

specifically focuses on the components of the immune system that regulate the response, but "the jury is still out" on what those components are. Monoclonal antibodies, which sensitively distinguish between subgroups of cells, may be a key, he says, in separating the infection fighters from the rejection modulators.

—D. Franklin

Heroin and crime: A stronger link

Urban heroin users commit a greater number and diversity of crimes than has previously been documented, according to a study conducted in New York City.

Study director Bruce D. Johnson told a Washington, D.C., press seminar this week that the average heroin user commits about 1,000 crimes per year. The offenses range from robbery, burglary and property crimes to an "extraordinary" number of drug distribution crimes. The worst criminals combine robbery and drug dealing, he says.

Johnson and colleagues, of the New York State Division of Substance Abuse Services and the privately run Narcotic and Drug Research, Inc., employed former heroin users to recruit 210 current users in Harlem. Each subject was interviewed nine times at a neighborhood storefront and paid \$10 per session. Their self-reports of criminal behavior and heroin use covered the preceding 33 days, but almost half of the group provided information for 100 days.

Most of the subjects in the study were black or Hispanic males, unemployed, between the ages of 24 and 40 and not in jail or drug treatment during the reporting period. (Many urban teenagers and young adults now shun heroin use and prefer cocaine, says Johnson.)

The findings show that their numerous crimes paid heroin users poorly. The average subject made less than \$12,000 in annual criminal income; almost half of that came as drugs rather than cash. Half of the subjects sold drugs, and virtually all of them recruited customers and transported money and drugs for drug dealers. Daily users stole more than those who use heroin several times a week, but the most crimes occurred among "robber-dealers." Each of these subjects completed about 1,400 crimes and 850 drug sales per year, although they made up only 11 percent of the sample. They committed 60 percent of reported robberies and one-quarter of the burglaries and drug deals.

While there are no easy answers to the criminal problems posed by heroin use, "this study shows a clear linkage between heroin use and crime," Johnson points out. In fact, he says, crimes are probably underreported because users tend to forget about offenses they commit on a regular basis.

—B. Bower

U.S.-Japan whaling accord still in dispute

U.S. and Japanese representatives have concluded a round of negotiations on Japan's continued whaling operations, but the two parties don't agree on what the negotiations accomplished.

By Dec. 13, Japan will withdraw its objection to the International Whaling Commission's (IWC's) current ban on hunting sperm whales — whose numbers are uncertain — and that is the extent of the agreement, according to an Embassy of Japan representative. In withdrawing the objection, Japan will stop sperm whaling by 1988, in exchange for being allowed to hunt 400 sperm whales a year from the North Pacific in 1984 and 1985 without losing fishing rights in U.S. waters.

The U.S. Commerce Department, however, is touting the negotiations as a way to "end all Japanese whaling no later than 1988," according to a written statement. The Commerce Department is also including in its interpretation Japanese agreement to the IWC's broader commercial moratorium (SN: 7/31/82, p. 71), which, beginning next year, would prohibit whaling of the four other species that are currently hunted. As part of the negotiations, the United States had proposed that Japanese whalers, who hunt minke and Bryde's whales as well as sperm whales, agree to the overall moratorium in exchange for an allowance of 200 sperm whales in 1986 and in 1987. U.S. Commissioner to the IWC

John V. Byrne, who negotiated for the United States, says that "this is the only way we see, under IWC guidance, that the Japanese can signal to the world that they intend to stop whaling," but he says that the Japanese government must act if the agreement is to be effective. The Japanese deny any binding agreement on this commercial whaling moratorium.

While the whaling accord is still in dispute, a group of conservationists has entered the fray. They have filed a lawsuit charging that under the Packwood-Magnuson Amendment it is illegal for the United States to agree not to restrict Japan's fishing allocations — as it has done under these negotiations — if Japan engages in *any* sperm whaling, says Craig Van Note of Monitor, a Washington, D.C.-based environmental coalition working on the lawsuit.

Whatever Japan, the most active whaling nation, and the United States finally agree on, Norway and the Soviet Union still object to the overall commercial moratorium and may continue whaling, though they would be subject to U.S. fishing restrictions. The IWC voted for the moratorium "based on the understanding that virtually every whale [species] that has been taken in the past has become threatened," Byrne says, and that an assessment is needed after stocks recover to improve population estimates.

—C. Mlot

Oral bacteria: Germs of endearment

Husbands and wives may be sharing more than they think. Research from Emory University in Atlanta indicates that spouses show a close match in the types of oral bacteria associated with periodontal disease.

Our mouths are awash in a mix of bacteria — 250 to 300 species in the average adult. Some of these are anaerobic bacteria that hide out in the oxygen-free environment under the gums, where they eat away at tissue, bone and ligament, causing periodontal disease. More than half the people over 18 have at least the early stage of the disease, and it is the major cause of tooth loss in people over 35.

Steven Offenbacher and colleagues looked at 10 types of bacteria collected from the mouths of 14 married couples and found that spouses whose mates had a particular bacterium had a one-third to threefold higher risk than the general population of having it themselves. They presented their data at the recent annual American Dental Association meeting in Atlanta.

"There was a significant match between the flora," Offenbacher told SCIENCE NEWS. The relationship was so close that without knowing who the bacterial samples came from, "you could match husband with wife

on the basis of the organisms found.

"One of the clinical problems with periodontal disease is that it comes back after treatment — we just arrest the process. This work raises the possibility that the recurrence may be due to reinfection by another family member." Offenbacher says that when he's treated the spouse of a person with recurrent periodontal disease, the disease stopped coming back.

His work does not prove conclusively that spouses transmit the bacteria to each other, notes Offenbacher. Prospective studies and more exacting classification of the bacteria are needed, he says. "But it's consistent. These organisms are for the most part limited to the oral cavity, they're not found [elsewhere] in nature. So the obvious question is, if you have them, where did you get them?"

Paul Keyes, who while with the National Institute of Dental Research in Bethesda, Md., worked out a treatment for periodontal disease that involves killing the culprit bacteria, has been treating family members of his patients for years. "It's reasonable to postulate that these bacteria are transmitted from person to person by spit-tle," says the Reston, Va., periodontist. "They have to come from somewhere."

—J. Silbner