MEDICINE

Antiseptic Hand Cream Checks Germ Spread

➤ USE OF an antiseptic hand cream by nurses and doctors has proved effective in checking the spread of staphylococcus infections at Queen Charlotte's Maternity Hospital, London, Dr. John Murray, director of pathology, and Roy M. Calman, bacteriologist, at the hospital reported to the *British Medical Journal* (Jan. 8).

The cream is a soothing cream prepared to help protect against chapped hands as well as to kill staphylococcus germs that are common even on "socially clean" hands.

A new antiseptic, 1:6-di-4-chlorophenyldiguanidohexane 10,040, was incorporated in a cream called "hibitane." Other antiseptics might also be used if they can be put into a hand cream without losing their germ-destroying property, the scientists suggested.

"Hibitane" was used for 18 months without any case of allergy to it developing.

Science News Letter, January 22, 1955

PHYSICS

Nylon Balls Simulate Speed of 15,000 M.P.H.

➤ FLASHING BY at a speed equivalent to 15,000 miles an hour, some nylon balls are believed to have attained the highest Mach number ever reached under controlled conditions.

They get hotter than the surface of the sun. They light up the room in which they are fired.

The purpose of the experiment, conducted by the Naval Ordnance Laboratory's aeroballistics department, White Oak, Md., is to study what happens to the gases around a super-supersonic missile. Dr. Robert N. Schwartz and Jerry Eckerman found that the gases dissociate when projectiles reach Mach 10, or ten times the speed of sound.

This has a cooling effect on the surface of the missile, thus heat generated in flight does not increase as quickly when such great speeds are reached, they said.

The scientists believe their findings will produce basic information of great use to missile designers. At present, air speeds are limited by the "thermal barrier," the velocity at which projectiles begin to melt. At speeds of Mach 5 or over, all commonly used engineering metals become molten.

Nylon balls are used in the experiments because they are light and, although they are shot from a rifle with a 30 caliber cartridge, they reach speeds far greater than the largest artillery shell can attain. The balls are fired through a two-foot tube filled with xenon.

They have reached a speed of more than Mach 20, but the scientists achieved this by engaging in a little scientific "cheating."

The balls actually travel at about 7,150 miles an hour, which in air would be about Mach 10. But since they are shot through xenon, and this gas conducts sound a little less than half as fast as air, the balls technically are moving at more than Mach 20, or the equivalent of almost 15,000 miles an hour.

The scientists point out, however, that the balls simulate very closely what would happen if they were actually fired at Mach 20 in air.

Dr. Zaka Slawsky, chief of the hyperballistic division, said that he believed this was the first time that such high Mach numbers had been reached under controlled conditions.

Science News Letter, January 22, 1955

MARINE BIOLOGY

Traffic Problem Bothers Even the Lowly Shrimp

➤ THE ELIMINATION of traffic problems in Los Angeles is also contributing to the elimination of a long-established resident of that city, the fresh-water shrimp, *Syncaris pasadenae*.

Apparently, this small transparent shrimp, which was first discovered about 1895 in a small stream where the Rose Bowl now stands, can only live in small permanent streams where fish are scarce.

Now, however, the freeways of Los Angeles are replacing the necessary streams and the shrimp has not been seen in the area for nearly 20 years.

This note on the modern age was struck by Joel W. Hedgpeth, biologist at the University of California's Scripps Institution of Oceanography at the meeting of the American Association for the Advancement of Science in Berkeley, Calif.

Science News Letter, January 22, 1955

PSYCHOLOGY

Even in Kindergarten Boys Like Trucks

➤ EVEN AMONG five- and six-year-olds in kindergarten, little boys do prefer to play with trucks and trains or to play "grown-ups" with daddy's razor, and little girls would rather have dolls and dishes or doll up with mother's cold cream.

This was reported to the American Association for the Advancement of Science meeting in Berkeley, Calif., by Dr. Daniel G. Brown, clinical psychologist of the Parks Air Force Base Hospital, California.

Dr. Brown studied the preferences of 78 boys and 68 girls in a Denver public school in a middle class section of the city.

Some children, both boys and girls, Dr. Brown found, preferred the traditional toys of the opposite sex. However, little girls are more likely to want to play with boys' toys than boys are with girl playthings.

