

A Science Service Feature

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? WHY THE WEATHER ? Mailed January 12, 1931

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THE AIR AS A SHIELD

It is estimated that fully 20,000,000 meteorites enter the earth's atmosphere from outer space, on an average, every twenty-four hours. They are solid bodies, mostly very small. Many are no bigger than grains of sand and few are much bigger than a boy's marble. Because of the enormous speed at which they travel, averaging about 26 miles a second, they are heated to incandescence by the resistance and friction of the air. In this process a few, of exceptionally large size, merely lose part of their surface material, and either pass out again into space or fall to the earth, but the vast majority are completely dissipated. They glow for a brief moment, supply a minute amount of impalpable dust to the atmosphere, and that is the end of them.

It is the atmosphere alone that saves the earth from a continuous fusillade of these flying missiles. If we could live on the earth without air for breathing - or if we had only a small supply, obtained by some artificial means for that purpose - we should still be exposed to the constant danger of being killed by meteorites. Even a grain of sand moving at the speed we have mentioned would kill a human being if it hit a vital spot.

This is a hint to anybody who contemplates a voyage by rocket to the moon, which is subject to the same sort of bombardment and has no atmosphere, or next to none.

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