Some Natural Landmarks of Western Oklahoma

A. C. SHEAD, Department of Chemistry

University of Oklahoma, Norman

THE CADDO COUNTY BUTTES

The Caddo County Buttes, earlier known as the Natural Mounds and later referred to as the Whitehorse Buttes from the name of the geological formation which forms them, are interesting and spectacular landmarks associated with the history of the "Old West."

Those located in northwestern Caddo County are known individually by such names as Dead Woman Mound, Ghost Mound, Lone Mound, Rock Mary, Six Mounds, Twin Mounds, etc. Townships in the area go by such names as Lone Mound, Lone Rock, Mound Valley, and the like, reflecting the prominent landscape features found within their limits.

Corresponding erosional remnants in the extreme southeastern part of the county are known collectively as the Keeche or Keechi Hills. Cedar Top is one of this group in the vicinity of Cement, Oklahoma.

All these units have similar geologic structures and with one exception, Dead Woman Mound, all lie in the drainage basin of Washita River and its tributaries.

Many other unnamed units can be conveniently located with reference to the named ones.

LOCATION OF THE NAMED CADDO COUNTY BUTTES

Cedar Top is a high butte in the Keechi Hills of southeastern Caddo County. It is in the northeast part of sec. 10, T. 5 N., R. 9 W., just southeast of Cement, Oklahoma in the drianage basin of Little Washita River, tributary of Washita River (Reeves, 1921).

Dead Woman Mound is in NE¼ sec. 31, T. 12 N., R. 12 W., Mound Valley Township. It lies in the drainage basin of Dead Woman Creek, a tributary of South Canadian River (Anon., 1961:Map).

Ghost Mound is in the middle of the N½ sec. 30, T. 11 N., R. 13 W. It is in the drainage basin of Five Mile Creek, a tributary of Cobb Creek and Washita River. It is about 2.75 miles south of Twin Mounds. It is about 7 miles north and 3 miles west of Eakly, Oklahoma (Anon., 1961:Map).

Lone Mound is in SW¼NE¼ sec. 3, T. 11 N., R. 12 W., Lone Mound Township. It is close to the head of Sugar Creek in the drainage basin of Washita River and is about 6 miles west and 0.5 mile south of Hinton, Oklahoma (Rock Mary Committee Report, 1960).

Lone Rock is in Lone Rock Township which is T. 10 N., R. 9 W. (Anon., 1951).

Rock Mary is in NW¼ sec. 1, T. 11 N., R. 12 W., Lone Mound Township. It is in the drainage basin of Washita River near the source of its tributary, Sugar Creek (Rock Mary Committee Report, 1960). Rock Mary is about 3 miles west and 0.5 mile south of Hinton, Oklahoma. It is the most eastern of the Caddo County Buttes.

Six Mounds runs northwest and southeast mostly in T. 12 N., R. 13 W. The most easterly units of the group are in SE¼ sec. 36, T. 12 N., R. 13 W. They lie on the divide between the drainage basins of South Canadian and Washita Rivers. They are located about 0.75 mile southwest of Dead Woman Mound (Rock Mary Committee Report, 1960).

Twin Mounds is in the SW¼NW¼sec. 7, T. 11 N., R. 13 W. (Anon., 1961:Map). Twin Mounds is about 2.75 miles north of Ghost Mound. Both units are just east of the Caddo-Washita County line and both lie in the Washita River drainage basin just west of Five Mile Creek branch of its Cobb Creek tributary.

Bright Hill. SW¼ sec. 30, T. 12 N., R. 12 W.

Pitt Hill. SE¼ sec. 8, T. 11 N., R. 12 W.

Right (Wright) Hill. SW¼ sec. 23, T. 11 N., R. 12 W.

SOME NOTABLE FACTS ABOUT THE CADDO COUNTY BUTTES

Cedar Top in the Keechi Hills recalls the appearance of the ruins of a medieval castle. There are rumors of buried treasure in the vicinity. A rock quarry for road metal and concrete aggregate is nearby. A chemical analysis of this rock is available (Shead, 1929, Serial 203). Physical tests have also been made on the material (Snider, 1911:145).

Dead Woman Mound is perhaps most notable as a natural landmark on the old stage road between early day Fort Reno and Colony on which Lone Mound and Ghost Mound were other markers. Another association of historic significance is with the first field trip of the Oklahoma Geological Survey. One campsite in Caddo County is reported as being 6 miles south of Hydro in 1900. The next one seems to have been in or near the valley of Dead Woman Creek. A photograph taken at this campsite in 1900, evidently from the southeast looking northwest, shows Dead Woman Mound and the southeast units of the Six Mound group of the Caddo Buttes (Gould, 1959:91; a map of the trip is shown opposite p. 98) (Photo., Rock Mary Committee Report, 1960:130-131).

Ghost Mound, besides being a landmark on the old Fort Reno to Colony stage route, was even earlier a campsite and rendezvous for Indians and trappers, so much so that legends have grown up around it (Deering, April 4, 1965). Other interesting data can be found in this feature article. This mound can be an important reference point for botanical, geological, and zoological collections as can the other named and unnamed units among the Caddo County Buttes. The panoramic view of Ghost Mound acompanying includes views of three of the types of hills to be found among the Caddo County Buttes—the peak type, Ghost Mound itself; the flat top; the mesa-like type; and the rounded sugar-loaf type. One other, the knob type, is exemplified in Rock Mary.

Lone Mound, as well as Dead Woman Mound, is an example of the peak type of hill. This classification helps in distinguishing the different units in the Caddo Hills. Lone Mound is perhaps of most importance because it was the first hill visible from a distance on approach from the east, though Rock Mary was the most easterly of the Caddo County Buttes. It also stands apart by itself from all the other prominences being 2 or 3 miles from any other—whence the name.

Rock Mary, while not the most prominent of the Caddo County Buttes, is the most easterly of the group and is the most distinctive of them all. It is almost globular, almost skull-shaped. While Dead Woman Mound might be mistaken for Lone Mound on some approaches, Rock Mary could not be so confused with any other of the Caddo County group. A traveler viewing Rock Mary would know exactly where he was. Besides its shape, the Rush Springs Sandstone at the top is different from any other exposure of the Whitehorse Sandstone in the Caddo Buttes.

Six Mounds is a closely grouped collection of hills mostly in a single township as located above. Two of the mounds are shown in the accompanying photograph of the southeast end of the group taken from the

vicinity of Dead Woman Mound to the northeast. Another view including Dead Woman Mound is mentioned above as taken in 1900 by C. N. Gould (Rock Mary Committee Report, 1960:130-131). Another panoramic view of Six Mounds, evidently taken from the southwest as it does not show Dead Woman Mound, is shown in Suffel (1930, Plate VI, p. 137). The southeast end of this group is given as sec. 36, T. 12 N., R. 13 W.

Twin Mounds is perhaps more aptly described as an elongated flat-topped mesa with a cleft or notch in the middle. There is an unnamed artificial lake just to the northeast of it. Its name probably dates from the "early days" as a segment of the California Trail that followed the county line a short distance to the west of it. Suffel (1930:118) locates the western unit of Twin Mounds in CWL sec.7,T.11N.,R.13W. and describes it as a "red sandstone butte, 60 ft high, capped by at least 45 inches of dolomite."

Panoramic and "close-up" views are shown herewith. Locations of unnamed Caddo County Buttes in the vicinity are included.

LOCATIONS OF PRINCIPAL UNNAMED MOUNDS AMONG THE CADDO COUNTY BUTTES

1-2. *Township 12N., Range 12W.,* Mound Valley Township. These mounds lie mostly in the drainage basin of South Canadian River in and to the east of its Dead Woman Creek tributary.

1. SW¼sec. 30 & NW¼sec. 31. 0.5 mile W. of Dead Woman Mound.

2. NW¼sec. 30. 0.5 mile W. & 1 mile N. of Dead Woman Mound.

3-7. *Township 11N., Range 12W.,* Lone Mound Township. These mounds lie mostly between Lake Creek on the west and Sugar Creek on the east. Both streams are tributaries of Washita River.

