



### INTRODUCTION

Liberia was mapped by geologic and geophysical methods during the period 1962 to 1968 as part of a program undertaken cooperatively by the Liberian Geological Survey (LGS) and the U.S. Geological Survey (USGS), under the sponsorship of the Government of Liberia and the Agency for International Development, U.S. Department of State. The resulting geologic and geophysical maps are published in 10 folios, each folio covering one quadrangle (see index map). The Monrovia quadrangle was systematically mapped by the author from June 1971 to July 1972. Field data provided by previous geologists are not included. No implication of igneous origin is intended. When gneisses do not fall readily into the above scheme, or when data are insufficient to allow better classification, appropriate mineral modifiers (that is, garnet-orthopyroxene gneiss) or suitable descriptive terms (for example, melanocratic gneiss) are used.

### METAMORPHIC ROCKS

Most of the siliceous gneisses are strongly foliated and layered, and their structural relation with intercalated obviously surface-accumulated rocks such as iron-formation, quartzite, schist, and amphibolite suggests that the gneisses are mesometamorphic. Considerable orthogneiss may be present. However, no attempt was made to distinguish orthogneiss from paragneiss.

Granitic gneiss (gn) is characterized structurally by a consistent N. 70° E. to nearly east trend visible in the field and on radiometric maps. These gneisses are banded and are predominantly granodioritic but range from granite to granodiorite. Subunit gn1 is characterized by diversely oriented large-scale folds and a general lack of structural continuity, and by lower amphibole magnetic anomalies than those of adjacent units. The gnl gneiss differs from those of unit gn1 in that they range over short distances from basaltic to andesitic, are nearly massive rocks, and are commonly coarse grained.

Leucocratic gneiss (gl) crop out widely in the Monrovia quadrangle. The distribution of unit (gn) is defined on

### EXPLANATION

Sedimentary rocks

Hornblende-granulite schists

Amphibolite facies

Contact

Fault

MAP SHOWING THE DISTRIBUTION OF SEDIMENTARY ROCKS, METAMORPHIC FACIES, AND MAJOR TECTONIC FEATURES IN THE MONROVIA QUADRANGLE, AS WELL AS THE REGIONAL EXTENT OF THE PAN-AFRICAN AGE PROVINCE

Base compiled by photo-planimetric methods from aerial photographs taken 1964-69. Controlled from 1953 1:400,000-scale photomaps by Aere Service Corporation

Horizontal scale: Shaded orthographic projection and rectangular coordinates

VERTICAL SCALE: Shaded relief orthographic map available as map 1-775-A

MAP IS NOT NECESSARILY ATTRIBUTIVE

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## GEOLOGIC MAP OF THE MONROVIA QUADRANGLE, LIBERIA

By  
C. H. Thorman  
1977