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With artificial satellites already launched and space travel almost a reality, astronomy has become today's fastest growing hobby. Exploring the skies with a telescope is a relaxing diversion for father and son alike. UNITRON's handbook contains full-page illustrated articles on astronomy, observing, telescopes and accessories. It is of interest to both beginners and advanced amateurs.

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and brochure accompanying the product. Now the FDA plans to go even further, in the wake of the subcommittee testimony, by requiring on the label specific risk-of-death figures, citation of leukemia cases, and a warning against use during pregnancy. Also planned is an FDA "Dear Doctor" letter urging caution in the use of the drug.

In defense of the drug it is being said that despite its dangers chloramphenicol is highly effective. Even now it is being found to be a potent anti-cholera drug in the Middle East. Most of the physicians prescribing it, furthermore, have had 15 years of unbroken happy experiences with chloramphenicol and are loath to part with a tool of their trade which has been so helpful and seemingly so harmless.

Statistically 20,000 to 40,000 courses of therapy with the drug must be given before a death occurs; the average physician has given fewer than 5,000 courses during his entire practice. The feeling that "it can't happen to me" has fostered a prescribing habit that is proving tough to break.

### HEMOPHILIA

#### Cautious reports

Sir Isaac Newton suggested that for every action there should be an equal and opposite reaction. The law seems true, even apart from the computations of physicists. At the February meeting of the Society of University Surgeons in New York, doctors were chary of announcing advances — apparently in reaction to the immense publicity that attended the world's first heart human transplants—none of which have been decorously reported in medical journals.

In fact, heart transplant was never mentioned openly although at least one pioneer in the technique presented a paper (which did not bear on it).

Dr. Adrian Kantrowitz, who has performed two heart transplants (both unsuccessful) presented a paper on heart assist devices.

A pioneer in spleen transplant to cure hemophilia refused to make any headlines; Dr. John C. Norman of Harvard University would give only the barest outlines of his work pending publication in the journal SURGERY.

In the November 24, 1967, issue of SCIENCE, Dr. Norman published his preliminary findings. Now he has done what he said he expected to do.

"Proof that we have cured hemophilia in dogs has extended over three months," he explains. "We have checked six hemophilic animals 2,000 times."

Dr. Norman found that if their dogs' deficient spleens were replaced with normal ones, Factor VIII solved the

bleeding problem. Several of the six animals used have stayed alive as long as three months.

Dr. Norman had previously reported that the spleen is a major site of Factor VIII synthesis and/or storage. Factor VIII is antihemophilic globulin, whose symbol is AHF. There is a circulating Factor VIII substance in the plasma of human hemophiliacs to which the animal spleen is receptive.

In his November report, the Harvard surgeon and his co-workers said, "The data suggest that splenic homotransplantation might alleviate the symptoms of hemophilia." He would go no further.

Another Harvard graduate who is working on a similar problem at the University of North Carolina in Chapel Hill, Dr. Erle E. Peacock Jr., challenges Dr. Norman's proof that synthesized Factor VIII takes care of the bleeding problem. He believes further proof is needed through angiograms that would show continued acceptance of the transplanted spleens.

"I suspect that Dr. Norman is right," he admits, "but I want more proof."

There are approximately 10,000 hemophiliacs in America today.

### MINI-PROGRAM FOR MARS

#### NASA settles for less

Something old, something new, something borrowed, something blue—and all at cut rate prices. That's the story of the space agency's proposed new mini-program for Mars.

The something old is the Mariner design, dating from the early part of the decade, which is evolving into a spacecraft capable not only of flying rings around the Red Planet, but of dropping off a passenger.

The something new is the passenger, a 150-pound ball of instruments packed in balsa wood, aluminum honeycomb or some other such material and equipped with parachutes to help it survive a rough landing on the surface.

Something borrowed is a compact propulsion system, lifted from the Lunar Orbiter program to turn the Mariner spacecraft from a flyby vehicle, which would just zip past Mars and on into space, into an orbiting vehicle capable of circling the planet for more than six months.

Something blue? The officials of the National Aeronautics and Space Administration who had hoped to have, instead of this economy effort, the luxurious Voyager program, replete with clusters of 10-ton space probes and a scientific wonderland of instruments with which to study everything from Martian weather to Martian life.

But money's tight. So instead of