3. NE¼sec. 7. **4.** SE¼ sec. 9. **5.** NE¼sec. 19. **6.** SW¼sec. 19. **7.** NE¼ sec. 34.

8. *Township 10 N., Range 12W.* **8.** SW¼sec. 31.

9-19. *Township 12N., Range 13W.* These mounds lie mostly between Dead Woman Creek on the east and Cedar Canyon on the west. Both streams are tributaries of South Canadian River in the drainage basin of which the mounds are located.

9. SE¼sec. 25. 0.25 mile N. & 0.75 mile W. of Dead Woman Mound.

10. Sec. 25, 1.25 miles W. & 0.25 miles N. of Dead Woman Mound.

11. SW¼sec. 33. **12.** Sec. 35 & NW¼sec. 36, 1.75 miles W. & 0.25 miles S. of Dead Woman Mound.

13. SE¼sec. 35, SW¼ sec. 36, T. 12 N., R. 13 W. & C sec. 2, T. 11 N., R. 13 W.

14. SE¼sec. 36, 0.75 mile W. & 0.75 mile N. of Dead Woman Mound.

15. SE¼sec. 36, T. 12 N., R. 13 W. & NE¼sec. 1, T. 11 N., R. 13 W.

16. SW¼SW¼sec. 36. **17.** SW corner SW¼sec. 36. **18.** NE¼SW¼ sec. 36.

19. NE¼sec. 36.

20-51. *Township 11N., Range 13W.* These mounds lie mostly between Lake Creek branch on the east and Five Mile Creek branch on the west, both flowing into Cobb Creek tributary of Washita River, in the drainage basin of which the mounds are located.

20. SE¼NE¼sec. 2. **21.** SW¼SE¼sec. 2. **22.** SE¼SE¼sec. 3.

23. SE¼SE¼sec. 5, 0.5 mile N. & 1.5 miles E. of Twin Mounds.

24. Sec. 5. **25.** NE¼SW¼sec. 5. **26.** NW¼NW¼sec. 6.

27. NW¼SW¼sec. 7. **28.** NE¼SE¼sec. 7. **29.** SE¼sec. 7.

30. SE¼sec. 8, 0.5 mile S. & 2 miles E. of Twin Mounds.

31. SE¼SW¼sec. 9. **32.** SW¼SE¼sec. 9. **33.** NW¼SE¼sec. 10.

34. SE¼SE¼sec. 10. **35.** secs. 10 & 15, 3 miles E. of Twin Mounds.

36. NW¼sec. 14 & NE¼sec. 15. **37.** NE¼sec. 17. **38.** Sec. 21.

39. SW¼NW¼sec. 22. **40.** SE¼sec. 22. **41.** SW¼NW¼sec. 23.

42. NW¼SE¼sec. 23. **43.** NW¼sec. 24. **44.** Sec. 24.

45. NE¼SE¼sec. 26. **46.** SE¼NW¼sec. 26. **47.** NE¼sec. 30.

48. NE¼SE¼sec. 31. **49.** NE¼NW¼sec. 32. **50.** NE¼NE¼ sec. 33.

51. SE¼NE¼sec. 36.

52-55. *Township 10N., Range 13W.* This township is between the same two creeks as the preceding.

52. SE¼sec. 8, 4 miles S. & 1 mile E. of Ghost Mound.

53. C sec. 9, 4 miles S. & 1.25 E. of Ghost Mound.

54. SW¼sec. 9, 4 miles S. & 1.5 miles E. of Ghost Mound.

55. SW¼sec. 24, 1 mile N. & 1.25 miles E. of Eakly, Oklahoma.

56-57. *Township 9N., Range 13W.* This township is between the same two creeks as the preceding. **56.** NE¼sec.5. **57.** sec. 7.

58-59. *Township 12N., Range 14W.* The mounds in this township belong geomorphically to the Caddo Buttes but lie to the west of Caddo County. They lie in the drainage basin of Washita River to the west of Five Mile Creek branch of its Cobb Creek tributary and to the east of Spring Creek branch of its Cobb Creek tributary. They also lie to the east of the Weatherford Dolomite escarpment that roughly parallels the improved road running due north of Colony, Oklahoma, and a mile or so to the east of it.

58. SE¼sec. 36, Custer Co., Okla.

59. Rounded hill just S. of C sec. 36, Custer Co., Okla. at head of Five Mile Creek.

60-69. *Township 11N., Range 14W.* This township lies between the same two creeks as does T. 12 N., R. 14 W.

60. W½sec. 1 & E½sec. 2. **61.** Sec. 1. **62.** Sec. 2.

63. Sec. 12. **64.** SE¼sec. 14, Washita Co., 1.25 miles N. & 2 miles W. of Ghost Mound. **65.** Sec. 23. **66.** Sec. 25.

67. SE¼sec. 26. **68.** SW¼sec. 29 & NW¼sec. 32, just SW of Crowder Lake.

69. 0.25 mile S. of NW¼sec. 36, 1 mile S. & 2 miles W. of Ghost Mound.

70-74. *Township 10N., Range 14W.* This township lies between the same two creeks as does the preceding.

70. NE corner sec. 2. **71.** SE corner sec. 2. **72.** Sec. 2.

73. NW¼SE¼sec. 2. **74.** SE¼ sec. 26.

SOME DATA ON THE MOUNDS, THE LOCATIONS OF WHICH ARE INDICATED BY THE ABOVE NUMBERS

It is to be noted that the name Weatherford Dolomite has superseded the name Quartermaster Dolomite in the later publications of the Oklahoma Geological Survey.

1. There is a quarry at the south end of this mound.

9. There is a quarry at the north end of this mound.

10. Six-plus feet of Weatherford (Quartermaster) Dolomite resting on red sandstone of the butte at this location is described and discussed by Suffel (1930:114-115). The chemical analysis of this dolomite is very incomplete and otherwise unsatisfactory.

13. The butte at this location is a little over 49 ft high and is capped by a pinkish, conglomeratic, dolomitic bed containing geodes. This rests on 5 ft of hard, light gray dolomite. Underlying the latter, about 44 ft of Whitehorse Sandstone is exposed (Suffel, 1930:110).

16. Over 4 ft of banded dolomite is exposed here.

17. The structure of the dolomite in the butte at this location is described by Suffel (1930:117).

31. There is a quarry in or near the butte at this location (Anon., 1961:Map).

41. Loose dolomite on the top of the low ridge at this location is described by Suffel (1930:116).

42. Loose dolomite on top of the low ridge at this location is described by Suffel (1930:116). There is a quarry at this location (Anon. 1961:Map). This is about the easternmost outcrop of the Weatherford Dolomite and the Caddo County Buttes.

58. A rounded hill at this location has three dolomites in it, described and discussed by Suffel (1930:110, 119). This hill is shown on the Eakly Quadrangle Map (Anon., 1961).

63. A prominent outlier at this location is described by Suffel (1930: 110, 114). It is shown on The Eakly Quadrangle Map (Anon., 1961).

66. Dolomite is found in a low hill or butte at this location (Suffel, 1930:108). A quarry is also shown here (Anon., 1961:Map).

67. Near this location is a 15-ft bed of dolomite (Suffel, 1930:108). A hill is shown here (Anon., 1961:Map).

The Caddo County Buttes cover an area of about 13 miles, N.-S. × 13 miles E.-W., and have a density of one mound for each 2.4 square miles on the average.

The dolomites and dolomitic sandstones in the buttes of this area are so hard and so tough that they are hard to break with a good geology hammer, if the stone is unweathered. It is almost safe to say that the dolomitic rock in this area can be identified by the hammer alone.

It is suggested that the cross-stratification of some of these rocks results from deltaic deposition.

It is also believed that the variation in thickness of many strata is more apparent than real, i.e., that variations in color (hematite) and silica content (quartz sand) delivered to the bed in the process of formation would account for an apparent variation where actually the strata are of more uniform thickness, as deposited in a shallow sea. It is perhaps only over comparatively wide areas of the deeper seas that uniform deposition of more or less homogeneous material can be expected.

