

PSYCHIATRY

Dream World of Students

Fantasies of boys and girls are filled with aggression and violence, it was found when they were shown a series of pictures and asked to make up a story.

► WHEN high school boys and girls give free rein to their imaginations, they dream up a world filled with aggression— death, murder, fighting and crime.

The extent to which the adolescent's dream world is a hostile place was brought to light when psychologists under the direction of Dr. Percival M. Symonds, of Teachers College, Columbia University, showed a series of pictures to 20 boys and 20 girls aged from 12 to 18 and asked them to make up a story on each picture. After the stories were told, each author was asked where the story originated. Source of more than 40% was in personal experience of himself or others. For only 44 stories were the comics mentioned as a source.

The stories of many boys, particularly the younger ones, were very exciting. One boy became so aroused by his own stories that he had to leave his chair and pace up and down the room while telling them. There were real adventure stories, Dr. Symonds reports in a new book, *ADOLESCENT FANTASY* (Columbia), giving details of the study. They had deep-dyed plots, dramatic incidents, hair-raising escapades, cold-blooded deeds, and fast action.

Boys produced stories of violent death, crime and murder, more often than did the girls. But boys also told more stories of love and falling in love than did the girls. The boys were found to be more interested in wealth and riches than are girls.

Girls also fill their stories with aggression, but it is more often expressed as disobedience, rebellion and scolding or forbidding.

Punishment followed crime in these stories with almost monotonous regularity and the punishment was likely to be extreme—execution. The policeman is a familiar character in the tales by these high school and junior high school authors.

Second only to crime as a theme for adolescent imaginings, is love, but in only a few cases did the love stories deal with sex. There were stories of dating, friendship, family affection, and "Married and lived happily ever after."

Success stories were popular, but usually unrealistic. Like the Horatio Alger stories, they dealt usually with success in making one's way in the world—seldom with success in school or a college career. Money came easily and in astronomic quantities.

School is revealed by these stories as a far from happy place. It is shown to be a place filled with anxiety. Punishment and the threat of failure was always present.

Teachers were almost always stern, threatening and avenging figures. Homework was a burden.

Concern over popularity and personal appearance was shown to be a worry, particularly with the girls.

Dr. Symonds warns against using stories such as these to divine anything about the life history of the boy or girl telling them. In general, when a theme is exaggerated in the stories there is an absence of this trend in the personality of the individual, and vice versa, he found. Individuals with stories filled with violence and hostile aggression turned out to be in real-life sissies,

ingratiating, inhibited and docile. Those who tell bizarre, fantastic stories containing elements of mystery turn out to be quiet, lazy, indifferent and without initiative or queer, nervous and immature.

The story-teller was found to put himself into the tale he told. But again caution is urged in interpretation. For the boy or girl author may appear in the role of any, or all, the characters in his creation. And it is not in the least difficult for him to identify himself with a character of the opposite sex or a different age level. In fact stories contain various displacements and disguises to hide the identity of the actual persons toward whom the feelings expressed in the story are directed in real life.

The psychologist can learn much about personality from the study of such stories, Dr. Symonds concludes, but he must proceed by indirection and must learn all he can about the individual before attempting to interpret his fantasies.

