

No. 162

A Science Service Feature

Nov. 16

? WHY THE WEATHER ?

Dr. Charles F. Brooks,
Secretary, American Meteorological Society,
tells:

WHY METEORS SHINE

November is a month of meteors, with periods when they add much to the interest and picturesqueness of the heavens. Ordinarily, those that appear like stars of varying degrees of brightness flying swiftly across the night sky are but tiny particles, averaging probably only one-twenty-fifth of an inch in diameter. Yet their flight is so rapid, from under 10 to over 60 miles a second, that they compress the air in their paths until it is heated to an estimated temperature of from 3,000 to 6,000 degrees Fahrenheit, high enough to volatilize at least the surface material of the meteor and make it highly luminous.

Meteors fly high above the earth; many become visible before coming within 100 miles of the earth's surface, though at such heights the atmosphere has little density. At a height of about 60 miles the density appears to be about one-one-hundred-thousandth that of the air at sea level, but even this is many times greater than was assumed before meteor observations were studied. Then it was found that meteors would probably not become luminous at the heights observed were the air as thin as previously estimated. Slight as the density is, it is sufficient in combination with the terrific speed of the flying fragment to produce the incandescent effect which we see.

(Tomorrow: What Meteors Tell Us)

All rights reserved by Science Service

Science Service,
1115 Conn. Ave.,
Washington, D.C.