

Rx for the sick doctor: Seek help

Very few physicians with emotional problems seek out help before their condition becomes serious, according to a psychiatrist at Thomas Jefferson University in Philadelphia. In a study of emotionally disturbed doctors, Robert E. Jones found that just 17 percent of those ultimately hospitalized for such problems had sought care before they required hospitalization.

"This means that 83 percent of these ailing doctors were practicing impaired and undetected," he reports in the January issue of *THE SCIENCES*. And after entering a hospital for treatment, physicians are less likely than other patients to remain for the full course of treatment, he says.

Physicians — particularly psychiatrists — are known to have higher rates of depression and suicide than the general public. Depression accounts for two-thirds of all admissions of doctors to psychiatric wards, according to the New York Academy of Sciences, which publishes *THE SCIENCES*. In addition, Jones says that the alcoholism and drug addiction rates are at least several times higher for physicians than for others. And that may even be a conservative estimate, he says, because of a tendency among treating doctors to use other, less embarrassing, diagnoses to protect their colleagues.

Jones suggests that doctors may resist treatment because of "the same neurotic drives and personality traits" that he says may have led them to practice medicine in the first place. He cites one study that says 47 percent of medical students suffer from a "major" neurotic handicap.

Physicians have begun to monitor themselves — through American Medical Association symposia and other methods — and a number of states have adopted legislation to deal with the problems of the disabled physician. Jones says doctors must find ways to relieve pressures on themselves before they develop serious problems. "Patients may be taking great risks with sick doctors, especially mentally sick doctors," he warns.

Crime: Who is the real victim?

In the vast majority of crimes, particularly violent ones, it would seem as though identification of the victim and the perpetrator would be fairly clearcut and obvious. Not necessarily, according to Gary Feinberg, a "victimology" specialist at Nova University in Ft. Lauderdale, Fla.

Feinberg, who has studied crime victims for the past several years, says that in a "significant" number of cases, the alleged victim is an active participant, if not the cause of his or her own victimization. "In homicide cases, for instance, we've found that it's often the victim who strikes the first blow," Feinberg says. "In domestic homicides, it's the husband who's been abusing or humiliating his wife for years who generally winds up as the so-called victim."

National crime surveys indicate that "victims of violent crimes usually have long police records," according to Feinberg. In drunken brawls, he adds, the victim is usually a lot drunker, more abusive and more likely to have a police record than the "criminal."

Criminals usually belong to the same socioeconomic and ethnic group as their victims. "Blacks victimize blacks and whites victimize whites in perhaps 90 percent of the cases," he says. "The young prey on the young, and the elderly steal from, murder or attempt to sexually abuse one another."

Finally, he says, though the elderly have been less involved proportionately in crime than other groups, that situation may be changing. "Thanks to improvements in social services, housing and their own self-image, the elderly are becoming more visible," he says. "And this, unfortunately, will make them more visible to the criminal element as well."

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Mercury feels Jupiter's strength

Late in 1973, the Pioneer 10 spacecraft revealed that bursts of electrons long known to have been reaching the earth from space were in fact coming from Jupiter. The powerful planet was making its presence felt across a distance of some four astronomical units (AU)—four times greater than earth's distance from the sun. Now Jupiter looks mightier still: Other spacecraft have since detected Jovian electrons only 0.3 AU from the sun itself, actually inside the orbit of Mercury.

The electron bursts, distinguishable primarily by their duration and energy spectra, were detected by the sun-circling German Helios 1 and 2 probes. Even at Mercury's orbit, says Robert E. Gold of the Johns Hopkins University Applied Physics Laboratory, the Jovian electrons were more intense than the sun's own electron outpourings except during periods of energetic solar eruptions.

Outbound from Jupiter, the same effect exists. Pioneer 10 has now traveled as far beyond the giant planet as Jupiter is from the sun. And, says John A. Simpson of the University of Chicago, the characteristic electrons still show.

A newly evolving theory of how the electrons travel is that they move along interplanetary magnetic field lines, but that they are largely confined to sun-centered spiral regions bounded by turbulence created where solar wind streams of different speeds collide (SN: 3/11/78, p. 152). More of the picture is now emerging in data from the Pioneer 11 spacecraft, which gave a view from more than 16° above the plane of the ecliptic on the way from its own 1974 Jupiter encounter to its upcoming September rendezvous with Saturn. Furthermore, according to Simpson, "The unique behavior of Jovian electrons is also of general astrophysical interest, since these phenomena lead to interesting analogies with rapidly rotating magnetic stars which can release relativistic particles into the interstellar space of our galaxy. The possibility for scaling astrophysical phenomena from our solar system to the galaxy," he says, "is an interesting one."

Canada's Anik-B satellite launched

On Dec. 15, the latest of the Canadian Anik (the Eskimo word for brother) communications satellites was sent into orbit by a NASA rocket. Stationed over the equator south of California, it begins the second generation in Canada's Telesat domestic communications network, replacing the oldest of three Anik-A's, which were launched in 1972, 1973 and 1975.

Designed to operate for at least seven years, the satellite will provide the usual voice, television and data links to the country's 10 provinces, operating over a dozen commercial channels in the 6- and 4-gigahertz frequency bands. In addition, however, Anik-B carries six additional channels in the 12- and 14-GHz bands, now being studied in hopes of expanding the frequencies available for growing satellite communications traffic.

The studies began two years ago with the launching of Canada's Communications Technology Satellite, CTS-1 (SN: 1/31/76, p. 73), which was billed as "the world's most powerful communications satellite." A 200-watt transmitter and a special 28-inch antenna were combined to give CTS-1 nearly 10 percent more effective radiated power than NASA's ATS-6 satellite, whose antenna is 30 feet across. CTS-1 also tested the high-frequency bands, and the hope is that its various technologies, now showing up in Anik-B, will enable the use of small, inexpensive ground terminals. Anik-B will continue such studies in areas including medical data exchange from remote regions, educational hook-ups, "teleconferencing" and Eskimo broadcasting, as well as technical studies such as weather effects on high-frequency signal propagation.

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