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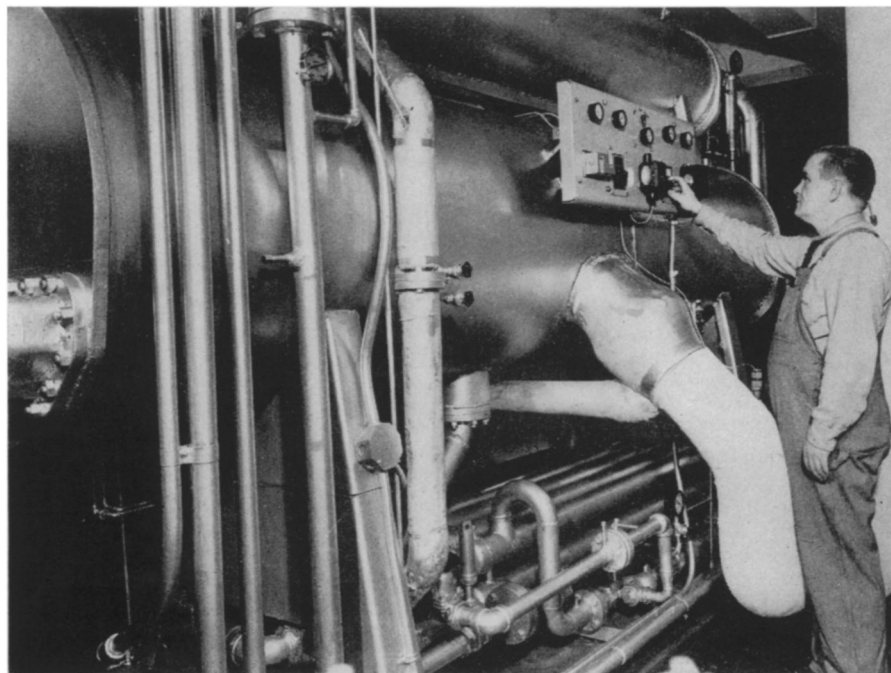
ENGINEERING

Boilers Become Coolers

► BOILERS that furnish steam for winter heating are now furnishing steam for summer cooling, the Carrier Corporation of Syracuse, N. Y., has revealed. It is used in a new cooling unit in which plain water is employed as a refrigerant and a simple salt as an absorbent.

One particular advantage of this air-

conditioning system is that it provides a balance in steam loads for summer cooling and winter heating. It represents a significant advance in areas where steam can be produced at relatively low cost, where there are district steam plants, where natural gas is available, or where a factory or department store or office building has



NEW COOLING UNIT—This new absorption machine uses steam to produce cooling. It generates cool air equivalent to the melting of 300,000 pounds of ice every 24 hours.

a steam plant that is relatively idle in summer, a Carrier official states.

This new absorption machine, thoroughly tested during the past few years, will operate on either high or low pressure steam. Aside from a small solution pump it has no moving parts, and is therefore practically noiseless and vibrationless. It is lighter in weight and more compact than other heavy duty refrigerating equipment.

The Carrier machine consists of two shells, a heat exchanger, a solution pump and auxiliaries. Water to be chilled is sprayed into one shell, the absorber-cooler shell or flash evaporator. Since this shell is maintained at a high vacuum, a portion of the chilled water evaporates and cools the rest. The chilled water drains from the cooler tank, and is pumped to the load. The temperature of the chilled water leav-

ing the machine depends on the concentration and temperature of the salt solution sprayed over the coil located in the lower part of the shell, which forms the absorber unit.

The part played by the steam is in the re-concentration of the salt solution due to the absorption of water in the process. The steam, admitted to the tubes carrying the solution, heats it and drives off the water vapor previously absorbed in the absorber section, thus restoring the original concentration.

No claims are made by the corporation that the absorption principle used is new. The claims have to do with the refrigerant-absorbent combination employed, and its safety over such types of plants as use ammonia or other toxic chemicals.

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BACTERIOLOGY

Sickness Diagnosis Tool

➤ A NEW tool for diagnosing sickness due to germs, especially the virus kind of germs, was announced by Dr. Irwin S. Neiman of the Chicago Medical School at the meeting in Cincinnati of the Society of American Bacteriologists.

The diagnostic tool would be an anti-antibody. An antibody is a disease-fighting substance formed in the body in response to invasion of disease germs. Antibodies are specific for the antigens of the particular germs that call them up. Antitoxin, the material Dr. Neiman worked with, is the specific antibody for the toxin of the diphtheria germ.

