

PSYCHIATRY

Intense Hostile Dreams

► PEOPLE WITH high blood pressure feel more intense hostility in their subconscious, or dream, life than people with normal blood pressures, psychiatrists at the University of Pennsylvania find.

The psychiatrists have worked out a "hostility scale" for measuring the intensity of hostile feelings as shown in dreams.

At the top of this scale is any dream element that represents the actual or threatened death of persons. This rates six.

Destruction of objects in a dream rates five. Five and six make up the highest category on the hostility dream scale.

In the medium category are any dream elements that represent actual or threatened injury or damage to persons, rating four, and to objects, rating three.

In the category of least hostility are elements that mean discomfort or minor impairment. If this is to persons it rates as two, if to objects, it rates as one.

The scale was tested on 78 dreams from 33 persons, 17 of whom were chronic high blood pressure patients from the hypertensive clinic of the Hospital of the University of Pennsylvania. These were collected by interviews with experienced so-

cial workers. The other 16 dreams were from summer school college students with normal blood pressure. They wrote out their own dreams on a standard questionnaire form.

Each person provided at least two dreams of at least 30 words. The average length of the dreams was 65 words, and the high blood pressure patients and college students had dreams of about the same length.

Hostility is significant in other illness than high blood pressure, the psychiatrists point out. They feel their "pilot study" of the hostility dream scale is encouraging and may, with further refinement, give a method for quantitative study of emotional forces.

They also see coming from it better understanding of essential hypertension and other psychosomatic illnesses, with possible applications to diagnosis, treatment and prevention.

Psychiatrists who made the study are Drs. Leon Saul, Edith Sheppard, Dorothy Selby, William Lhamon, David Sachs and Regina Master. They report their findings in *Science* (March 19).

Science News Letter, April 3, 1954

Past research of Project Squid has led to the development of new and better engines now cloaked in security. It is said that German engineers who developed the V-1 and V-2 rocket would scarcely recognize the current models of these engines.

It is also speculated that some of these new engines will make the dream one-man helicopter come true.

Science News Letter, April 3, 1954

The Atomic Energy Commission is investigating the possibility of building a small *nuclear power plant* as the prototype of a package power plant for military use.

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PHYSICS

Cooling Atomic Rockets

► FUTURE EXPERIMENTS on a cooling system said to be "particularly feasible when nuclear energy is used as the power source for rockets and jet engines" were outlined to scientists administering aeronautical research under "Project Squid."

Although applications of the cooling system to atom-powered planes and missiles is still largely speculative, studies on the system already are being conducted by a research team under guidance of Dr. Shao Wen Yuan, associate professor of aeronautical engineering at the Polytechnic Institute of Brooklyn, and continued research was proposed.

The cooling system more immediately might be applied to combating the high heats generated on the wings of supersonic planes due to air friction.

The current and proposed experiments form a part of a program of basic research aimed at turning up more knowledge about jet and rocket engines. Project Squid is sponsored by the Army, Navy and Air Force. It is being administered by Princeton University under a contract with the Office of Naval Research. Subcontracts currently are held by 10 universities, three corporate research laboratories and one government agency.

At an annual gathering of Project Squid scientists in Princeton, N. J., Dr. Yuan said that current rocket and jet engine mate-

rials will not be able to withstand the terrific heats that will be generated by better fuels in the future.

Thus, he said, scientists must develop materials that can withstand these heats, or they must learn to keep existing materials cool while the blaze swirls within the combustion chamber.

Dr. Yuan said that a cool gas or liquid can be forced through the walls of combustion chambers made of a porous metal. The coolant absorbs heat from the metal and carries it back to the combustion chamber. It also forms a thin layer around the chamber surface to help keep the metal cool.

Some of the other groups presenting progress reports said that they hope to continue experiments which will help engineers fight "blowouts" in jet engines. When the flame of a jet engine blows out, a pilot can get into serious trouble unless he can relight his engine or find a nearby airport where he can land his craft "dead-stick."

Other research conducted under Project Squid auspices includes studies of the heat-conducting and viscous properties of fuels, mixing of subsonic and supersonic gases, vaporization of fuels, chemical reactions in combustion processes, ignition and flame stability, ions in flames, and flames fed by oxidizers other than pure oxygen.