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Abstract. Large granite erratics, formerly attributed to the Iowan, are believed to be associated with the Kansan drift. Now located within valleys, they have remained after considerable Kansan till has been eroded.

Ira A. Williams (1905), while describing the geology of Jasper County, Iowa, referred to an "Iowan drift plain" characterized by low relief and large granitic "Iowan-type" boulders. Because of their large size and color, these boulders were referred to the Iowan glaciation. They are similar in size and lithology to the numerous erratics characteristically associated with the Iowan drift area in eastern and northeastern Iowa.

Alden and Leighton (1915) pointed out that large granite erratics are known in numerous other localities (besides Jasper County) beyond the margins of the Iowan drift. They concluded that by themselves large granite boulders do not indicate post-Kansan glaciation. However, they add that ". . . probably 99 percent of them [the boulders] occur within the supposed limits of the Iowan drift" (p. 130).

Kay (1920) discussed the occurrence of large boulders in the Kansan drift of southern Iowa. His implication was that there are more large erratics in the area of Kansan drift than was generally recognized. He listed the locations of about 28 very large ones and called attention to many more. He added that the thick loess over the eroded Kansan drift probably blankets numerous erratics and prevents their being seen.

The objection to referring these boulders in Jasper County to the Iowan glaciation is that they lie 20 to 25 miles south of the Iowa River valley, which marks approximately the southern boundary of Iowan drift across Marshall and Tama counties. Williams found no Iowan drift in Jasper County, but because of the presence of typical Iowan boulders reluctantly suggested that the Iowan glacier had advanced some indeterminate number of miles southward across eastern Jasper County.

During the summer of 1956, while engaged in other work, the author visited northeastern Jasper County to see the large erratics (Figure 1). The boulder described and illustrated by Williams

[1]This paper is presented with the permission of the Director of the Iowa Geological Survey.

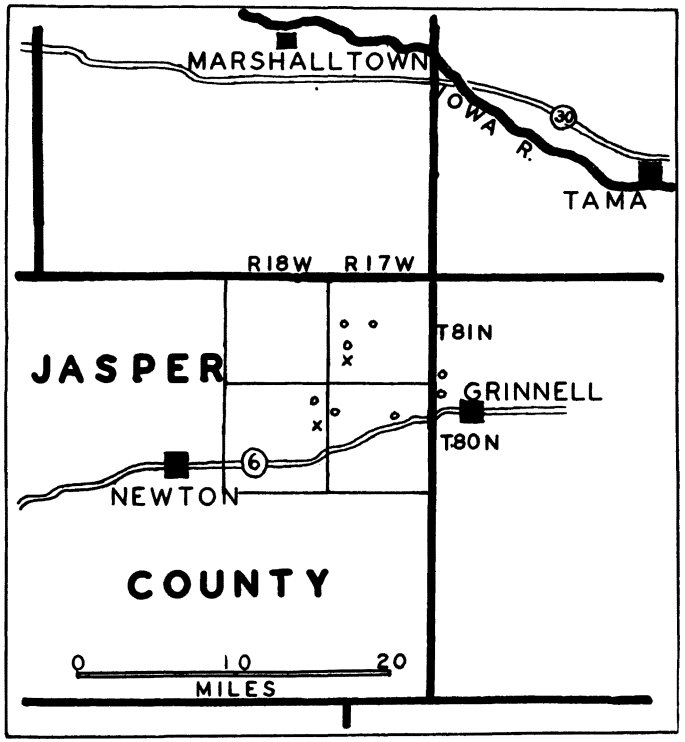

Figure 1. Location of the large boulders in Jasper County. Those described by Williams are shown by X's, others in the vicinity by circles.

(1906, p. 289) in Sec. 29 Hickory Grove Township (T81 N, R 17 S) lies nearly at the bottom of a steep-sided draw at least 50 feet vertically below the general level of the interfluves and undissected uplands. The hillside slopes here cut across stoney Kansan till and they are only thinly mantled with loess and colluvium.

The second boulder mentioned by Williams, located in Sec. 24 of Kellogg Township (T80 N, R 18 W), lies near the base of a long gentle slope on one side of a stream valley, the elevation being considerably below that of the general summit level. There are, in addition to the two large erratics mentioned by Williams, at least a dozen boulders more than two feet in diameter within a distance of a few miles. These are found in Hickory Grove and Rock Creek townships (T81 N, R 17 W; T80 W, R 17 W), and along the edges of the next two townships west. Since all of the big boulders seen in the vicinity, especially the large ones described by Williams, occur in youthful stream valleys, it seems better to visualize them as erratics associated with the Kansan drift. Since most of the drainage in this part of Iowa has been dated as post-Kansan (Leighton, 1917, and others), these boulders were probably uncovered during the

removal of drift by valley-widening processes and left exposed on the sloping valley sides. If these boulders had been deposited by the Iowan glacier, they should lie at generally higher elevations where the thin Iowan till occurs.

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