Antitoxin combines with the diphtheria toxin, but will also, he discovered, combine with a powerful anti-antitoxin, or anti-antibody. The anti-antibody is not needed to diagnose diphtheria, but in some diseases, especially some virus diseases, it would help. These are ones in which the virus antigen is not easily available for testing to find whether the patient's blood contains antibodies to it. But an anti-antibody might be prepared and used instead. The reaction showing the presence of the antibody in the patient's blood would show that the germ calling up the antibody was also present, and thus clinch the diagnosis.

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PHYSICS

Soviets Claim Meson Find

➤ SIXTEEN kinds of subatomic particles born of cosmic rays high in the upper atmosphere of the earth are claimed as discoveries during the past three years by two Soviet scientists, who make their bid for recognition in a letter, dated last Sept. 23, to the British journal, NATURE (May 14). It was received in London in February.

Western world physicists have recognized solidly two kinds of fleeting particles that they call mesons, with weights 216 and 286 times that of the electron. These are created by cosmic rays from outer space and they have also been created artificially in the largest of the Berkeley, Calif., cyclotrons. They live but a brief fraction of a second.

But the Russian scientists, A. I. Alichanov and A. I. Alichanov by name, report the detection of mesons with the following masses: 110, 140, 200, 250, 300, 350, 450, 550, 680, 850, 1,000, 1,300, 2,500, 3,800, 8,000, and approximately 25,000. They would prefer to call these particles "vary-

tons" to emphasize the diversity of masses of the new particles. They published their first results in Russian in December, 1946, and a month later in English, but they feel that for these and subsequent discoveries western physicists have not given them credit.

Dr. C. F. Powell of the University of Bristol, who is one of the British scientists charged with ignoring the Russian claims, explained that information had reached him by word of mouth in May of last year and that he had referred to the Russian work in papers since then.

Prof. Alichanov was invited to the Bristol symposium on cosmic rays last September, but he could not attend. Dr. Powell blames failure to comment earlier on the Russian work upon "difficulties of communication and intercourse between us which exist at the present time."

Apart from the Russian work, Dr. Powell said, the only evidence for the existence of other types of mesons than the 216 and

286 weights consists of individual photographs, no two of which represent the same process. The existence of many types of mesons, sufficiently stable to be observed, is of great importance in Dr. Powell's opinion. He suggests further experiments to reduce statistical variations of the Russian observations and give a decisive answer as to whether the many kinds of new particles exist.

Scientists expect experiments with mesons to throw much light on the nature of the nucleus of the atom which is involved in the release of atomic energy. For this reason, there is a keen scientific race to obtain the most information possible at the earliest time.

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PHYSICS

Predict New Stable Kinds Of Chemical Elements

➤ THREE NEW, stable varieties of chemical elements are predicted by Dr. Henry E. Duckworth, Wesleyan University chemist at Middletown, Conn., and one of them, a very rare sort of platinum, has already been detected, according to a report in PHYSICAL REVIEW (May 1).

Radioactive isotopes, which are unstable varieties of the elements, have been discovered by the dozen in recent years as a result of atom-smashing and atomic energy research. But discovery of permanent elements is rather unusual.

The rare, stable isotopes deduced from the relationships between those known to exist are: tellurium 118, gadolinium 150 and platinum 190. These supposed new ones are all lighter than the most plentiful stable isotopes of these elements.

Platinum 190 was actually discovered by Dr. Duckworth, working with Robert F. Black and Richard F. Woodcock, as a line in a mass spectrum photograph made with a spark between ordinary platinum electrodes. The newly detected sort of platinum is present one part in about 16,000 parts of commercial platinum.

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WILDLIFE

Closed Season Decried on Alaska Mountain Sheep

➤ ALASKA'S white mountain sheep, badly depleted by over-hunting, are given the benefit of a year-round closed season in the newly-announced 1949-50 game regulations for the territory. In a further effort to bring about a comeback of this beautiful and unique big-game animal, the U. S. Fish and Wildlife Service recently undertook a program of wolf- and coyote-control.

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Over 7,000,000 persons in America are estimated to be afflicted with *rheumatism and arthritis*.