

behavioral sciences

From our reporter at the winter meeting of the American Academy of Psychoanalysis in New York

Food addiction

Obesity is a health problem of multiple etiology that afflicts 20 to 30 percent of the population. Among the obese population, however, there is a select group who consider themselves psychiatric patients (most do not). J. R. Buchanan of the Ottawa Civic Hospital agrees. This type of obesity, he hypothesizes, is the end result of a comprehensive neurotic solution to internal conflicts. In this situation, Buchanan believes, psychoanalytic therapy can help the patient achieve insight into and work through the unconscious motivations related to the eating compulsion. Only then, he says, can the compulsion be permanently altered.

Buchanan described a project in which seven women and two men participated in psychoanalytically oriented group therapy. They met weekly for five years. During this time Buchanan noted an obsessive preoccupation with food, persistent oral activities, emotional hunger (for love or protection) and a definite defect in body percept. At the end of five years, group weight had decreased from 2,069 to 1,828 pounds. Normal should be 1,255 pounds. But more important than weight loss and control of eating compulsion, says Buchanan, was the evidence of healthy growth in relationships to self and to others.

Psychoanalytic technique with addicts

Most attempts at treating addictive disorders have met with minimal success (around 10 percent). Hrair M. Babikian, a New York analyst, says that with certain motivated individuals psychoanalysis can be an effective treatment. He reported on seven addicts treated for almost four years.

Babikian says the psychopathology of the drug addict is due to an arrest in infantile psychic development. The addict fails to mature and to effect a transition from the stage of infantile omnipotence to that of delegated omnipotence. This attitude is not accepted by an adult world, and insecurity, depression, helplessness and vulnerability result. Drugs can relieve these feelings and help restore a feeling of power. To treat this, Babikian suggests certain changes in psychoanalytic technique. The patient must be seen as often as possible (seven times a week). The patient must not be put on the couch (it is a vulnerable position). The patient must be helped to gradually transfer feelings of omnipotence to the therapist. Babikian admits that the process is painfully slow, but says five of the seven treated were free of heroin and leading normal lives three years after treatment.

Eclectic approach to alcoholism

Alcoholism, like heroin addiction, is not readily treated by psychoanalysis. An insight into motivations is simply not enough, says John A. Ewing of the School of Medicine in Chapel Hill, N.C. He suggests an eclectic approach. A psychotherapist, for instance, could send an alcoholic patient to a behaviorist for aversive or other forms of behavior therapy that condition total abstinence or at least controlled drinking. Meanwhile, the psychotherapist can supply any insight therapy that is indicated.

earth sciences

Demise of ancient oceans

Pangaea, which began 200 million years ago to break into the present-day continents, was itself an amalgamation of continents that had collided.

W. S. McKerrow of Oxford University and A. M. Ziegler of the University of Chicago have identified sutures marking five continental collisions, each accompanied by closure of an ancient ocean. Among the tell-tale clues: a type of igneous rock, rock sequences of ocean sediments, evidence that the past climates or fauna on the two sides of the suspected suture were once different, and rocks characteristic of subduction zones.

The two researchers report in the Nov. 27 *NATURE PHYSICAL SCIENCE* that the Canadian shield collided with the Baltic (northern Europe) about 405 million years ago, closing the proto-north Atlantic; Gondwanaland and the Canadian shield met roughly 380 million years ago, closing another part of the proto-Atlantic and an ocean they call the Theic; central Europe collided with the Baltic shield 300 million years ago, closing the Rheic Ocean; Gondwanaland and Canada met 300 million years ago closing the Phoibic Ocean, and a collision between the Siberian platform and the Baltic shield closed the Pleionic Ocean.

Length of day and fauna

From growth lines on certain fossils we know that the earth once rotated more rapidly than it does now, producing a shorter day (SN: 12/16/72, p. 391). In the latest *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*, M. F. Lovenburg, C. I. Dell and M. J. S. Johnson propose that the shorter day must have had an effect on the diversity of fauna in a given habitat. A shorter day, they explain, would mean greater equability in temperature—nights would be warmer and days cooler. They estimate that in the Silurian period (405 million to 425 million years ago) days would have been about 21 hours long. The three believe shorter days would have promoted diversity, but the theory is difficult to test because so many other factors also affect diversity.

The magnetism of stress

Theory has it that stress in the earth's crust causes local anomalies in the magnetic field. The phenomenon has seldom been observed, though one good demonstration of it followed the Cannikin nuclear test (SN: 9/9/72, p. 164). If it could be quantified, the so-called tectonomagnetic effect could provide a means of monitoring stress on faults and eventually forecasting earthquakes.

Recently, a dam at Talbingo in the Snowy Mountains of Australia was completed, and as it filled, P. M. Davis and F. D. Stacey of the University of Queensland monitored magnetic changes. They report their results in the Dec. 8 *NATURE*. The physicists monitored the area's magnetic field for a year before filling of the lake to make sure that any changes were due solely to the weight of water. The magnetic changes varied from place to place, and amounted to as much as eight gammas. The specific effects of the dam, they conclude, are of "limited interest." What matters is the demonstration of the effect.