

gions whence the Angles and Saxons came to England: The carved horse heads on the beam-ends of some of the old farmhouses are still called Hengist and Horsa by the peasants, who have no idea of their origin.

Eating horse flesh in those early days therefore was equivalent to partaking of a heathen sacrament—something that no

good Christian could do, especially if he had only recently been converted from paganism and had to be careful about backsliding.

It is worth noting, as supporting evidence for this hypothesis, that in the south of Europe, where there is no prejudice against eating horse meat, the horse never was a sacred animal.

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MEDICINE

Ask Aid for Alcoholics

Editors of *Military Surgeon* appeal to company officers to help in making reliable soldiers of chronic drunkards. Give four rules.

➤ **HELP THE alcoholic** to stop drinking, is the appeal addressed to company officers and non-commissioned officers by editors of the *Military Surgeon* (December), official journal of the Association of Military Surgeons of the United States.

To make reliable soldiers of the chronic alcoholic or periodical drunkard, the editors say, officers' cooperation is vitally necessary. They recommend the following simple rules formulated by Lieutenant Colonel S. Alan Challman and Major Merrill Moore of the Army Medical Corps.

1. Remember that the heavy drinker lacks self-confidence, no matter how cleverly he hides his feelings of inferiority. He needs encouragement, with criticism presented in as friendly a way as possible. Show confidence in him and make him feel part of a team.

2. Explain to him that alcohol is poison to him, as strawberries or lobster may be poison to somebody else. The alcoholic should never take even one drink. Substitutes should be encouraged and there is no reason for his friends riding him if he orders milk.

3. Gain the cooperation of non-commissioned officers. A junior officer should get these ideas across to the sergeant. Even one heavy drinker in a company can cause a lot of damage.

4. Encourage other personal satisfactions. The alcoholic has never learned how to relax without liquor. Encourage some sport or hobby at which he can at least hold his own, or let him feel there is one thing he can do better than somebody else, whether it is doing the manual of arms, playing checkers, or pitching horseshoes. Remember that he has probably always been poor at games and a poor mixer, with men or women, due,

probably, to his basic sense of inferiority.

If all these measures fail and the soldier drinks anyway—well, his officer can at least give him some advice. Eat before drinking, sip long drinks instead of gulping concentrated cocktails, never drink straight or from a bottle.

The medical officers making these suggestions do not expect any miracles but they say the above principles are the best way for junior officers to handle these administrative problems.

"The proper management of these problems," they conclude, "will reflect the junior officer's efficiency and aid in the conservation of trained manpower."

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BIOLOGY

Clams Keep Shut Against Pull Lasting for Days

➤ **JUST HOW** tightly do clams and oysters "clam up" when they are disturbed? Experiments reported in *Science* (Dec. 4) by Prof. A. M. Reese of West Virginia University indicate that these bivalves are able to keep their shells shut against pulls amounting to scores of times their own weight, and to endure these pulls for days on end.

Prof. Reese was interested particularly in the problem of how a starfish is able to get oysters and clams to open their shells wide enough to let the starfish thrust its stomach into the shell (a messy habit the starfish has) and digest the poor mollusks right in their own strongholds. He did not solve this problem, but he obtained some highly interesting data on the "shutting-up" strength of the bivalves' shell muscles.

He made small notches in the shells

of oysters and clams with a carborundum wheel. Into these notches he inserted small hooks, and applied traction by means of weights on lines passed over pulleys, meanwhile keeping the shellfish alive in a salt solution approximating sea water.

He used weights ranging from about two pounds to more than eight pounds (900 to 4,000 grams), and kept the mollusks under tension for as much as five days on end. Some of them opened their shells slightly, others not at all, even after this long pull. One oyster, after being under a pull of more than three pounds for 48 hours, was suddenly subjected to greatly increased pull, but resisted until the tension went up to 22 pounds, yielding only when its shell-closing muscle was torn apart.

Prof. Reese points out that his experiments were performed under far from favorable conditions for the oysters and clams. They had been out of their natural environment for some time. He suggests that it would be "interesting to test the strength of perfectly fresh specimens under normal, sea conditions."

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ASTRONOMY

Nova Puppis Is In Our Own Galaxy

➤ **EVIDENCE** that Nova Puppis was expanding at the rate of 620 miles per second on Nov. 11 was obtained by Milton L. Humason and Dr. Roscoe F. Sanford from measurements on spectrograms taken with the 100-inch reflector of the Mount Wilson Observatory. The photographs showed broad bright spectrum lines of hydrogen, presumably in the expanding shell surrounding the nova, together with dark absorption lines of ionized iron and silicon.

On the following morning the spectrum of the nova was photographed at the coudé focus of the 100-inch telescope by Dr. Walter S. Adams. This is the first time the spectrum of a nova has ever been photographed on so large a scale. These plates showed the spectrum lines fainter than on the previous day.

From the intensity of dark lines in the spectrum of the nova produced not in the atmosphere of the star but by interstellar gases, Dr. Sanford has been able to make an estimate of its distance. He believes that Nova Puppis is a bright galactic nova and not a "sub-normal super-nova" as was first supposed.

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