

# RANDOM SAMPLES

edited by CONSTANCE HOLDEN

## Indian Medical Research Out of Touch?

Indian biomedical scientists are focusing on the diseases of the affluent at the expense of their own country's health problems, suggests a study published in the 25 June issue of an Indian journal, *Current Science*.

Subbiah Arunachalam, an information scientist at the M. S. Swaminathan Research Foundation in Madras (now called Chennai), reports that, according to a review of Medline, the 10 fields in which the most papers were published between 1987 to 1994 did not include tropical medicine—infectious diseases such as malaria—or respiratory diseases.

And despite India's more than 12 million blind people, "hardly any" research is done in ophthalmology. The study showed that Indian authors are most prolific in the areas of general medicine, pediatrics, and pharmacology. In research targeted to specific diseases, cancer came first with 821 papers. There were 663 papers on cardiovascular diseases, compared with only 432 in tropical medicine.

In addition to having "lopsided" priorities, Arunachalam says, Indian biomedical research suffers from general low quality. Nearly three-fourths of some



**Low priority.** Patients at a rural clinic.

20,000 articles by Indian authors over the 7-year period appeared in journals ranked as very "low impact" by the Institute of Scientific Information in Philadelphia, he reports. Only 58 papers appeared in high-impact journals like *The Lancet* or *Science*.

Many Indians believe the analysis is sadly on target. It re-

flects the fact that Indian medical research has "remained aloof from the people and continues to progress only by infusion of foreign know-how," says cardiac surgeon Martanda Varma Sankaran Valiathan of the Manipal Academy of

Higher Education. Gowdagere Vedanti Satyavati, director of the Indian Council for Medical Research, counters that "ICMR's thrust areas coincide with national health priorities" and that other indices, such as the *Index Medicus*, show far more publications by Indian scientists than does Medline.

## Fighting Allergies Without a Reaction

In treating an allergy, the trick is to stimulate the body's immune system without causing an unpleasant, even dangerous, inflammatory reaction. Now, researchers at Japan's Asahi Brewery and the University of Tokyo, working with dust mite allergens, may have found how to do it.

Allergy to the dust mite leads to about 20 million cases of asthma a year. The culprits are

proteins, Der f 1 and Der f 2, in mites' feces. So the scientists, led by Asahi's Toshiro Takai, set out to alter the Der f 2 protein so that it would stimulate immunity-mediating T cells without triggering the mast cells, which cause inflammation. They knocked out three different disulfide bonds, producing three types of mutant proteins. Reporting in this month's *Nature Biotechnology*, the team says it got lucky with one of these mutants. While patients in-

jected with ordinary wild-type Der f 2 quickly developed skin inflammations, they had no response when injected with the mutant protein. But T-cell proliferation occurred normally.

Gailen Marshall, an allergist at the University of Texas Medical School in Houston, says the researchers "clearly show that you can separate the T-cell response from the [inflammatory] response. ... This could be neat." Clinical trials will be necessary

first, though, to establish whether immunizing allergy sufferers with a single protein will be sufficient to protect them from house dust.

## Perfect Time on Their Hands

Soon, anybody in the continental United States willing to part with \$900 will be able to live by the most precise time measurement available: the atomic clock run by the National Institute of Standards and Technology in Boulder, Colorado. Last month, LaCrosse McCormick in LaCrosse, Minnesota, unveiled the first radio-controlled wristwatch available in the United States. With an antenna in the wristband, the German-made watch checks in regularly with station WWVB in Fort Collins, Colorado, disseminator of the standard second as generated by the Boulder clock. The watch is accurate to within 9 millionths of a second and resets itself for Leap Year and Daylight Savings Time.

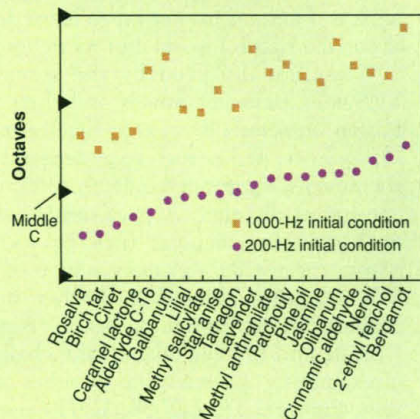
"Since time began, man has been trying to capture and measure time with increasing accuracy," intones Lee Hafemann of LaCrosse McCormick. Indeed, a pilot marketing showed that it's man who's excited by this timepiece—buyers were all male.

## Looking to Sounds for Odor Classification

Do different smells "sound" different? New research points to associations between musical tones and odors that could break new ground in pursuing what has so far been an elusive goal: developing a scientific way of categorizing odor.

In the July issue of *Psychological Science*, psychologist Avery Gilbert, head of Synesthetics Inc. in Montclair, New Jersey, and colleagues report an experiment in which some 30 subjects linked smells with tones played to them over earphones. Gilbert says there was "significant" agreement over rankings by the group as a whole using two sets of tones, one in a range about an octave higher than the other. Fruity smells such as bergamot, which has a grapefruit odor, went with high notes; woody or earthy smells such as civet (a fecal smell) were low.

Gilbert, formerly with the fragrance firm Givaudan-Roure, says this research could help perfumers and others find "nonverbal means to characterize odors." Cornell University psychologist and food scientist Harry Lawless agrees that the work is a start but cautions that odors are "highly multidimensional ... much more like musical instruments" than like unidimensional tones. Gilbert says he's getting to that: He hopes next to compare odor perception with sounds of different timbres.



**Aroma scale.** Collective tone ratings correlated in two ranges, starting with 200-Hz and with 1000-Hz tones.