kong.

An Acupuncture Cruise

Anesthesiologists and other interested physicians also report that they have been sought out by persons trying to organize an acupuncture cruise, a sporting sail around the Caribbean that would be highlighted by just enough lectures on the needle art to allow the cruisers to write off their trips as a professional, educational expense.

Then there is the phenomenon of the acupuncture clinic. One of the most recent sprouted up about a month ago but was nipped in the bud. Arnold Benson, an M.D., opened a clinic on East 73 Street in New York in early July and said he treated "several hundred people" for a variety of ailments during the week or so it was open. The clinic had barely gotten under way, however, when the New York State Education Department, which has jurisdiction in such matters, closed it down on the grounds that the acupuncturists were practicing medicine illegally. The Chinese-trained individuals who were performing the acupuncture are not licensed to practice medicine in New York. Benson has argued, however, that they were merely acting as technicians under his guidance, just as any other technician would, and were not practicing medicine themselves. Reportedly, he may take the matter to court.

Less flamboyant clinical uses of acupuncture are also taking place, or being planned, by small groups of physicians who wish to test the procedure in various circumstances. Maxwell Spring, an internist in private practice who is affiliated with New York Medical College, for example, is putting together a team of four to conduct some experiments. With Henry Flick of the Albert Einstein College of Medicine, as well as a psychiatrist-hypnotist and a trained acupuncturist, he intends to observe the effect of acupuncture first on normal individuals and then on patients with certain nervous system disorders. Spring, who plans to be a subject himself, is also organizing a meeting on acupuncture to be held in February at the Americana Hotel in New York and hopes to lead a group of physicians, "all of whom hold rank in medical schools," to China if the Chinese government grants them visas.

Spring describes the procedure as being "very simple. You just stick a needle in. We plan to do it to each other." There is no need, he said in response to a question, to seek any approval for his experiments. Nor, he said, does he intend to ask for NIH support because of the "rigamarole" and "volumes of paper" involved, although he would welcome $10,000 to purchase an electromyograph to supply the current that is passed through the acupuncture needle. He says that he and Flick will probably end up splitting the cost themselves.

Spring and his colleagues, and others like them, will doubtless be reporting on their studies during the next year or so. Physicians visiting China and other Asian or European countries where acupuncture is practiced can be expected to come back with new data, and information will pour in from other sources as well.

Into this arena comes the NIH. The

simple fact of its interest in acupuncture research stamps the field with a legitimacy it lacked before. Indeed, the fact that NIH plans to support acupuncture studies came as a surprise to many skeptics who had dismissed the whole subject as frivolous.

In June, the NIH published a book on Chinese medicine, put together in large part by Joseph Quinn of the NIH's Fogarty International Center for Advanced Study in the Health Sciences. According to Quinn, the book helped stimulate broad interest in the subject at the NIH. Visits between Marston and Walter Tkach, President Nixon's physician, are also cited by NIH officials as a stimulus to the agency's interest, although no one is suggesting that the proposed research program is being launched under White House auspices.

An ad hoc committee on acupuncture met at NIH last month and advised the agency to take the action it has. According to John J. Bonica of the University of Washington School of Medicine in Seattle, the committee judged surgical anesthesia and relief of chronic pain to be the two areas most likely to yield results at first and therefore selected them as the primary research areas for emphasis now.

CEQ Report: Good News, Bad News, A Bit of Indignation

The Council on Environmental Quality (CEQ) released its third annual report last week. It had some good news and some bad news. In the former category was the announcement that there has been an overall improvement in the nation's air quality between 1969 and 1970. Offsetting this has been the nation's inability to curb the increasing befoulment of its water resources. The report candidly acknowledges that the CEQ had underestimated the quantities of noxious wastes that are entering water from land sources such as farms and livestock feedlots as well as urban areas.

The report deals with several areas not included in last year's report—namely, noise pollution from commercial jets, radiation from nuclear power plants, and strip mine reclamation.

The Administration seems to be plunging perceptibly deeper into the cold waters of reality, judging from President Nixon's accompanying comment that "there should be a sober realization that we have not done as well as we must, that changes in laws and values come slowly, and that reordering our priorities is difficult and complicated."

The Council has revised its estimate of the amount the nation must put into environmental clean-up efforts, from a 6-year estimate of $105.2 billion to about $287 billion for the whole of this decade, or 2.2 percent of the gross national product. This figure would be divided as follows: $106 billion to meet air quality standards, $87 billion to achieve water quality goals, $86 billion for collection and disposal of solid waste, and $8 billion for other purposes. The report says that strict standards are going to cause price rises of up to 10 percent in the industries CEQ studied and will put several hundred companies out of business, although most of these are said to be in precarious states anyway.

A brief flurry of public indignation arose over what was dubbed the "case of the missing chapters." It seems that three sections which the CEQ intended to include in the report—on energy, solid waste recycling, and the Delaware River Basin—were withheld on orders from the White House Office of Management and Budget (OMB). Sources in the CEQ indicated that the chapters would be released "after November." The *New York Times*, among others, indignantly accused the CEQ of buckling under to the Administration's desire to keep reports on these controversial subjects under wraps until the President was re-elected, although the official explanation was that these complex matters required further study.

At any rate, according to CEQ sources, the OMB, seeing that the chapters had developed into a "political issue" (Senator McGovern sent off a broadside on the subject), directed that members of the press be allowed to take a supervised peek at the incomplete drafts.

The drafts in fact contained little or nothing that was obviously controversial. The energy chapter merely points up the environmental pros and cons of various energy sources and indicates that the liquid metal fast breeder reactor, although promising, could have accidents even more disastrous than those involving other reactors because the fuel is more radioactive. (This may run against the grain of the Atomic Energy Commission, which is reluctant to admit to the possibility of accidents.) No mention is made of such hot issues as the Alaska oil pipeline and oil depletion allowances.

