

Lithium for schizophrenia

Although antipsychotic drugs, or neuroleptics, have enabled many seriously disturbed persons to leave the hospital, the deficiencies of such drugs are well documented: They are far from cure-alls — many schizophrenics simply cannot return to functionally useful societal roles, and the drugs may cause side effects such as tardive dyskinesia.

Lithium carbonate, on the other hand, has met with comparatively surprising success in the relatively short time it has been used to treat manic-depression. Now, after several earlier experiments showing only mixed results, it is reported that lithium does appear to be effective in treating certain schizophrenics.

In a study of 13 schizophrenic patients at the clinical research unit of the National Institute of Mental Health, seven improved on lithium, making this “the first controlled study to yield positive results with schizophrenic patients treated with lithium alone,” three researchers report in the March *AMERICAN JOURNAL OF PSYCHIATRY*.

All the patients — seven men and six women — were given placebo capsules for at least one week before and two weeks after the three-week lithium trial. Of the seven who showed improvement in psychosis rating during the last week of lithium trial, more than half showed immediate deterioration when lithium was discontinued, report Paul E. Alexander of Brown University and Daniel P. Van Kammen and William E. Bunney Jr. of the biological psychiatry branch of NIMH.

The results are “strong evidence that it was the lithium, and not other factors, that caused the improvement,” Alexander says. Nevertheless, he cautions that the results are preliminary and that “neuroleptics remain the favored medication for schizophrenia. However, lithium has been shown to be a valuable alternative for some patients.” “Unfortunately,” he says, “we have not been able to predict which subgroup of schizophrenic patients is most likely to benefit from it.”

Alexander, also chief of the intensive treatment unit at Butler Hospital in Providence, is continuing the three-year, \$180,000 study by comparing the effects of lithium and the widely used neuroleptic chlorpromazine in schizophrenic patients at the hospital.

Sex after rape

The emotional trauma experienced by rape victims after the attack has been widely reported. But relatively little research has been done on the effect of rape on the victim's sexual behavior and sexual satisfaction.

Now, University of Washington researchers have sampled 50 rape victims who reported their assaults to a rape counseling center. The responses of the 19- to 55-year-old women were compared to those of a matched control sample of nonrape victims.

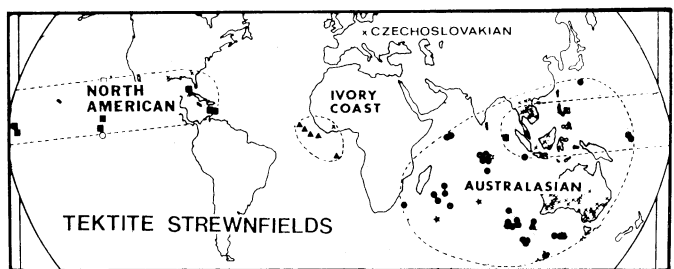
In describing their pre- and post-rape behavior on a 23-item scale of sex-related activities, the victims said that “sexual satisfaction with a wide variety of sex-related behaviors decreased substantially following the rape,” Shirley Feldman-Summers, Patricia E. Gordon and Jeanette R. Meagher report in the February *JOURNAL OF ABNORMAL PSYCHOLOGY*.

In addition, the rape victims reported significantly less satisfaction with sexual relations than that reported by the nonraped sample, “even though the two groups did not differ in terms of frequency with which they engaged in various sexual activities or experienced orgasms,” say the researchers. The results “suggest that rape has a strong negative impact on certain aspects of the victim's sexual life,” they say. “Treatment of rape victims, therefore, should properly include sexual counseling designed to ameliorate these impacts.”

A billion tons of tektites

The strange, glassy objects known as tektites have been of interest in part because of uncertainty about whether they originated on the earth or the moon. The bulk of opinion, although there is still disagreement, now seems to favor terrestrial origin, probably from the heating of meteorite impacts. S. R. Taylor and S. M. McLennan of the Australian National University, for example, report a “close similarity in composition for 35 elements” between a group of tektites from Java and one suggested source region, the Zhamanshin impact structure about 200 km north of the Aral Sea. Whatever their origin, however, there seem to be far more of them on the earth than was previously thought.

Tiny “microtektites” found in deep-ocean core samples have recently indicated that three of the world's four major known tektite regions (“strewnfields”) are substantially larger than formerly believed, according to B. P. Glass and colleagues from the University of Delaware. Examples from the northwest Indian Ocean and the eastern equatorial Pacific have been associated with the already big Australasian strewnfield, the authors report, enlarging and changing its shape. Their calculations suggest that the field may contain 100 million metric tons of tektite glass, spread over nearly 10 percent of the earth's surface. Recent North and South Atlantic cores have quadrupled the size of the Ivory Coast strewnfield, and other cores, according to the Delaware group, now indicate that the North American strewnfield may extend halfway around the planet, containing perhaps more than one billion metric tons of tektites.



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Glass and co-workers also note an unusual correlation involving the ages of the different tektite populations: Dating by sediment stratigraphy, as well as by potassium-argon and fission-track methods, indicates that at least two of the tektite groups described above originated at times close to periods of reversal of the earth's magnetic field. Microtektites in cores from the Australasian field date near the Brunhes/Matuyama boundary about 0.69 million years ago; Ivory Coast cores relate to the Jaramillo event about 0.95 million years ago. The North American microtektite layer may not match a known geomagnetic reversal, the researchers say, but it does seem to fit the time associated with the extinction of several species of radiolaria — a phenomenon that has been circumstantially linked with geomagnetic reversals in other studies.

Meteorites at sea

A 1-kilometer meteorite hitting in 5 to 6 km of ocean could generate waves that would still be 30 meters high 1,000 km from the event, according to Donald E. Gault of Murphys Center of Planetology, and suitable shore contours could raise the arriving waves to a towering 300 meters. Meteorite ocean impacts could thus have had significant geological and biological effects in earth's history, he says on the basis of laboratory experiments. On the other hand, R. A. Strelitz of the Lunar and Planetary Institute calculates that most of the energy would go into turbulence, affecting the sea bottom more than distant shorelines.