The "conglomeratic" or "brecciated" structure that Suffel (1930) mentions so often and finds inadequately descriptive might be expressed as "pseudobrecciation." This may be explained as "filling" in mud, or shrinkage, cracks in a colloid-like deposit on exposure to alternate submergence and emergence in waters of a shallow sea. The differentiation of coloration, red and gray contrast, is accounted for by the presence or absence of hematite as in the stratification noted above.

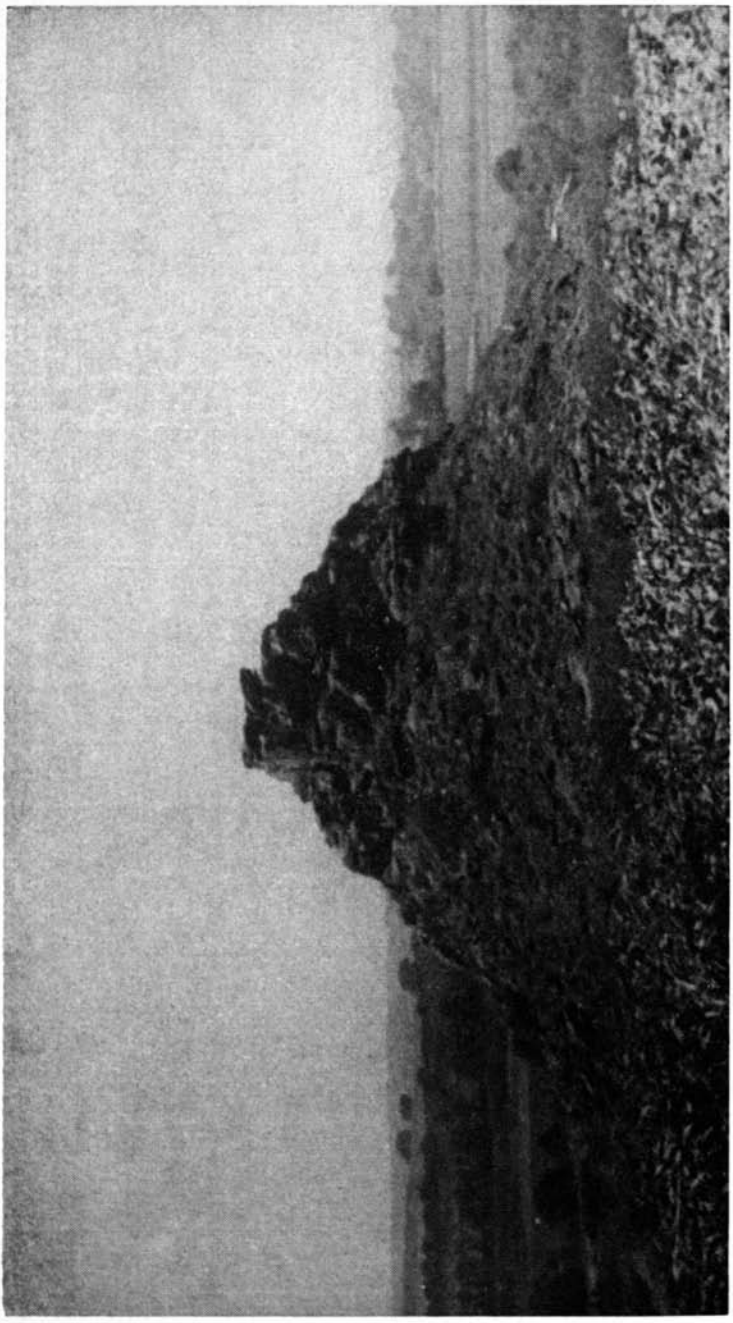
At least these ideas may partially explain the difficulty in correlation experienced by workers in this area.

The variegated color and mottled pattern of these hard, tough dolomites and dolomitic rocks indicate their potential value for the manufacture of ornamental polished stone products such as mantels, table tops, ash trays, candlesticks, and other luxury items of similar nature. The numerous quarries in the area testify to the suitability of the crushed stone for concrete aggregate and road metal. At least one site has been quarried for dimension building stone, patio tiles, and the like. Another potential for the variegated colored crushed rock is for garden paths and rock mulch for foundation plantings of shrubs and shrubbery borders. For these purposes there appear to be ample supplies in the escarpments that border the Caddo County Buttes immediately to the west.

Improved roads along the routes of the Fort Reno to Colony stage coach trail and the California Road in this area would intrigue tourists with historical interests and an appreciation of the unusual scenic values, represented by the natural landmarks themselves.

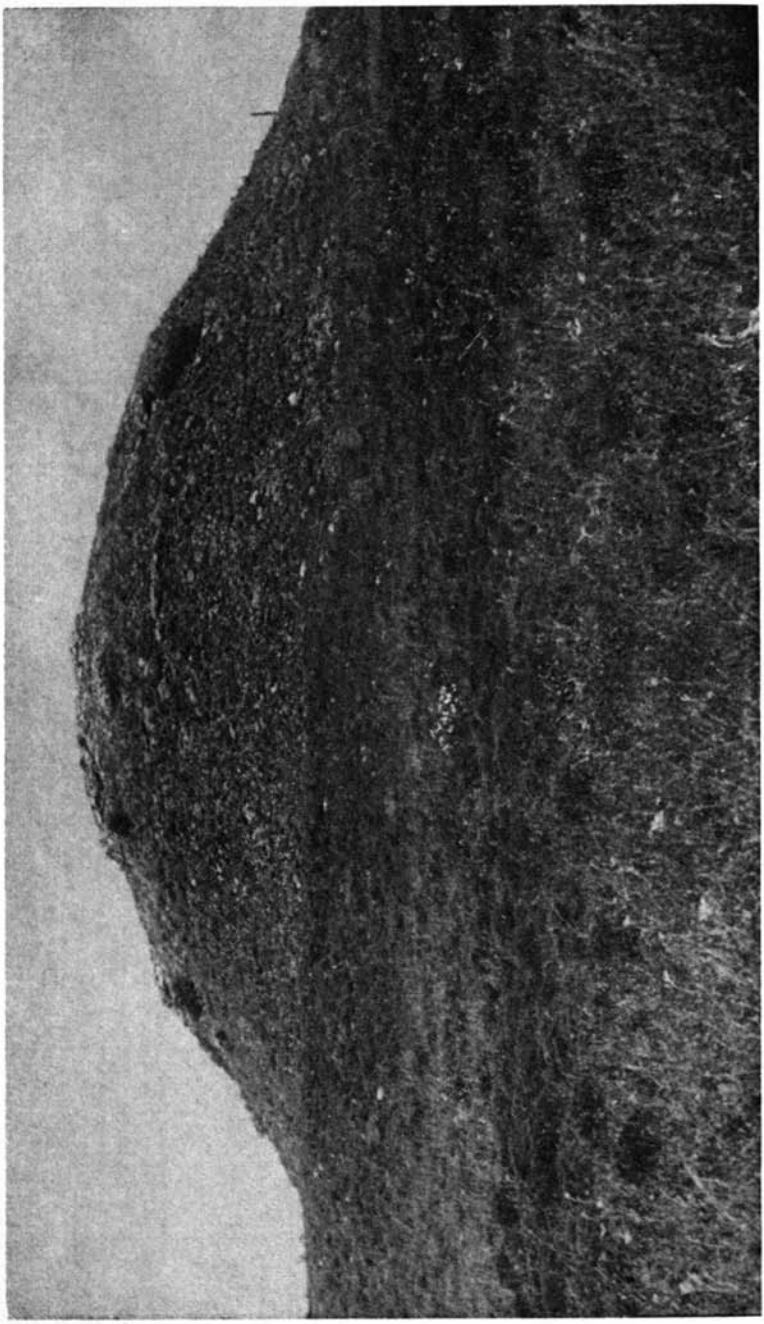
Artists, photographers, geologists, botanists, zoologists, naturalists—practically anybody and everybody can find something appealing in these natural sculptures carved from the landscape by the prodigious forces of nature.