The recycling chapter concedes that this mode of waste disposal is the least attractive alternative from an economic standpoint, but it refrains from suggesting any new federal incentives such as subsidies or tax incentives. (The Treasury Department is said to be firmly opposed to the latter measure.)

The Delaware River Basin chapter is a case study of the staggering pollution problems that beset a heavily industrialized and fast-growing area. But there is no direct criticism of local clean-up efforts or of the four-state Delaware River Basin Commission, which, in conjunction with the federal government, is responsible for setting uniform water quality standards for the area.

Overall, the CEQ has enjoyed a number of successes in its attempts to influence White House thinking, but it has also had some disappointments, of which the fumble over the "missing chapters" is only a minor one. On balance, says CEQ member Robert Cahn, "we have accomplished more than I expected we would be able to do, but not as much as I hoped."

Cahn says past disappointments have nothing to do with the planned departure of two-thirds of the three-member Council this fall. Cahn himself wants to get back to the *Christian Science Monitor*, from which he took a 2-year leave of absence that expired last January, and Gordon J. F. MacDonald has been planning for some time to take a teaching position at Dartmouth College.—CONSTANCE HOLDEN

The NIH group, like so many others, is anxious to send a delegation to China to learn about acupuncture firsthand. One of the great difficulties investigators face in trying to assess the use of the technique in China or to construct research protocols is the lack of published material by Chinese scientists. According to authorities, the few known articles on the subject published in China in the last few years discuss only general aspects of acupuncture. Apparently, since the beginning of the Cultural Revolution in 1966, scientific publication has ceased because of what Quinn describes as "the desire to subordinate the role of the individual biomedical worker to society's needs as a whole," and there are no known papers detailing research on acupuncture during the last 7 years.

The full scope of the NIH study, to be handled by the National Institute of General Medical Sciences (NIGMS), the National Institute of Neurological Diseases and Stroke, and the Fogarty Center, will not be decided until after two workshops are held late this fall at the Bethesda campus. However, Howard Jenerick of NIGMS said, when pressed, that grant support might run to "several hundreds of thousands of dollars" if "sound" applications come in. Already, he says, he has heard from several researchers asking for information about the kinds of investigations foreseen and the details of making a grant application. Both animal and clinical studies are under consideration.

"We need to learn what effect the needles and current have on physiologic processes," says Bonica. There are also plans to study what the ad hoc committee formally described as "factors influencing the patient's response," for example the relation of his response to his hypnotizability or previous training or preconditioning.

Bonica, an anesthesiologist who heads a group for the study of pain, points out that it is important to distinguish the psychological aspects of acupuncture from the physiological ones. "We do not know," he says, "whether acupuncture anesthesia works in China on all patients or on a selected population." Data on this question would be invaluable, investigators believe. Many consider it crucial to sort out the psychological factors in acupuncture anesthesia, believing it to be relevant to the unanswered questions of whether, and to what extent, the procedure might prove applicable for medical practice in the United States. "We are very anxious to go to China because we believe we can learn a lot from Chinese scientists," Bonica declares.

This looks like the beginning of a long venture.—BARBARA J. CULLITON

Willow Run Laboratories: Separating from the University of Michigan

They give you fail-safe directions on how to reach the Willow Run Laboratories (WRL)—and a good thing, too, since visitors tend to have trouble finding the place on the first try. The main buildings are on a back road on the huge Willow Run reservation west of Detroit, where Ford built the plant famous for turning out thousands of B-24's during World War II. After the war, the government declared Willow Run surplus and transferred ownership to the University of Michigan for the symbolic $1. It was there, about 15 miles from the Ann Arbor campus, that the university began doing most of its contract research for the military and that the Willow Run Laboratories developed.

Set back from the road, the main cluster of WRL buildings has the unprepossessing cinder-block and plywood look of the wartime era from which they date. Inside, there are none of the gold rugs and golden California blondes that adorn the West Coast research firms that live on federal funds. If the WRL decor is more temporary than contemporary, this seems to be largely a matter of Midwestern attitudes, since over two decades WRL has gained an international reputation as a center for highly sophisticated R & D, particularly in the use of radar and of infrared, acoustic, and optical techniques for remote sensing. Much of the laboratories' work is still financed and used by the military, but for the past several years WRL researchers have been working hard on nonmilitary applications of their work.

Now major changes are afoot at Willow Run; the laboratories are being separated from the parent university and are in the process of setting themselves up as an independent, nonprofit research corporation—to be called the Environmental Research Institute of Michigan.

WRL has been a chief issue in the debate on classified research within the university since the middle 1960's. Campus criticism has, in fact, sharpened in recent years as American military emphasis in Southeast Asia shifted to air operations. The reason is that WRL research has translated directly into such things as remote sensor technology for locating and targeting vehicles and troops on the ground and laser guidance for so-called "smart" bombs. In the last few years a series of moves have brought the university and the laboratories to a parting of the ways. A crucial step was taken in June, when the university regents voted to transfer the title on equipment at WRL to the recently incorporated institute. Equally important, the Michigan legislature, which has looked with favor on the separation, voted in July to make available $2 million for low-interest loans to the labs should funds be needed in the transition period. Officials were impressed not only by the potential of remote sensing technology for solving problems in the state, but also by the possibilities for Michigan industry's obtaining production contracts for hardware—both military and civilian—developed at WRL.

WRL, therefore, is hardly being thrust naked into the marketplace. The regents have approved the transfer of existing contracts and grants to the new institute, while the dowry in equipment and the blessings of the legislature are substantial aids. It is true that this is not a particularly favorable period for nonprofit research organizations specializing in work for the military, since Congress has been applying pres-