

## PSYCHOLOGY

# Adult Behavior Predictable

**Fantasy from stories of a picture-story test shows that personality and behavior of the mature person can be foreseen in adolescence, Tove Neville reports.**

► AN ADULT PERSON'S love life can be predicted to a certain degree from his day-dreams in youth.

Psychologists have found that the fantasy content of stories dreamed up in a picture-story test, given to high school students and to 70% of the original group 13 years later, shows that a person's adult personality and the way he or she is going to act in the future can be foreseen in youth.

In the first test, stories from 42 cards, each depicting a situation, were used to determine the relationship between character and fantasy. In addition, an interview with the youth, an interview with a parent, interviews with all the youth's teachers, an autobiography and information from school records gave additional information about each subject.

That future behavior can be predicted was illustrated by three young women of high school age who, when asked to think up stories about the pictures, wove fantasies about marriage. All three married early, and their marriages turned out to be happy and stable.

## Less Happy Parallel

Another subject of the psychological test lived out a less happy parallel of her day-dreams. In response to the pictures, Dorothy told stories about a girl with strong feelings about living with and caring for her father. In real life she married an older man who unconsciously reminded her of her father.

She claimed in a follow-up interview that her husband is impotent. The conclusion is that a feeling of incest is causing difficulty in the sexual relationship between the older husband and young wife.

In giving the tests originally, the late Dr. Percival M. Symonds, who was professor emeritus of education at Teachers College, Columbia University, found that normal, happy youths told realistic stories, free from exaggeration or distortion. Less well-adjusted youths told stories that did not correspond to their characters.

Young persons who told hostile stories were sissies, those whose stories showed depression were in reality cheerful and one who told stories bordering on the vulgar was sweet and demure. In many cases, the qualities the adolescents gave the characters in their stories were those repressed in themselves.

At the time the first study was made, reported in the book *Adolescent Fantasy* by Columbia University Press, psychologists wondered if predictions of the future of these young people could be made.

In the follow-up studies, 28 of the original 40 subjects participated in two sessions of story-telling and personal interviews. Only

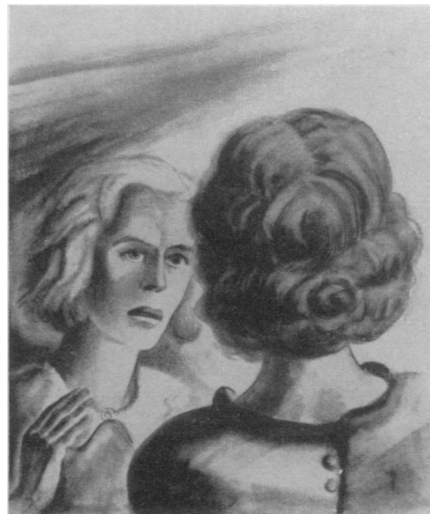
20 of the 42 cards were used for the second test. However, a Rorschach test was given each subject.

When the researchers counted up the number of themes in the stories of the follow-up tests and compared them with the earlier ones, they found that only three themes: depression, guilt and wishful thinking had increased. A much larger number, including crime against property, criminal death, accidental death, escape, hostility, illness and accident, and mystery had decreased.

The number of times any one theme occurred generally stayed the same over the 13-year period, however.

Dr. Symonds particularly noted the themes that decreased were those most typical of early adolescence. He pointed out in a new book, *From Adolescent to Adult*, also by Columbia University Press, that there is a noticeable decrease in stories with happy endings. This, together with the increase in depression themes, indicates that the adolescent defense against guilt—magically turning catastrophe into a happy ending—has disappeared.

The themes of depression in the later stories showed undisguised disappointment, discouragement and dejection. Apparently adolescence is a period for hopeful fantasies. The adolescent sees himself in the future as rich, prosperous, achieving fame and



**HAS FATHER DIED?**—Many persons related nearly the same stories in a picture-story test given 13 years apart, without remembering the pictures the second time or what story they had told the first time. One subject told both times that the "frightened" girl's father had died.

success. Thirteen years later disillusion has set in.

Comparisons made between early fantasy and later real life behavior in five areas—dependency, eroticism, aggression, self-striving and anxiety—showed that in many instances adolescent fantasy had worked itself out in a person's behavior or personality in later years.

Fantasies in adolescence directed toward a person of one's family were often seen to be shifted in later life toward wife, husband or children. Later attitudes toward sex were seen in adolescent fantasy.

Fantasies of confidence in adolescence belonged to persons who turned out to be confident and self-assured as adults. However, youths with fantasies of inferiority became ineffective adults who tried to compensate for real or imagined deficiencies.

## Pattern of Defense Adopted

There was also a definite parallel between anxiety in adolescent fantasy and anxiety in personality in later life. The defense against anxiety found in adolescent fantasy becomes the pattern of defense adopted in later years.

Psychosomatic or psychotic tendencies that appear in adult life may be foreseen in adolescent fantasy. Dr. Symonds sees fantasy as a function of change in the surroundings. If the situation does not change, neither do the fantasies.

Dr. Symonds found enough similarity in themes of fantasy over the 13-year period to match stories told by the same person, even when stories are mixed together with those of others.

