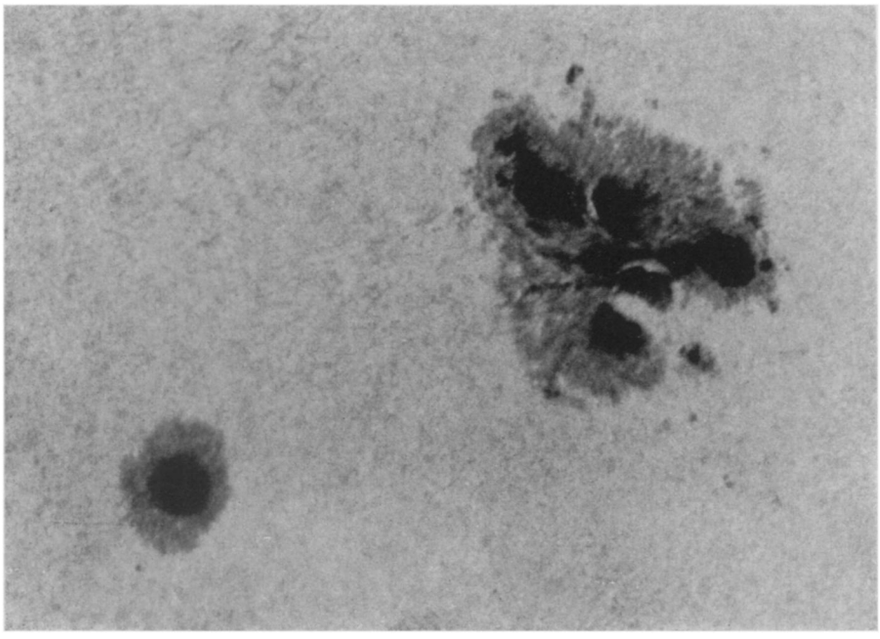

EASTER SUNDAY DISTURBANCE

The magnetic storm of Easter Sunday, March 24, was blamed by scientists on this giant sunspot cluster. This photograph was taken at the Mount Wilson Observatory of the Carnegie Institution of Washington at 7 a.m. on that date. The earth is just about the size of the dark center in the nearly round nearby spot.

METALLURGY

New Alloy Strong as Steel And Noiseless as Rubber

Developed in Bureau of Mines Manganese Experiments, It Opens New Possibilities Such as Noiseless Gears

AN ALLOY as strong as steel, but as noiseless and as free from "chatter" as rubber, is only one of a series of new metals being evolved in the manganese experiments of the U. S. Bureau of Mines, according to Dr. R. S. Dean, chief engineer of the metallurgical division of the Bureau.

In a demonstration before the Colorado Mining Association in Denver, Dr. Dean dropped a piece of brass and a piece of steel on the floor with a clang. Then he dropped a piece of the new alloy. There was a slight thump but no ring or clang whatever—much the same as if a piece of hard rubber had been dropped.

The new alloy is of manganese and copper properly heat-treated, Dr. Dean said.

"It dampens or absorbs vibrations like rubber or good cardboard, which convert noise into heat," he indicated.

"The silent properties of rubber are sought after, but there are many places in industry where it cannot be used. Generally speaking, rubber substances are unusable in tension—rubber axles or drive shafts are hardly feasible.

"Here we have an alloy with the strength and modulus of elasticity of mild steel, that has the noise-absorbing properties of rubber. This opens up many new possibilities; chatterless spring suspensions, noiseless gears, a muffler for a whole host of bothersome industrial sounds. This alloy is being tried for those uses now."

The new manganese-copper alloys are made possible by the reduction of manganese by electrolysis, which permits metal 99.96 per cent. pure to be made, as against 96 or 97 per cent. purity by older methods. The less pure manganese is used mostly for alloying with iron.

An alloy of the new purer manganese, with 2 per cent. copper and 1 per cent. of nickel, resembles copper in ductility and other qualities, but by heat treatment it can be given an electrical resistance 1,000 times that of copper.

Another manganese-copper-nickel alloy has a tremendous hardening range, from that of copper to that of die steel, Dr. Dean said. This hardening can be so controlled that the interior of a tool or casting can be as soft as copper while the surface is hardened like that of steel.

Still another property of some of the new manganese alloys is low heat conductivity. This opens vistas of pot-handles and holders made of metal but which stay as cool as wooden handles.

The new purer manganese can be added to aluminum in amounts up to 8 per cent., hardening the metal. Older, less pure manganese made aluminum brittle when more than one and one-half per cent. was added, Dr. Dean said.

Pure electrolytic manganese still has a relatively high cost, around 50 cents a pound, but quantity production will bring that cost down and render manganese a formidable ally of the non-ferrous metals in competing with steel and its alloys.

Manganese ore of suitable grade for use in the steel industry has been classed as a deficiency, strategic mineral by the government. The Bureau of Mines and the Geological Survey are engaged in finding domestic sources of high grade ore.

The electrolytic process, Dr. Dean said, while not an immediate solution of this problem, uses low grade ore that is plentiful in this country. When the experimental process is fully developed it would provide an emergency domestic source of manganese suitable for the steel industry.

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ANTHROPOLOGY

Story of "Baboon Boy" Confirmed by Evidence

EVIDENCE of the authenticity of the case of the "Baboon Boy," of South Africa, who was believed stolen from his native mother as an infant and nurtured by wild baboons, has been collected by the well known anthropologist, Dr. Raymond A. Dart, of the University of Witwatersrand, Johannesburg, South