A CADDO COUNTY BUTTE. 1 Mile North and 1 Mile East of Eakly Okla. Southwest Slope of the Butte. No. 55.

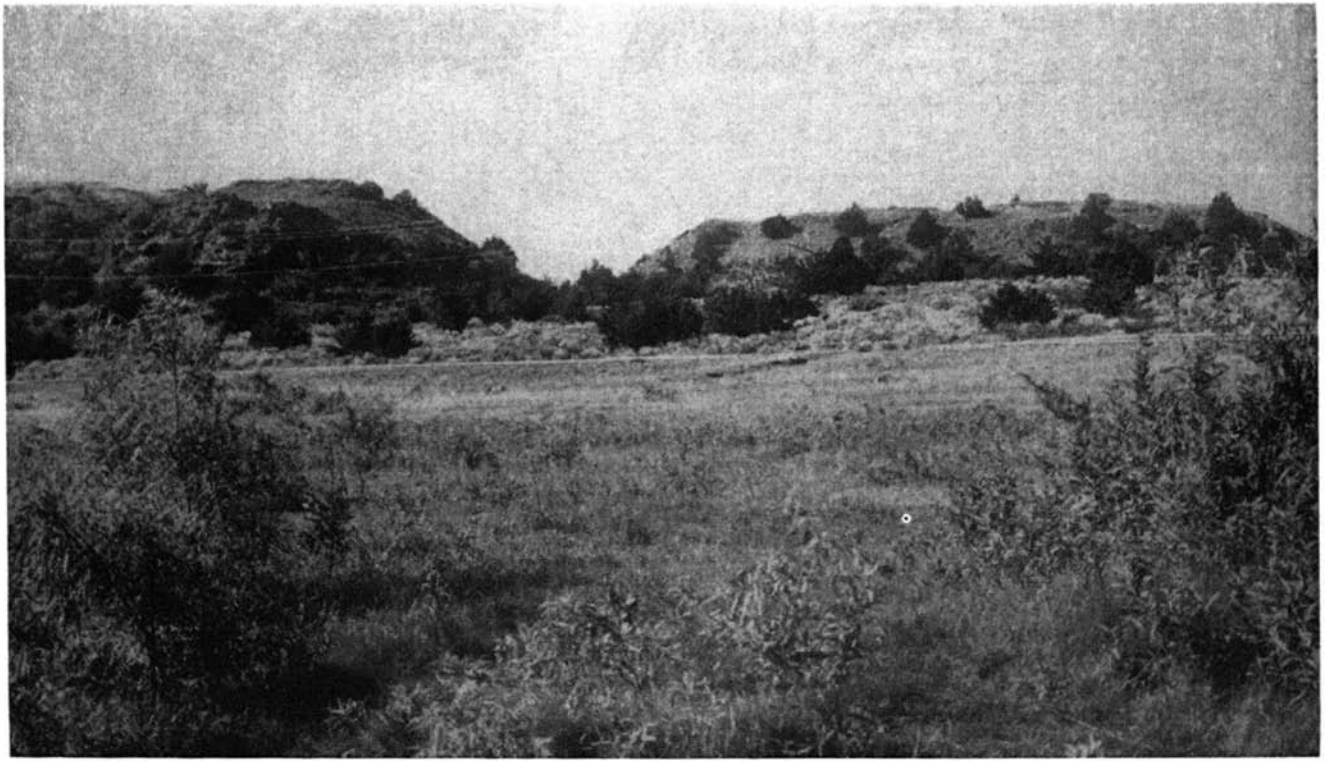


A CADDO COUNTY BUTTE. "THE ROCK PILE." About 3 Miles East of Eakly, Okla.
Southeast Limit (?) of THE CADDO COUNTY BUTTES

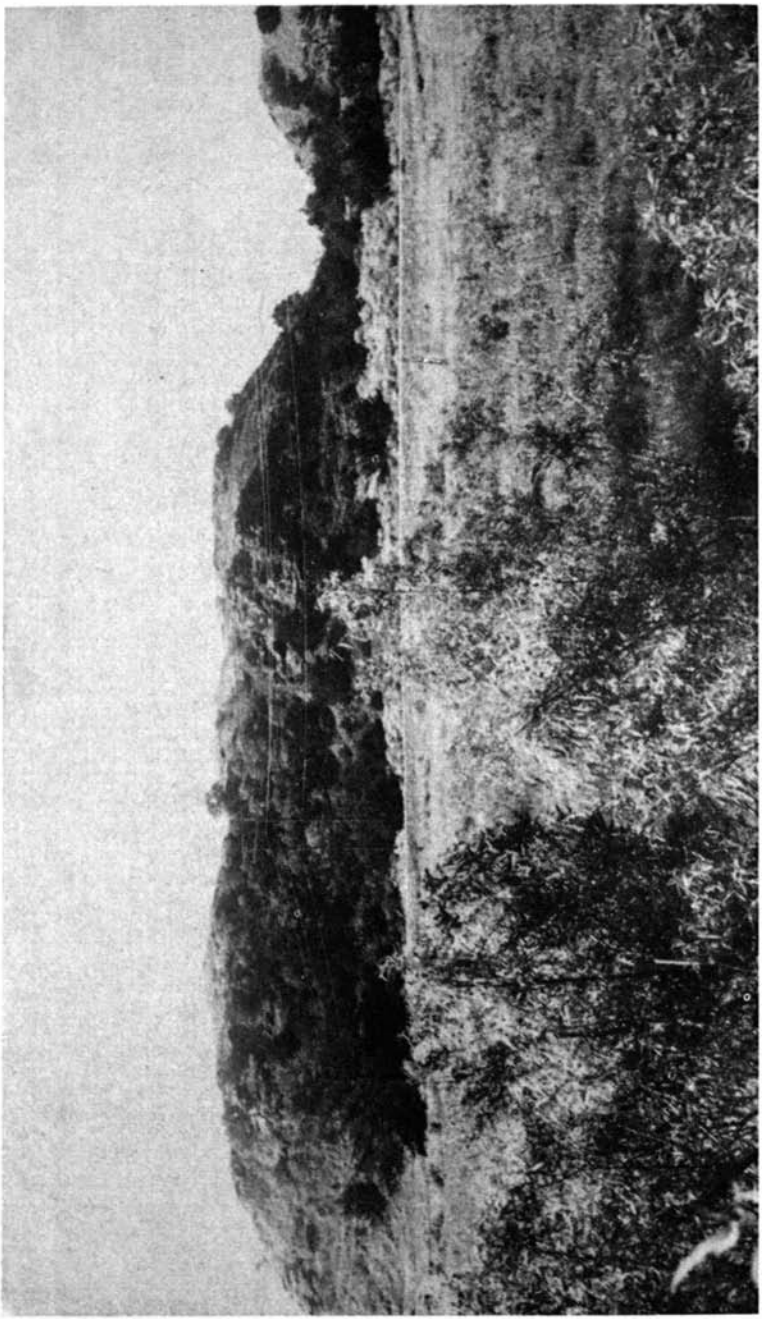
A CADDO COUNTY BUTTE. Sec. 5, T. 11, N., R. 13 W. Peak Just Northeast of Twin Mounds.



