

PSYCHIATRY

**War a Mass Drunkenness
For Escape From Life**

WAR is a mass, world-wide epidemic of drunkenness, Prof. A. J. Carlson, University of Chicago physiologist, told the American Association for the Advancement of Science.

It is worse than alcoholic drunkenness, because alcohol is most injurious to the individual—inebriety of war impairs us all.

Both are means of escape from the thorns of living, to meet which Prof. Carlson recommended addition of a little Spartan iron to the present educational milk diet. Not grandmother's slipper or grandfather's rod, but early conditioning by doing and personal experience in individual responsibility.

Determination of what types of personality are prone to alcohol addiction and development of methods of prevention are the real core of the alcohol problem and research should be concentrated on this core, Prof. Carlson said.

Science News Letter, January 4, 1941

Iron in *molasses* varies considerably according to the grade.

**HOW COMET LOOKS**

This photograph of the 10,000,000-mile tail of the Cunningham Comet was taken with the 12-inch refractor telescope of the Harvard Observatory at Oak Ridge, on Christmas Eve.

PUBLIC HEALTH-PSYCHIATRY

**Alcoholism Called Greatest
Public Health Problem****Is Considered Country's Most Serious Menace Not
Being Systematically Attacked; 100,000 Sufferers**

ALCOHOLISM is the greatest public health problem at the present time which is not being systematically attacked, declared Dr. Winfred Overholser, superintendent of St. Elizabeths Hospital, Government institution for the mentally ill, in opening a Symposium on Alcoholism. The meeting was arranged by the Research Council on Problems of Alcohol, of which Dr. Overholser is chairman of the board of directors, in connection with the meeting of the American Association for the Advancement of Science in Philadelphia.

Over 100,000 persons are suffering from alcoholism in the United States today, he said. Yet in all but the largest cities, practically the only institution in which an acutely intoxicated person may be cared for is the local jail.

Science News Letter, January 4, 1941

Cause of Mental Disease

ALCOHOL ranks comparatively high as a cause of mental disorder or a precipitating agent of some mental disease, scientists at the meeting of the American Association for the Advancement of Science learned from a report by Dr. Nolan D. C. Lewis, director of the New York State Psychiatric Institute, before a special session on alcoholism.

In addition to delirium tremens, the "pink-elephant" ill that most people think of in connection with alcoholic excesses, Dr. Lewis told of many other mental diseases brought on by alcohol. A "drunken furor" is one of these. It is a drunkenness more violent than ordinary intoxication and may be produced by one very large amount of alcohol, or by a small amount in some one who is intolerant to it. Acute and chronic hallucinosis are medical names for mental ills in which the patient hears voices or sees faces. In the chronic type, the patient may live for years with these imaginary voices to which, Dr. Lewis said, "they become accustomed in about the same way that some people become adjusted to external parasites—a bit unpleasant at times, but tolerated."

In the Korsakoff psychosis, also

brought on by alcohol, the patient's whole past may become a complete blank, so that he wakes each morning in a blank mental state.

In chronic alcoholic deterioration, there is loss of memory, loss of efficiency and emotional stability and disintegration of the whole personality—the familiar picture of the "old drunk."

Finally there is alcoholic paranoia, a disease characterized by extreme suspicion and jealousy. This may not be a true alcoholic psychosis, but paranoia complicated by alcoholism usually brings about an earlier deterioration than ordinary paranoia does.

Science News Letter, January 4, 1941

Blitzkrieg strategy was used nine years ago by Japan in conquering Manchuria.

The tail of the *Great Comet* of 1843 was more than 500,000,000 miles long—a record.

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Bill Is \$178,191,272

ALCOHOLIC mental disorders cost \$178,191,272 to the people of the United States each year, according to an estimate given the American Association for the Advancement of Science by Dr. Horatio M. Pollock, director of mental hygiene statistics, New York State Department of Mental Hygiene.

Patients suffering from alcoholic mental disease or alcoholism in mental hospitals throughout the United States number about 31,220, Dr. Pollock estimates. Since the cost of maintaining these patients averages about \$500 a year, the total cost would be \$15,610,000.

