

AUGUST SKIES MAY DISPLAY RAIN OF FIRE

Shower of Shooting Stars
Expected in Eastern
Horizon.

BY DAVID DITZ
Scripps-Howard Science Editor

Colossal fireworks are promised for August. The annual meteoric shower known as the Perseids is scheduled to take place on the nights of Aug. 11 and 12.

Astronomers already are making their plans for observing the event, and the co-operation of interested amateurs is solicited by Dr. Charles P. Olivier, director of the Flower Observatory of the University of Pennsylvania and president of the American Meteor Society.

Astronomers are asked to count the number of "shooting stars" seen by half-hour periods. They are also asked to record the exact time at which extra-bright ones are seen and the length of time that the path or trail of the bright meteor remains visible. Those familiar with star maps are asked to plot the trails of bright meteors with reference to the constellations.

Like the old-fashioned winters, meteoric showers don't seem to be what they used to be. At least, any one who watched for the Leonids last November and then compared what he saw with what observers of the showers of 1833 and 1866 described, would be led to that conclusion.

Fall Like Snowflakes

There is no escaping the fact that the showers of last November were disappointing. A moon in the sky and in many places clouds as well, made things difficult for the astronomers.

According to published reports, the meteors were as thick as snowflakes in the shower of Nov. 12, 1833. For years after, that date was known as "the night the stars fell."

It is estimated that more than 250,000 meteors were seen from one observing station. At times, it seemed as though the sky were raining fire. One meteor was reported to have been as large and bright as the full moon.

The Leonids have practically as good a show in 1866. But ever since then they have been disappointing. The expected shower did not take place in 1899. Astronomers believed that it was due to the gravitational pull of the planet Jupiter, which that year passed close enough to the meteoric swarm to bend it out of its normal path.

Compared to Horse Racing

Astronomers were disappointed again last November, but they have not given up all hope. They will be watching again this November. There may be a good shower then. Two other alternatives remain, however.

One is that the swarm of meteoric material has been permanently scattered or diverted from its original course. The other is that it has been burned out by the showers of 1833 and 1866.

The Perseids never have been as good as the 1833 or 1866 shower of Leonids. They have, however, been rather spectacular in some years, and so are worth watching for. In one respect, a meteoric shower is like a horse race: You just never can tell. The Perseids might surprise us with an extra good show this year, and that is worth staying up after midnight for.

Meteoric swarms are believed by astronomers to be the disintegrated remnants of old comets. There is considerable evidence to support this point of view.

Thus, for example, Biela's comet was seen to break in two in 1846. Neither half has been seen since 1852, but annually a shower of meteors occurs at the end of November, coming apparently from the constellation of Andromeda. This swarm, known as the Andromedids, has the same orbit as Biela's comet.

A BOOK A DAY

BY BRUCE CATTON

THESE are some rather brisk and interesting summer reading to be found in "Sleepers East," by Frederick Nebel. This compact and unpretentious novel has an enthralling tale to tell, even if it is—in spite of the disclaimer on the jacket—another of those stories of a group of people thrown together by chance.

The scene is a limited train speeding across the middle west in a winter blizzard, bound for New York.

Aboard are divers people. There's a lawyer taking east a woman who will give testimony that will clear his client of a murder charge. There's a private detective who wants to get to this witness and get her to refuse to testify. There's a pompous congressman who has the same idea.

There's a newspaper gal who's engaged to the congressman but who is partly in love with the lawyer.

There's a small town business man running away from his wife, a railroad detective trying to figure out why he was ordered to take this particular train, a veteran engineer trying to get the train through on time on his last run, and a fidgety conductor.

During the course of the night the activities of all of these people get badly scrambled. Chance becomes the arbiter of their destinies; and all of them—except, perhaps, the newspaper gal, who winds up in the lawyer's arms—find that they can't make anything turn out as they wish. . . . And, all in all, it's not a bad story.

Published by Little, Brown & Co.

Save by Buying Indiana Coal

ANDERSON, Ind., July 22.—A saving of \$600 annually was predicted by the board of education today on the basis of contracts let for 1,400 tons of Indiana mined coal for use in public schools. Only two of Anderson's sixteen schools will use coal mined outside the state, it was reported.

USES OF CHROMIUM ARE MYRIAD

New Discovery Makes Earth Shine as Never Before

This is the third of William Engle's new series of dramatic conquests in the realm of practical science.

BY WILLIAM ENGLE
Times Special Writer

"It is but a vain curiosity," said Louis Nicholas Vauquelin sadly, and he crumpled in his fingers the gray-white metal which he had discovered.

Today—136 years ago the old French chemist came upon that strange and brittle mystery in his laboratory—it is chromium-plating the earth. It is shining. It is making parts of it seem as though they might be everlasting.

It is a sheen of that "vain curiosity" that stripes the Empire State building in New York city with light, that glitters brighter than silver on the new automobiles, that makes rustless ten thousand products otherwise doomed to inexorable dissolution; it is this chromium that as an alloy produces the stainless steels, puts the strength in the wings of the airplane and in the sinews of the new towers.

It's its uses have no more than begun.

It plates the dies which make

the nation's bank notes; coats the pan in which, because it is smoother than glass, eggs fry without fat; it veins the industries that need a metal almost indestructible, and it makes tall promises still further to alter the ways of commerce.

Not because the French chemist found it in 1797. Not because he found, in a red ore of lead from Siberia, the compound of the metal therefore unknown.