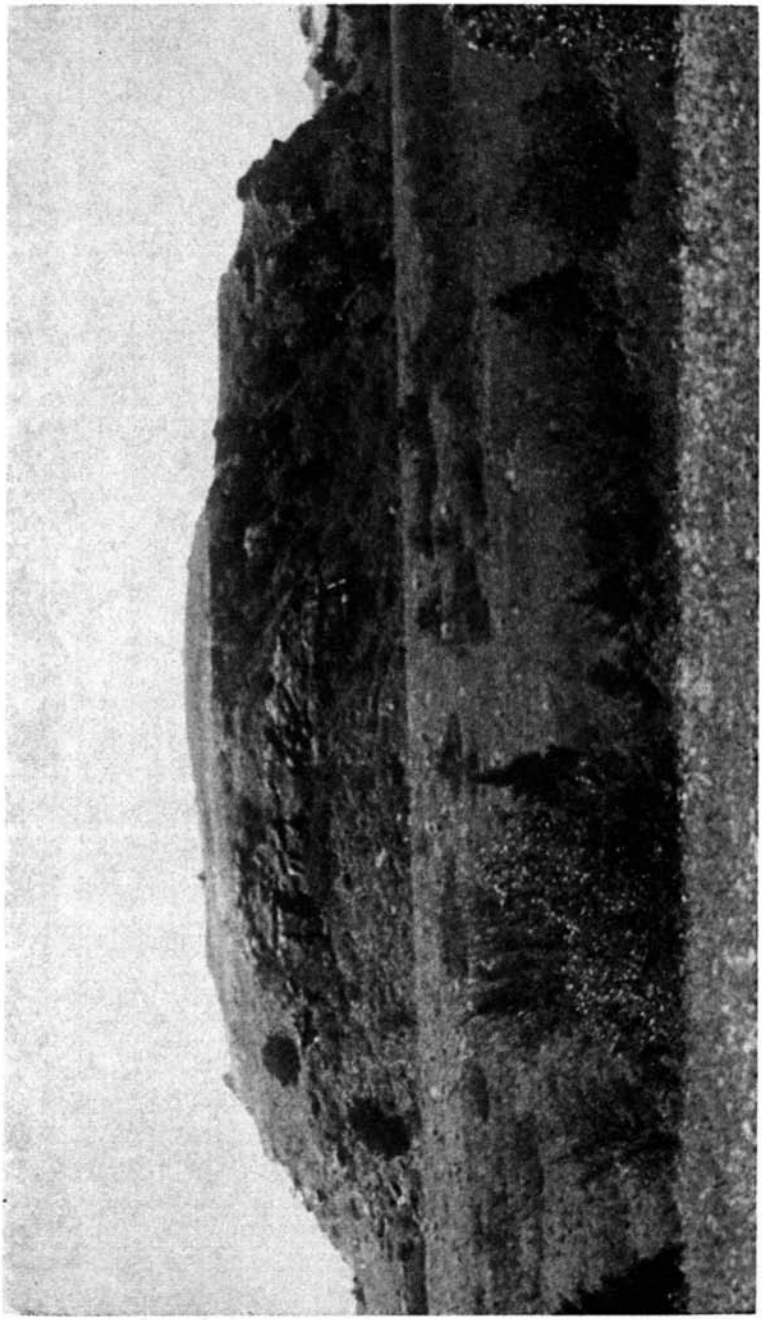
A CADDO COUNTY BUTTE. Washita County. South End of Butte. Sec. 23, T. 11 N., R. 14 W. Same As No. 64.



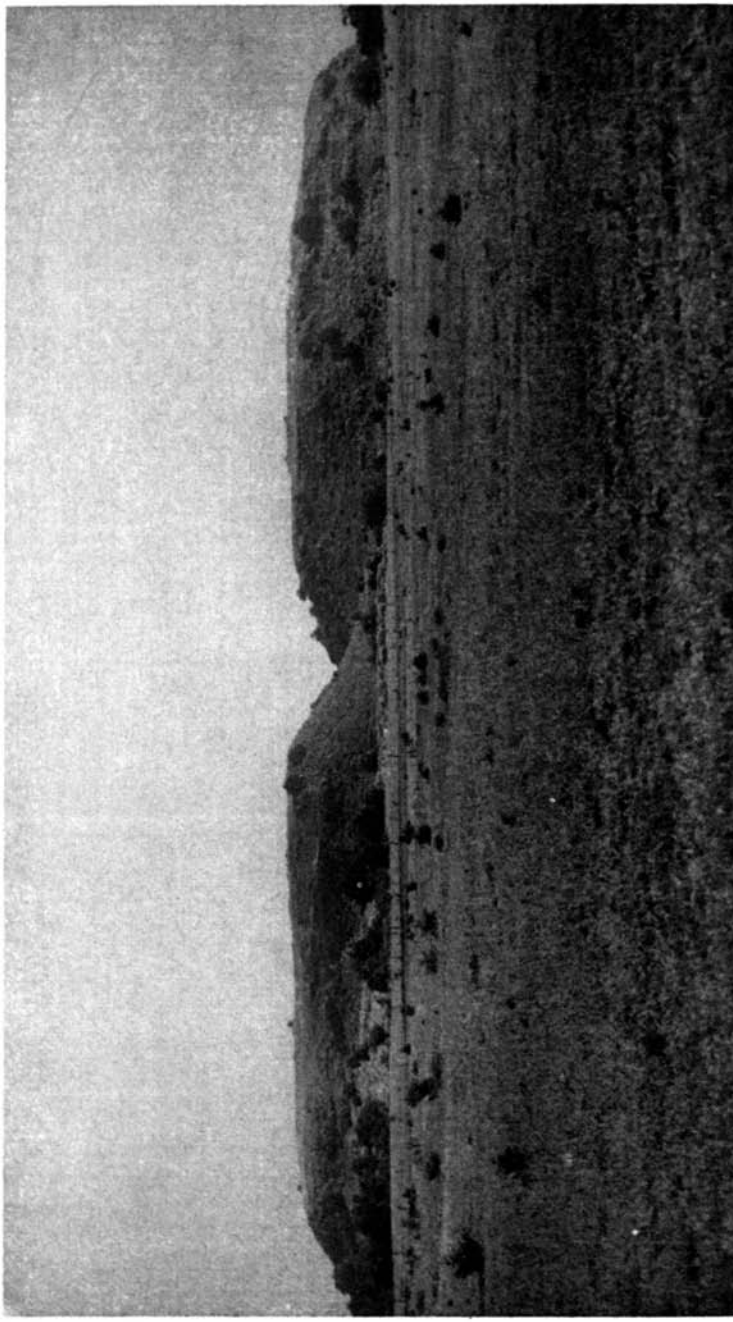
TWIN MOUNDS. WEST TWIN MOUND. East Twin Mound to the Left. North Face of Twin Mounds.



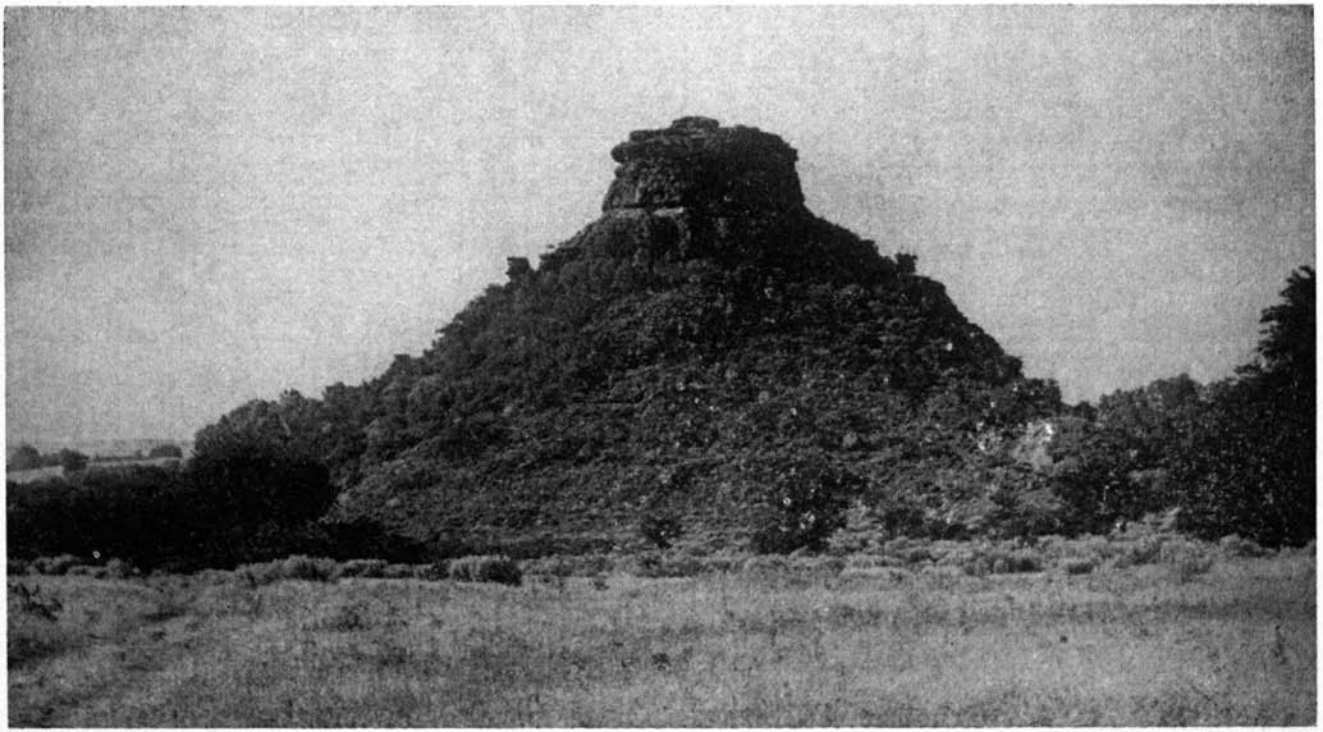
TWIN MOUNDS. EAST TWIN MOUND. North Face of East Twin Mound. West Twin Mound to the Right.



