



Two Junes Needed

IF WE mortals really could control the weather, as sometimes wish we could, we would be up against a very difficult problem next month. What this country needs is two kinds of June: a cool wet month, with driving rains, from Illinois west to central Kansas, and a hot, dry one from Indiana east to New England.

This is because of the crop pest situation. In the corn belt the great threats are grasshoppers and chinch bugs. These thrive in hot, dry weather but are drowned, beaten into the earth, and exposed to their natural enemies by cold rains in late spring.

From Michigan and central Indiana eastward, the outstanding enemy is the European corn borer. The flying adults move from field to field most easily in cool, moist weather, so that farmers in its occupied territory have cause to pray for less rain rather than more. A really good dry spell some time in June would prevent a good deal of the damage that otherwise will befall corn and the many other crops the borer infests.

There is a certain amount of overlap in the ranges of chinch bugs and corn borers, so that in that area there is bound to be some trouble, no matter what the weather.

Probably, if a choice had to be made, it would be better to take the weather that would discourage the borer, and to tell grasshopper and chinch bug to come on, and to come a-fightin.' For entomologists have worked out control methods for the two latter pests which are fairly effective, even if expensive, while

for the borer no real control has yet been discovered.

The best that can be done to fight corn borer is to make a thorough clean-up of all stubble in the fields it infests, plowing it under clean and deep, and burning what can't be plowed under. The resting larvae lurk in such trash, and if any of it is left undestroyed, presently there will be enough of the winged adults to re-infest the whole neighborhood.

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ASTRONOMY

Clears Astronomical Puzzle On Motions of Double Stars

AN ASTRONOMICAL puzzle on the motions of double stars has been cleared up by Dr. Leopold Infeld, colleague of Prof. Albert Einstein at the Institute of Advanced Study. Dr. Infeld's complex mathematical study entitled "Electromagnetic and Gravitational Radiation" appears in the *Physical Review*, (May 15).

Gravitational radiation may be a new term and concept to many laymen and scientists alike but astronomers have been wondering, for some time, if the effects of energy dissipation through gravity might cause a shift in the orbits of double stars. Theoretically it was suggested that, perhaps, double stars might gradually come closer together due to gravitational radiation.

In Prof. Einstein's theory of relativity the equations expressing the gravitational field have the form of a wave equation. Disturbances in the gravitational field energy are pictured as being propagated by waves through space. Such

disturbances have come to be known as gravitational radiation.

Dr. Infeld, who collaborated with Prof. Einstein recently in writing a new book "Evolution of Physics," has shown mathematically that for the cases of double stars the energy losses in the system, due to gravitational radiation, turn out to be negligible.

"The result," comments Dr. Infeld in the conclusion of his complex mathematical treatise, "shows the astonishingly small role played by the gravitational radiation in the motion of double stars."

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greatest importance. It has enabled Prof. Broome to reconstruct the upper jaw and roof of the mouth of Australopithecus. This reconstruction shows that the sides of the arch made by the teeth, where the molars are set in the jaw, are not parallel, as they are in the gorilla and chimpanzee, but are rounded as they are in man.

Enough of the nasal structure is left to enable Prof. Broome to say that the nose of Australopithecus was very much like that of the chimpanzee; but the incisors and canine teeth are much smaller, snout much narrower and shorter.

Prof. Broome says that he does not propose to discuss at present whether in the light of this new evidence Australopithecus is to be regarded as a descendant of a chimpanzee-like ancestor, or near the common ancestor of man and the chimpanzee. This question then for the moment may be left for future discussion, when further discoveries, which are anticipated, have been made.

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