But because other chemists spent lifetimes studying it. Largely because a Columbia university professor taking hold of it is an undergraduate youth, worked twenty-two years on its puzzle, found out what to do with it, and then made chromium stick to other substances, found he could plate with chromium.

Those qualities of hardness and smoothness, the mystery of why in its pure state nothing will cling to it, were what led the professor, and many another, into the study of how to make it a serviceable coating for softer metals.

He was studying chemistry under the noted Professor Charles F. Chandler when he began.

Accidentally, one day, he spilled water on pure chromium. He saw it, like quicksilver, gather in a ball. He applied other liquids. They would not stick either.

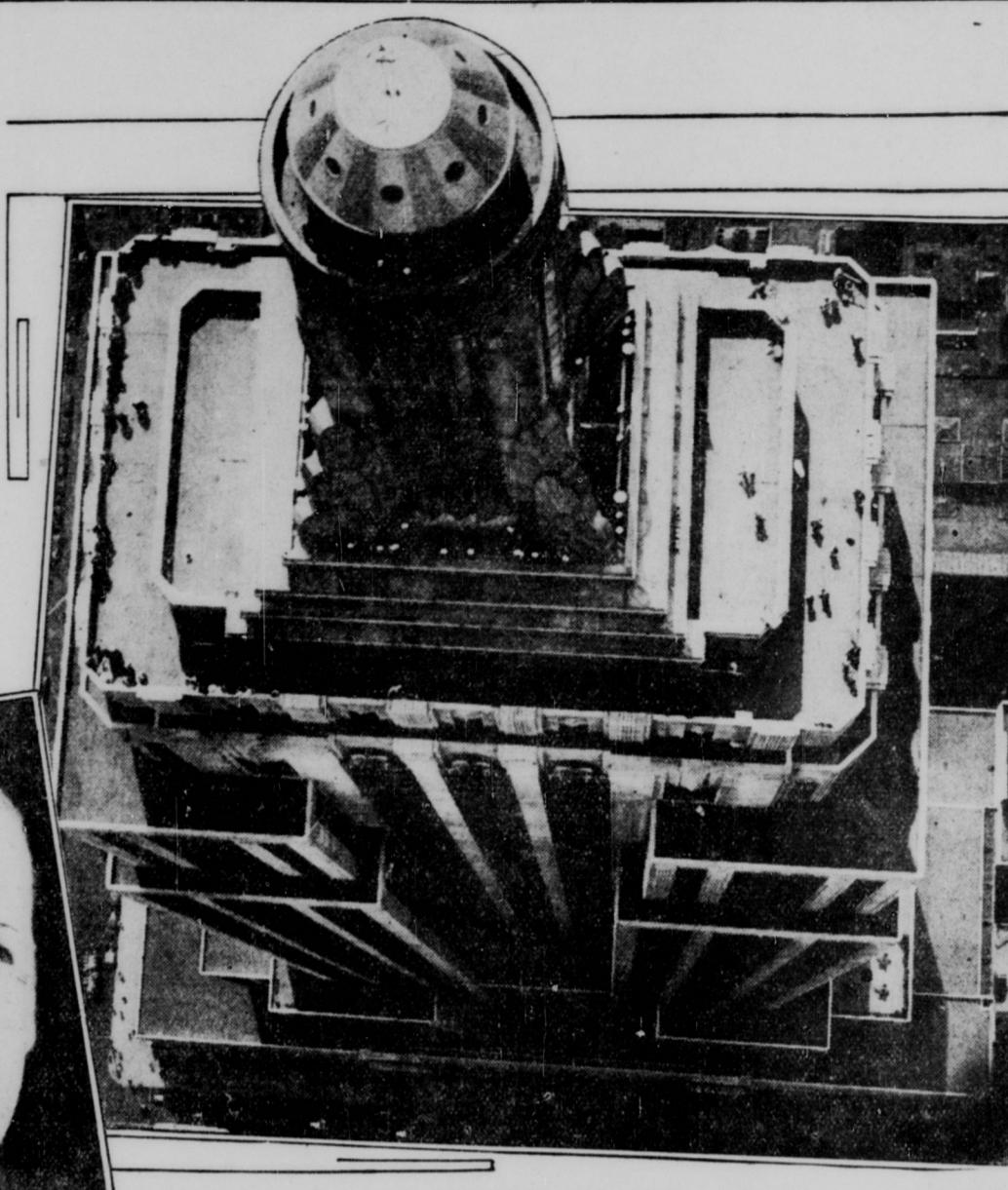
He tried molten tin. Few substances are more corrosive. It did over the chromium like water.

He even tried putting chromium into a red hot pot, pouring molten tin over it, keeping it red hot for an hour. No particle of tin adhered to the chromium.

"It is pure chromium," he said. "See how heavy it is. See how it chips. Even though you can crush it in your fingers, it is the hardest metal in the world."

It is three times harder than case-hardened steel. It cuts glass with chromium, but the experiment could not be reproduced at will; the process was not commercially practicable. Others attacked the problem, but failed.

Professor Fink, exploring all the possibilities of the baths, examined them even after they had



Above, the chromium-striped Empire State building tower and (below) Dr. Colin G. Fink, the man who made chromium tough.

been used; worked on them with test tube, retort, microscope, spectroscope. Year upon year.

Then in what seemed a worthless fluid—one of the used baths—he uncovered the secret.

Sulphuric acid, formed by chemical reactions of the salt used in the bath, had been re-used in the bath, had been re-used in the bath.

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