

# The Repressed Road to Trauma Recovery

Many mental health workers contend that the key to getting on with one's life after a close brush with death or some other severe psychological trauma lies in carefully confronting and sorting out memories and emotions linked to the ordeal. But a new study indicates that stamping traumatic memories out of consciousness — rather than dredging them up — may be essential for long-term adjustment, at least among survivors of World War II's Holocaust.

This conclusion stems from an investigation in which well-adjusted Holocaust survivors displayed a striking inability to remember their dreams. "Most were not

only unable to recall any dream content but actively denied having dreamt at all," says psychologist Peretz Lavie of Technion-Israel Institute of Technology in Haifa, who presented the findings last week at the annual meeting of the Association of Professional Sleep Societies in Washington, D.C.

Lavie says the massive, unconscious repression of dream recall, as well as the repression while awake of memories and emotions connected to the Holocaust, crucially helped survivors to adapt more than 40 years after the war ended.

Lavie and graduate student Hanna Kaminer recruited 10 men and 13 women

who had been imprisoned in a concentration camp or had hidden out from the Nazis for a prolonged period, much as Anne Frank did. Survivors averaged about 60 years of age and suffered no major physical or mental illnesses.

The researchers interviewed the survivors regarding six areas of postwar life: work problems, marriage and family problems, social relations, physical complaints, mental problems and general satisfaction with life. Eleven "less-adjusted" survivors reported significant problems in at least three areas. The remaining 12 were considered "well-adjusted." Concentration camp and hideout survivors were included in both groups.

A control group of 10 healthy Israelis about the same age as the survivors reported problems comparable to those of the well-adjusted group.

All subjects then spent four nights in a sleep laboratory, where researchers continuously monitored physiological functions, including brain waves and eye movements. On three nights, they awakened subjects from all periods of rapid eye movement (REM) sleep and asked them to recount what they were dreaming.

REM sleep is associated with vivid dreaming, although dreams also occur in other sleep stages. Less-adjusted survivors slept less and took much longer to fall asleep, but there were no differences in REM sleep among the three groups.

When roused from a REM slumber, controls recalled their dreams 80 percent of the time. Less-adjusted survivors recalled dreams just over half the time, and well-adjusted survivors gave dream reports one-third of the time.

But well-adjusted survivors were often convinced they did not dream at all, Lavie says. Dreams they described were typically short, and although the dreams contained disturbing events, these individuals denied accompanying emotions. Less-adjusted survivors reported significantly more anxiety and aggression in their dreams.

The repression of dream recall in well-adjusted survivors parallels their general tendency to keep emotions in check and to put Holocaust memories in cold storage, Lavie notes. Similar reactions among Holocaust survivors were noted several decades ago by psychologist Bruno Bettelheim, he adds.

Although the sample did not include subjects with post-traumatic stress disorder, Lavie says the results suggest psychotherapists might examine the benefits of helping such patients to forget, rather than reexperience, traumatic events.

— B. Bower

## X-ray fireworks put on a stellar show

Astronomers have detected a new, surprisingly strong source of X-rays, which appear to come from a pair of stars in the constellation Cygnus. The sudden onset of this radiation and the accompanying dramatic increase in the system's visible-light brightness signal violent activity within the system — possibly the transfer of a massive glob of material from a large star to a disk surrounding its compact companion.

"What we think we're seeing is a close binary system in which one object is either a neutron star or a black hole," says Sumner G. Starrfield of Arizona State University in Tempe. But the strength, duration and variability of the X-ray and radio signals coming from the source show it to be unique.

Japan's Ginga satellite first detected the new source on May 22. The X-ray signals peaked at the beginning of June and are now starting to fade. Starrfield, R. Mark Wagner of Ohio State University in Columbus and Angelo Cassatella of the European Space Agency's International Ultraviolet Explorer observatory in Madrid traced the X-ray source to a system known as V404 Cygni, whose last sudden intensification occurred in 1938 when it became 2,000 times brighter than normal. Astronomers have seen a similarly strong brightening this time.

What makes the latest outburst especially interesting is that astronomers can track its behavior over a wide range of wavelengths. "There's a lot of activity," Wagner says. "This object is varying widely all over the spectrum." The strength of the X-ray signals fluctuates erratically by as much as a factor of 10 in a matter of seconds. Visible light shows similar flickering but on a scale of minutes.

Wagner and his co-workers have also

detected a possible 10-minute periodic variation in the flickering. This suggests the compact companion may be a slowly rotating neutron star. However, astronomers need further observations to confirm the finding and to determine whether the compact object has a significant magnetic field.

"In this particular case, we have an event that last happened, as far as we know, 51 years ago," Wagner says. But, adds Starrfield, "the object is so strange that we have a feeling it may have gone off in the past and no one's noticed."

Researchers think they are probably seeing a sudden, huge transfer of material to a neutron star or a black hole. As the material falls, it gets compressed and heated to millions of degrees, generating X-rays and other radiation. Then this process of accretion abruptly stops, and the system winds down to a quiet state, perhaps for decades.

V404's outburst has attracted considerable attention. Astronomers are closely monitoring the evolution of its X-ray, ultraviolet, visible-light, infrared and radio spectra. "This is a real multinational, multiwavelength campaign," Starrfield says. "It's a rare event." The last comparable X-ray outburst occurred in 1975 from a source designated A0620-00.

Astronomers hope to collect enough data to calculate the separation and masses of the two stars in the system, which lies about 3,000 light-years from Earth. If the compact object's mass turns out to be greater than twice the sun's mass, then it would be a black hole. If it has a smaller mass, the compact object may be a neutron star in the process of turning into a black hole as it collects material and gradually increases its mass.

— I. Peterson