

FIG. 12. PART OF FORT PAYNE QUADRANGLE, ALA. SCALE, 1:125,000; CONTOUR INTERVAL, 50 FEET

An interesting problem is offered in the comparison of the "grain" of the topography in different parts of the country, as illustrated in Figs. 12 and 13 (allowance being made for difference of scale and of contour interval). This district of Alabama includes eight belts, all trending southwest-northeast, but differing in form and breadth. Each belt preserves its characteristics throughout its length. The first belt, of which a small part is included in the northwest corner of the rectangle, is occupied by irregular low hills; the second and fourth are narrow, flat-floored valleys; the third is a well-defined belt of massive hills; the fifth is a broad trough of hilly surface with steep outside slopes; the sixth is again a narrow valley, but it ends in a cove at Huff Gap on the northeast; the seventh is a narrow ridge; the

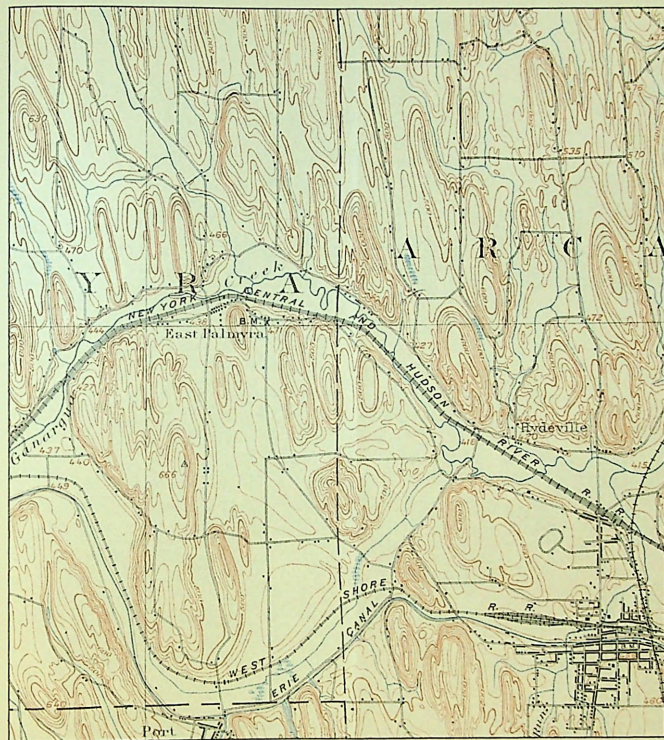


FIG. 13. PART OF PALMYRA QUADRANGLE, N. Y. SCALE, 1:62,500; CONTOUR INTERVAL, 20 FEET

eighth is a broad lowland, on which the Coosa river swings in broad meanders. Streams, roads, and railroads all follow the valleys, which represent the belts of weak rock that have been worn down in the course of ages to a low level; the hard-rock belts have better withstood erosion and form ridges, thus repeating the lesson of the larger Pennsylvania valleys and ridges in Figs. 8 and 9. In strong contrast as to form and origin is the sample of west-central New York, where about half the surface is occupied by elongated hills, usually less than a mile in length and seldom more than 100 feet in height, but most peculiar in their markedly parallel trend, a little east of south; this being a consequence of their having been moulded under the heavy ice sheet of the Glacial period during its slow southward motion; for these hills are not made of rock, but of "drift," the scrapings of various strata which outcrop farther north, here deposited in unstratified masses. The famous Erie canal, the four-track New York Central railroad, the double-track West Shore, and various highways follow valleys that wind among the hills. The town of Newark is included in the southeast corner. It has been well proved that these valleys were eroded by ice-water rivers that flowed eastward along the depression between the general northward slope of this district and the southward slope of the melting ice sheet.