

Comment by the Editor

IOWA METEORITES

Since the dawn of civilization men have tried to discover the true nature of the universe. Theologians have speculated upon the heavens as the future abode of mankind, while almost every one has wondered what the stars are made of. That the materials of the universe are substantially the same as those of the earth may be demonstrated by comparing certain lines in the spectra of light from distant stars with identical lines in the spectra of terrestrial elements heated to a gaseous state. However satisfying such proof may be to the physicist, most people are much more impressed by a personal examination of those celestial derelicts, called meteorites, which occasionally drop into the lap of Mother Earth quite unannounced.

As a place for the observation of meteors, Iowa has been unusually favored. The three largest meteorites of North America, whose coming was witnessed and recorded, all fell within Iowa — one at Amana in 1875, another at Estherville in 1879, and the third near Forest City in 1890. Over eight hundred pounds of meteoric stone were found at Amana, the largest piece weighing seventy-four pounds; at Estherville fully a thousand pounds of “celestial

debris" were recovered, including one specimen that weighed four hundred and thirty-one pounds; while the two largest masses of the Forest City fall weighed eighty-one and sixty-six pounds respectively. Larger meteorites have been found in North America, but no one knows when or how they came. Indeed, there is only one meteorite in the world of which the circumstances of its arrival are known, that is larger than the principal mass of the Estherville meteor: the Knyahinya meteorite which fell in Hungary in 1866 weighed five hundred and forty-seven pounds.

Another unique feature of the Estherville fall is the fact that, of those which have been witnessed, it holds the world's record for depth of penetration into the earth. The great Knyahinya meteorite was found only eleven feet beneath the surface, while the largest Estherville fragment was fourteen feet deep.

Most meteorites are either predominantly stony or metallic in substance, but the Estherville fall belongs to the relatively rare mesosiderite (iron-stone) type — the largest of its kind that has been observed as a meteor. Moreover, it is metamorphic in structure, a fact of great significance because it reveals conditions in the geological history of meteoric materials which correspond to the processes of terrestrial evolution. What a momentous commentary upon the structure of the universe!

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