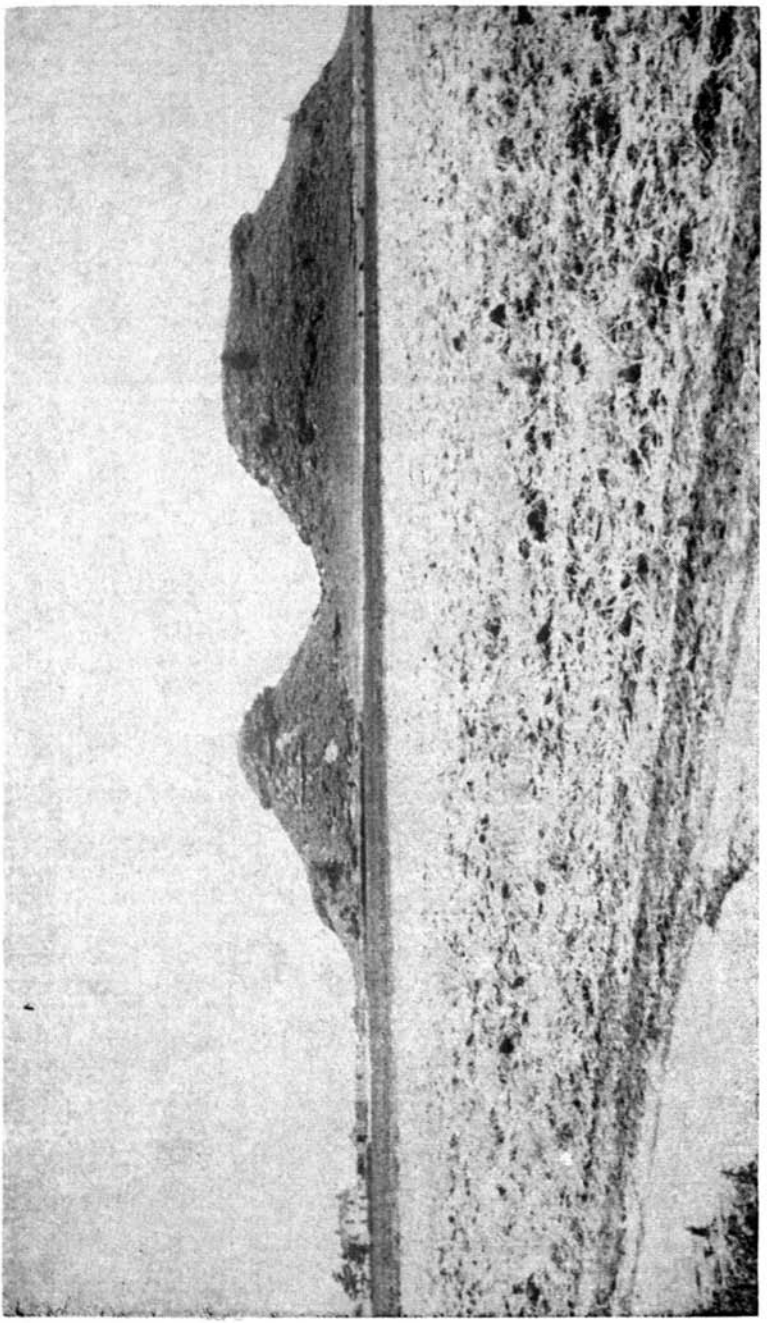
TWIN MOUNDS. CADDO COUNTY BUTTES. East End of Twin Mounds.



TWIN MOUNDS. CADDO COUNTY BUTTES. 2½ Miles North of Ghost Mound. South Side of Twin Mounds. Panoramic View.

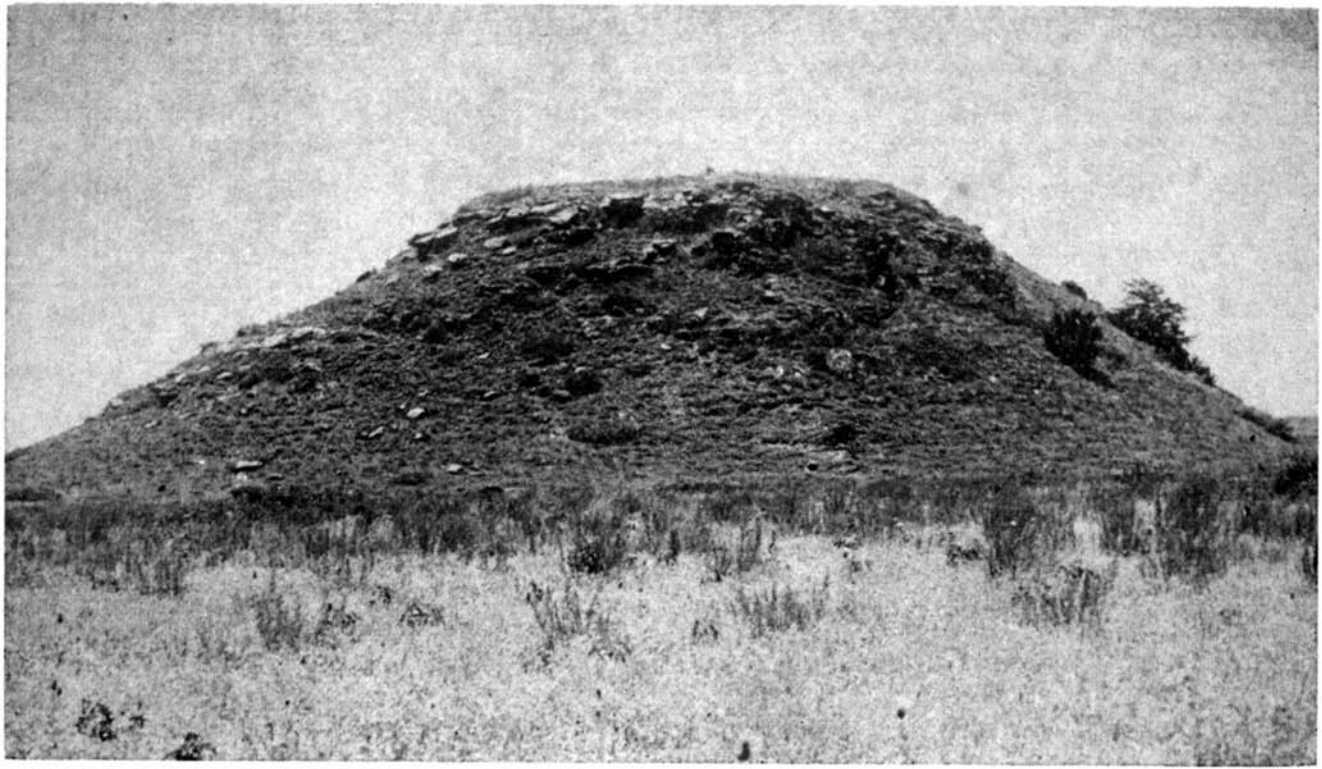


GHOST MOUND. CADDO COUNTY BUTTES. 2½ Miles South of Twin Mounds.
North Slope of Hill. Close-up View.