Some children seem to be mixed in their preferences. This tendency is about twice as frequent in girls as in boys, Dr. Brown found. In general, his findings tend to confirm the theories of Freud, Adler and others.

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IN SCIEN

PSYCHOLOGY

Recognize Tunes With Special Part of Brain

➤ WHEN YOU recognize a familiar tune like "Yankee Doodle" or "Auld Lang Syne," you need a different part of the brain from that required to distinguish middle C from F.

This was shown by experiments on animals reported at the American Association for the Advancement of Science meeting in Berkeley, Calif., by Drs. William B. Neff and Irving T. Diamond of the University of Chicago.

Cats were used as the experimental animals. They were trained to go in search of their dinner at the sound of a particular tune. Later the auditory centers of the cerebral cortex were removed.

Without that part of the brain, the cats could no longer recognize the dinner tune, but they could still learn to recognize a single tone when it was used as the "dinner bell."

Through such experiments with animals, it is hoped to learn more about what happens to a human when a part of the brain is lost through injury or disease.

Science News Letter, January 22, 1955

ASTRONOMY

Universe's Biggest Star 200,000 Times Sun's Size

➤ THE LARGEST star yet found in the far flung universe is 200,000 times the diameter of our sun, Dr. Armin J. Deutsch of Mt. Wilson and Palomar Observatories reported to the Astronomical Society of the Pacific meeting jointly with the American Association for the Advancement of Science in Berkeley, Calif.

This object is one of the show stars of astronomy, Alpha Herculis, visible to the naked eye, but so complex that telescopes, spectrometers and interferometers are needed to show its true nature.

Dr. Deutsch found that both the main star and double star companion are immersed in an immense cloud of intensely cold gas, making this aggregation a record for size.

The gas, which is close to absolute zero in temperature, is being ejected from the star system at such a rate that it loses a mass equal to that of our sun in 4,000,000 years, a very speedy loss the way time is measured in the universe.

This immense star aggregation is relatively close to us since Dr. W. P. Bidelman of Lick Observatory finds that it takes light 1,200 years to travel from it to earth.

Science News Letter, January 22, 1955

CE FIELDS

PSYCHOLOGY

Comic Book, TV Bans Not Delinquency Answer

➤ BANNING CERTAIN types of television programs or comic books is "an easy but superficial and hence fruitless answer" to the problem of juvenile delinquency, the *Journal of the American Medical Association* (Jan. 8) charged in an editorial.

Blaming parents is also easy but not a useful answer to the problem. Parents may be partly to blame but, in almost every case of juvenile delinquency, other factors over which parents have no control will be found to have played a part.

"If we want the delinquent to adjust to society we must recognize the importance of providing the sort of society to which a person may reasonably be expected to adjust," the editorial stated.

"The delinquent youth has been described as a rebel without a cause. He is essentially an unhappy person who is looking for a face-saving way to abandon his false bravado. He does not conform to the standards of a society from which he feels he has been excluded.

"Preventive measures should include more child guidance services in the schools, better mental hygiene instruction for parents, better training of teachers," and teamwork between psychiatrists, psychiatric social workers and other professional persons.

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PSYCHOLOGY

Some Drivers Just Get A Lot of Tickets

➤ THE HABITUAL traffic violator's only distinguishing feature is his unfortunate habit of breaking traffic rules and getting caught.

This was the conclusion of a group of University of California at Los Angeles scientists who interviewed 300 motorists with multiple violation records just prior to their hearings at a Los Angeles courthouse.

The average violator, as described to a meeting of the Highway Research Board in Washington, is between 21 and 25 years old, a skilled or semi-skilled worker, with average intelligence, respect for the law, a normal personality, and a good sense of humor.

The 300 cases interviewed racked up a total of 1,774 violations in a year, most of them of the moving type, including failure to heed traffic control devices, speeding and failure to yield right of way.

Only 12% of the 100 selected for detailed analysis indicated negative opinions or dissatisfaction with the legal standards, but 30% had unflattering things to say about the police and how they enforce the law.

When asked how they thought they could improve their driving status, 36.8% gave general solutions, such as "be more careful," while others had more specific comments, such as "watch traffic lights," "watch out for police," and "stop driving."