To this sum must be added the economic loss which results when a man or a woman suffers mental breakdown. Figured only for those patients first entering a mental hospital during a single year, this would amount to \$86,154,712.

But this sum does not include the loss of earnings and the money spent on alcohol during all the years of alcoholic excesses that went before the victims finally landed in the mental hospital. This amount Dr. Pollock figures to be \$76,426,560.

These three amounts make up the striking total of \$178,191,272, which does not count losses due to physical illness, crime connected with intoxication, pay of policemen, cost of courts and jails.

'Tight' Really Is Loose

MOVING PICTURES to show people who had been to a drinking party just how they look when they think they are having a wonderful time were advocated as of great educational value.

The psychiatrist who would thus dampen the spirits of "good fellows" is Dr. Abraham Myerson of Harvard Medical School.

Getting "tight," he declared, really

means getting loose, for the main factor which makes for a reasonable well-organized personality, inhibition, disappears when intoxication begins.

Several social factors contribute to the building up of the alcoholic habit, Dr. Myerson has observed. First is the tendency to measure he-man-ness by the quantity of alcohol a man can imbibe. Actually, capacity to take alcohol is a liability rather than an asset, since it leads to alcoholism.

The man who becomes acutely sick

after a drink of liquor almost never becomes an alcoholic.

Another social influence is the general tolerance toward the man who gets drunk. Alcoholic intoxication is practically the one form which is indulged in public. It should, Dr. Myerson believes, receive exactly the same condemnation that morphine addiction does.

"The alcoholic," he said, "should cease being a subject of humor and take his place where he belongs in the realm of drug addicts."

Science News Letter, January 4, 1941

PHYSICS—ASTRONOMY

Smallest Pieces of Atoms Cause Biggest Explosions

Supernovae Are Caused When Tiny Neutrinos Emitted From Nuclei of Atoms Escape With Star's Energy

THE smallest pieces of atoms known to science may be responsible for the biggest star explosions—the "supernovae"—stars which suddenly flash out from relative obscurity to equal 100,000,000 suns. One of these may have been the Star of Bethlehem.

This theory is proposed by Dr. George Gamow, professor of mathematical physics at George Washington University, who worked out its details with the aid of a Brazilian scientist, Dr. Mario Schenberg.

Neutrinos, they believe, are the cause. These are emitted from the nuclei of atoms, together with electrons, in one form of disintegration which happens with radium and similar elements. They carry away about two thirds of the energy released from the nucleus when this happens. Because they are so small and have no electrical charge, they have been most elusive.

Inside a star which has started to contract, the temperature would reach several hundred million degrees. Under these conditions processes that can never happen under earthly conditions would easily take place. An electron might hit the nucleus of an iron atom, converting it into a form of another element, manganese. This element, known as Mn-56, has been made artificially in the laboratory. In the process a neutrino would be given off. But the core of the Mn-56 atom would, in a few hours, turn back to iron, with the liberation of an electron, and another neutrino. Then another stray electron would change the iron

back to manganese, again with a neutrino released.

Dr. Gamow says that there are dozens of analogous processes which would work the same way. As these worked to and fro, he says, neutrinos would be produced all the time.

"The neutrinos would penetrate without any difficulty through the body of the star and escape unobserved, carrying away the energy," he declared. "The process provides for the unlimited cooling in the center of the star, and prevents the central temperature and pressure from rising above a certain value.

"It is thus clear that, when this process starts, the star must rapidly collapse under its own weight. The outer layers of the star, heated by the compression, will lead to a large increase of the observed luminosity, which will be registered by astronomers as a nova, or supernova, explosion.

"However, the radiant energy (light, etc.) emitted during such explosion will be but a small fraction of the total energy liberated in the collapse, since most of the energy escapes unobserved, carried away by the neutrinos."

Dr. Gamow pointed out that this agrees closely with astronomical data. These indicate that the energy detected by telescopic observations is much smaller than might be expected from such a collapse.

He also explains the difference between ordinary novae, or "new stars," which

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