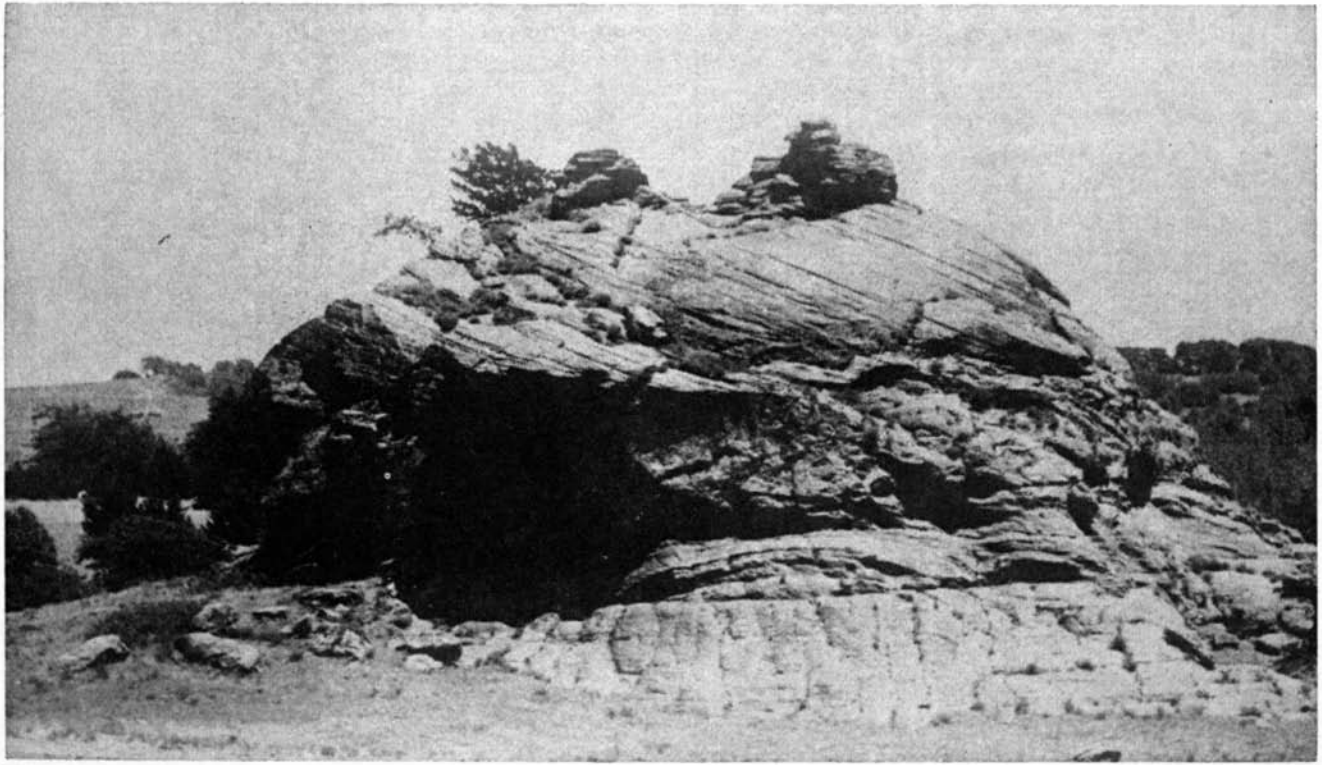


"TWO BABIES" MOUND. CADDO COUNTY BUTTES. Just Southwest of Dead Woman Mound. No. 15.

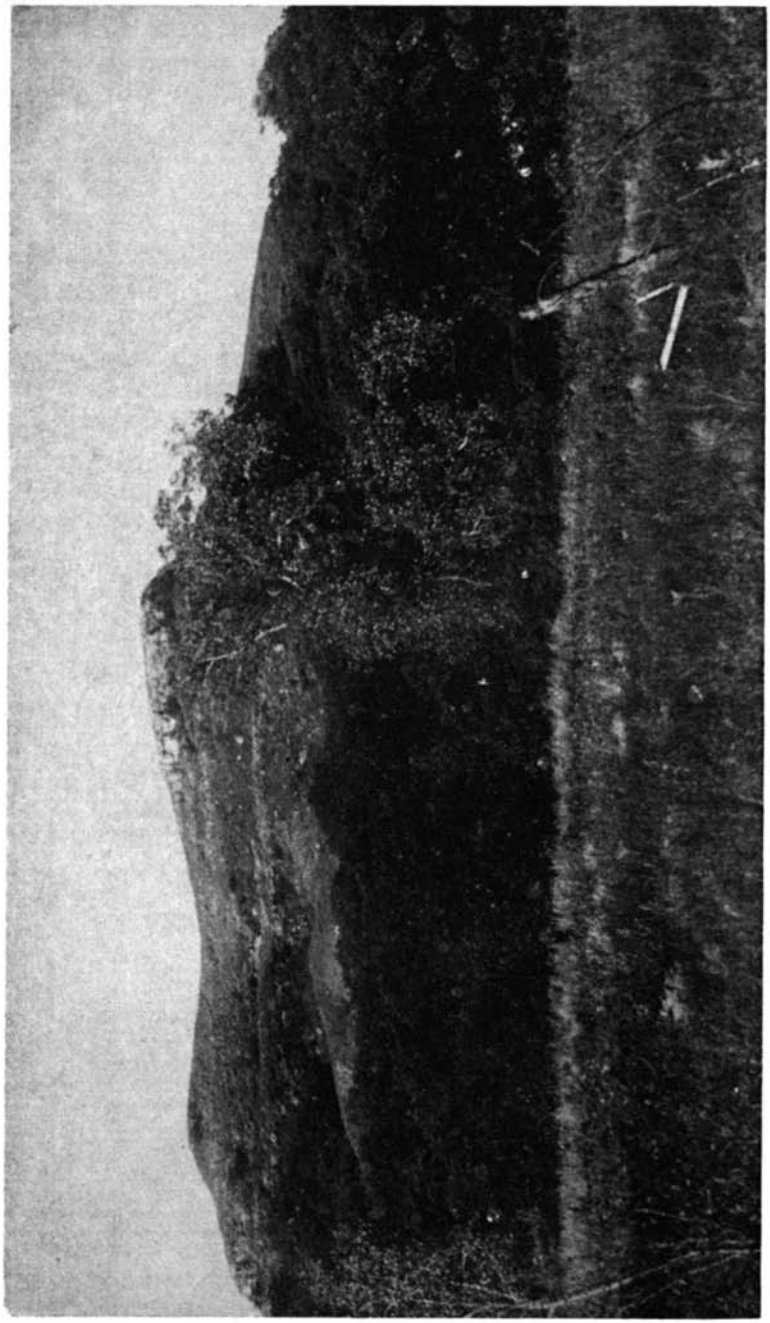
DEAD WOMAN MOUND. CADDO COUNTY BUTTES. Southern Slope of the Hill.