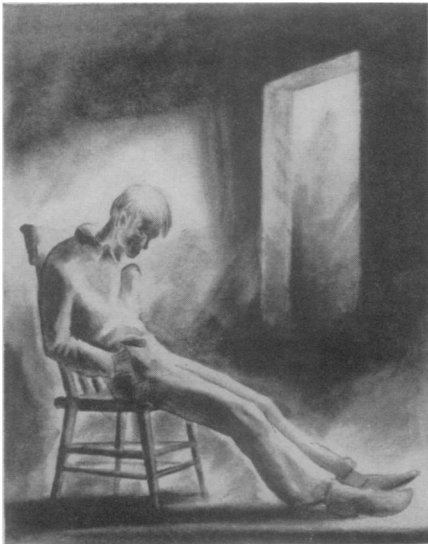
The similarity of fantasy during the 13 years was seen most clearly when the stories told by the same individual were compared. One picture showing two women, one with her back turned, the other facing the observer with a frightened expression, caused a male subject both times to tell stories in which the theme was the death of the frightened-looking woman's father.

## Told Same Story Twice

In the first story the person tested said that the father had died in an automobile accident. In the later story he said the women had had "horrible news" about her father's death. He saw the other woman as the frightened woman's mother in both cases.

Dr. Symonds noted that the later story is less detailed, as if the subject is not able to spell things out with the same concreteness he did in the first story.

Another picture, showing a man slumped down on a chair, evoked stories that illustrated how some who took the test changed their stories from those full of wild excitement, violence and accidents, but ending happily, to gloomy and depressed stories. One subject as an adolescent saw in this picture a train engineer who goes through



**IS MAN DEPRESSED?**—Some stories of the picture-story test changed from exciting and violent ones with a happy ending to depressed stories with possible happy endings. This illustrates confidence in youth that is dampened by disillusionment in later life.

two accidents plotted by crooks but still in the end keeps his job. In his later story about this picture, he sees a man who is moping over a setback, and although he predicts the man in the end will be happy, he sees him in the picture as depressed.

• Science News Letter, 79:154 March 11, 1961

#### PHYSICS

### Atomic Clock Shown To Top Young Scientists

See Front Cover

► A COMPACT "atomic clock" capable of measuring frequency and time intervals with high precision was demonstrated for top winners of the 20th Science Talent Search when the teenagers visited the National Bureau of Standards in Washington, D. C., on an especially arranged tour.

The portable measurement device will be valuable in determining precise orbits of satellites, in radio propagation studies and in navigational and communication systems.

The atomic clock monitors a microwave frequency of approximately 6835 megacycles, using rubidium vapor and light. The amount of light transmitted through the vapor measures the exactness of the microwave frequency being applied, with a variation of as little as one part in 100 million greatly reducing the light absorption.

The oscillator of the clock is automatically controlled to maintain such hyperfine frequency, precise to one part in 10 billion, over a period of months. It is even more precise for shorter periods.

During their visit to the Bureau, the Science Talent Search winners also saw demonstrations of the properties of materials at high temperatures.

A mass spectrometer for analyzing the gas components is shown on the cover of this week's SCIENCE NEWS LETTER by Dr. A. V. Astin, director of the Bureau (third from right) to the winners (left to right) Frederick Albert Matsen III, 17, Austin, Texas, Robert Lee Raymond, 17, South Bend, Ind., Dale Thorpe Smith Jr., 18, Tipp City, Ohio, Harriet Jane Fell, 16, Jamaica, N. Y., James Ivan Lepowsky, 16, New York, N. Y., Roger Paul Peters Jr., 17, South Bend, Ind.

The annual Science Talent Search for the Westinghouse Science Scholarships and Awards is conducted by Science Clubs of America, an activity of SCIENCE SERVICE, and is supported by the Westinghouse Educational Foundation.

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#### TECHNOLOGY

### New Electronic Principle In Unusual Radio Set

► ONE OF THE WORLD'S most unusual radio receivers has been developed to illustrate the principle of molecular electronics.

Built by Westinghouse Electric Corporation, the radio receiver is the first step toward an electronic system in which the whole system function is performed within a single block of material.

The U.S. Air Force reported this unit to be "the most complex electronic system yet achieved through such principles. It contains no tubes, no transistors, and no traditional electronic circuits. Its main working parts are simply six small silicon wafers about the size of a dime, but only one-fourth as thick."

The "working" area of each wafer is about the size of the head of a carpet tack. Yet, the receiver tunes in stations all across the standard broadcast band. Ordinarily such a set requires some 50 individual electronic components, including capacitors, coils and resistors.

The new receiver was demonstrated for the first time on March 3 to the 40 winners of the 20th Science Talent Search at the Science Talent Institute in Washington. The experimental model is designed to test the possibility of making complicated military electronic systems through the use of molecular electronics.

The next step will be the development and construction of an Air Force communications receiver, operating at high frequencies and based on the technology of molecular electronics.

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#### PHYSICS

### Progress on H-Bomb Power for Peaceful Uses

► ATOMIC energy scientists are hopeful they will soon be able to harness the H-bomb's thermonuclear reaction for peaceful uses.

The Atomic Energy Commission reported to the joint Senate-House Atomic Committee that scientists are scheduled to test a device, a magnetic machine that fuses hydrogen, before the end of March.

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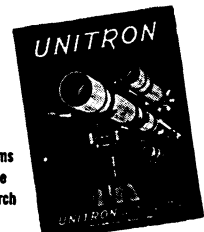
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