Eighty-six percent of the violators rated themselves as fairly good drivers. On the other hand, in response to the question, "what constitutes a good or bad driver?" the greatest number believed that a good driver obeys the law while a bad driver does not.

The scientists, Harry W. Case, Ismar Reiter, Ernst A. Feblowicz and Roger G. Stewart, of the university's Institute of Transportation and Traffic Engineering, suggested that since punishment does not seem to work on the habitual traffic violator, perhaps a training program would be the best way to correct him.

Science News Letter, January 22, 1955

MEDICINE

Pfizer Wins in Race For Antibiotic Patent

➤ A PATENT on the newest widely useful antibiotic drug, tetracycline, has been granted by the U. S. Government to Chas. Pfizer and Sons, Inc., Brooklyn, N. Y. This makes Pfizer the winner over four competitors, three of whom are now being sued by the Brooklyn firm for patent infringements.

The fourth competitor, Lederle Laboratories, Pearl River, N. Y., and Pfizer entered into an agreement in February, 1954, whereby whichever firm won the tetracycline patent would immediately license the other to manufacture the antibiotic.

Tetracycline, trade-named Tetracyn by Pfizer, is used to treat a wide range of ailments, including pneumonia, septic sore throat, scarlet fever, osteomyelitis, "running ears" and eye infections.

Science News Letter, January 22, 1955

TECHNOLOGY

Soft Wax Is Produced From Pineapple Waste

➤ FOLLOWING THE successful application of a hard wax derived from Spanish moss for polishing cars, woodwork and leather, scientists have now produced a soft wax from the pineapple.

In experiments conducted at the University of Florida, Seldon D. Feurt and Lauretta E. Fox of the college of pharmacy reported in *Science* (Jan. 7) that they derived a soft wax, which melts at 123.8 degrees Fahrenheit, from pineapple waste.

They also report that they have found hard waxes in other plants belonging to the same family as Spanish moss in an effort to catalogue what species would be best for cultivation as a wax source.

Science News Letter, January 22, 1955

AERONAUTICS

Thunderjets Launched From Truck Platform

See Front Cover

➤ CONVENTIONAL, PILOTED jet fighters have been launched from a truck platform in the world's first flights of such craft without a take-off run.

F-84G Thunderjets with booster bottles attached to their tails swooped up from the ramp and immediately took flight. The equipment that launches the Air Force's guided missile, the Matador, was used in the tests at Edwards Air Force Base, Calif.

A take-off is shown in the photograph on the cover of this week's SCIENCE NEWS LETTER.

The technique may eliminate the need for runways in certain combat conditions, and also add flexibility to maneuvers since the ramps are mobile.

Test pilot Bob Turner said the shock of the take-off was less than pilots experience during catapult take-offs. The planes were always under control.

The launching technique was developed by the Air Force's Air Research and Development Command and the Glenn L. Martin Co., Baltimore, Md.

Science News Letter, January 22, 1955

RADIO ASTRONOMY

Hydrogen Not Dense In Dark Spots in Space

➤ RADIO ASTRONOMERS have discovered that the very dense clusters of cosmic dust in the dark spots of the heavens, the possible pre-birth stage of stars, do not have extra-strong concentrations of neutral interstellar hydrogen.

The finding, important in understanding the evolution of stars, was reported by Dr. Bart J. Bok of Harvard College Observatory to the Astronomical Society of the Pacific meeting jointly with the American Association for the Advancement of Science in Berkeley, Calif.

No light waves are received from such dark spots in the sky, but radio waves from them do reach the earth. Using this radio radiation, the Harvard astronomers have charted the distribution of neutral hydrogen in two dark dust clouds.

Their work confirms that of Dutch radio astronomers that suggested the very densest dark spots in heavenly dark clouds do not have the increased radio radiation that should occur if cosmic dust and neutral atomic hydrogen were present everywhere in the same proportion.

The role that the hydrogen gas plays in stellar evolution is probably large, Dr. Bok said. The discovery that the extra-dark dust spots do not likewise have a very high hydrogen gas content must be taken into consideration by astronomers in their theories of the birth and evolution of stars.

Science News Letter, January 22, 1955