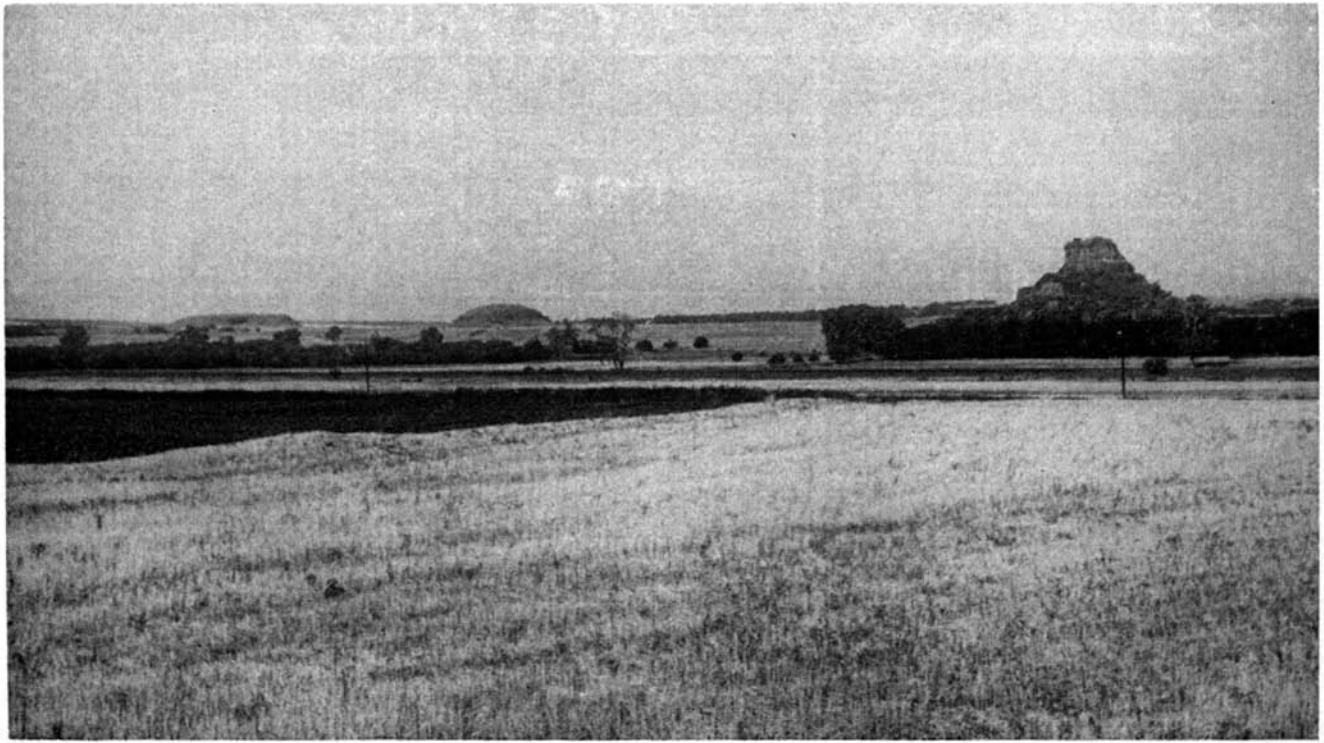
LONE MOUND. CADDO COUNTY BUTTES. First Hill West of Rock Mary. Northeastern Face of the Hill.



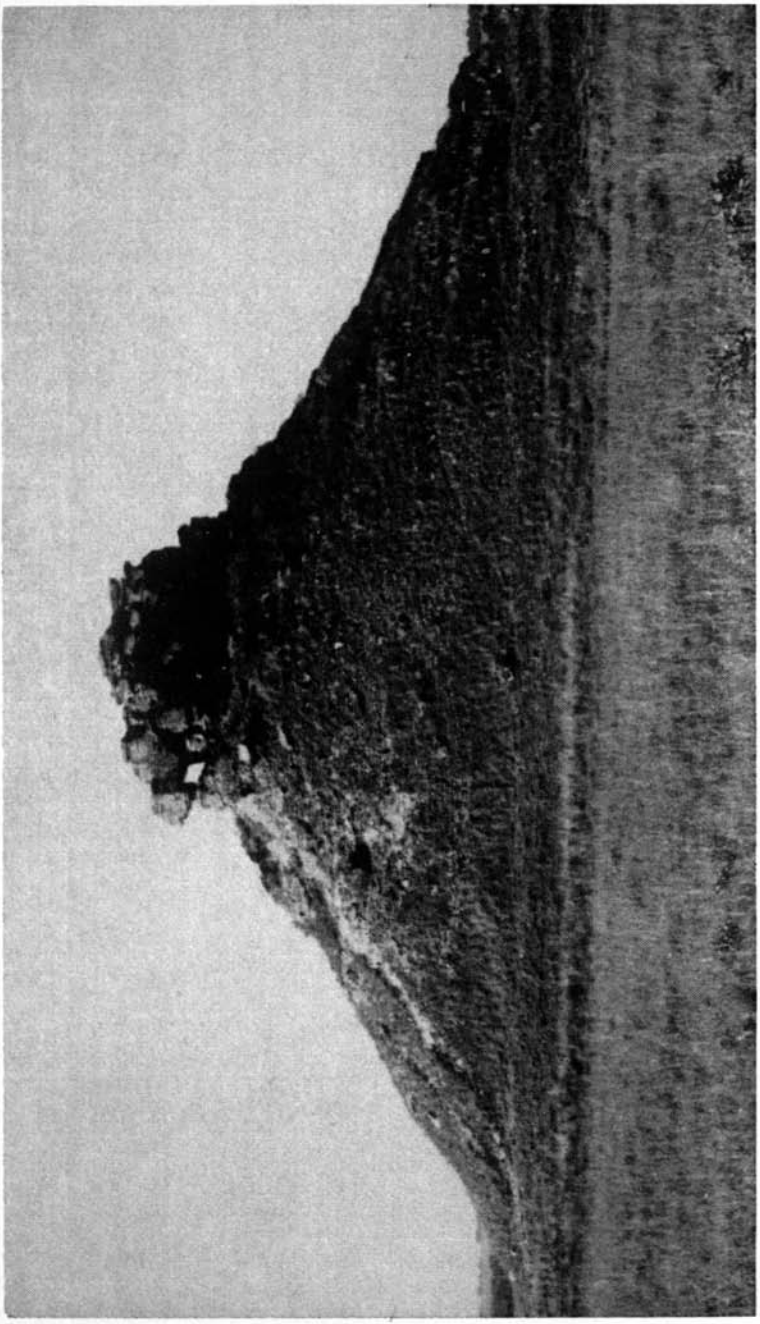
ROCK MARY. CADDO COUNTY BUTTES. Western Face. Northeastern Unit of the Caddo County Buttes.



CEDAR TOP. KEECHI HILLS. North Side of Butte. Just Southeast of Cement, Okla.



GHOST MOUND. CADDO COUNTY BUTTES. Far Right. Panoramic View From the Northeast. Unnamed (?) Buttes to the Left.



"HOLE-IN-ONE" ROCK. KEECHI HILLS. Northeast Side of Rock. Just East of CEDAR TOP.

Financial support from the University of Oklahoma Research Institute is hereby gratefully acknowledged. Photographs were taken by Mr. Gilbert A. Jain of the Photographic Service of the University of Oklahoma.

LITERATURE CITED

Anonymous. 1951. U.S. Geol. Surv. Topographic Map of Binger Quadrangle.

Anonymous. 1961. U.S. Geol. Surv. Topographic Map of Eakly Quadrangle.

Deering, Ferdie J. April 4, 1965. The legend of Ghost Mound. Orbit Magazine Section of Sunday Issue of The Daily Oklahoman.

Gould, C. N. 1959. *Covered Wagon Geologist.* Univ. Okla. Press.

Reeves, Frank. 1921. Cement oil field of Caddo County, Oklahoma. U.S. Geol. Surv. Bull. 726B.

Rock Mary Committee Report. 1960. Chron. Okla. 38:130.

Shead, A. C. 1929. Chemical analyses of Oklahoma mineral raw materials. Okla. Geol. Surv. Bull. 14.

Snider, L. C. 1911. Preliminary report on the road materials and road conditions of Oklahoma. Okla. Geol. Surv. Bull. 8.

Suffel, G. G. 1930. Dolomites of western Oklahoma. Okla. Geol. Surv. Bull. 49.