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SOURCE Bollettino della Societa Geografica Italiana, No 5, 1951.

CARTOGRAPHY OF ALBANIAN TERRITORY, AS OF 1939

(From a report presented by F. Cocconi at the 28th meeting, Pisa,
 1939, of the Societa Italiana per il Progresso delle Scienze,
 Vol III, pp 457-463.)

The cartographic situation and the knowledge of the geodetic elements of
 Albania at the beginning of 1929 were as follows:

Cartographic

1. The partial surveys made during World War I by the various belligerents of their respective occupation zones.
2. An Austrian survey of various regions, 1 : 75,000.
3. An Austrian map of 1 : 300,000 utilizing the data of the zones surveyed at 1 : 75,000.
4. Preliminary survey, 1 : 100,000, covering the area of the 1912 - 1914 boundaries.
5. An Austrian map of 1 : 200,000 forming part of a series of sheets of Central Europe.
6. Several Italian military surveys at 1 : 25,000, 1 : 50,000, and 1 : 100,000 of certain areas of military importance in the environs of Valona, Argirocastro, Santi Quaranta, etc.
7. Various French military surveys at 1 : 50,000 of Korca and adjacent areas.
8. A survey at 1 : 50,000 compiled under the auspices of the Commission for Determining the Albanian Boundaries of 1925, covering the Albania-Yugoslav-Greek boundary strip.

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Geodetic

1. A coastal triangulation (Austrian) made in 1869 - 1872 with a point of departure 3 kilometers north of Scutari and which was subsequently connected to the Italian network at the latitude of Valona-Lecce.

2. A triangulation, also Austrian, second order for the interior, which served as a basis for the surveys at 1 : 75,000, with preliminary astronomic posts, of which, however, no publication whatsoever was made.

3. A geodetic base at Valona measured under the auspices of the [Italian?] Royal Navy, which was used for the surveys at 1 : 25,000, 1 : 50,000, and 1 : 100,000, covering our [the Italian?] occupation zone.

4. Various elaborations were made through the work of the International Commission in determining the boundaries in 1922 - 1923, with a subsequent survey at 1 : 50,000. These operations employed points of the already existing Austrian network and, for some areas, both Serbian and Austrian points.

On the whole, this material was rather scanty. Moreover, it should be noted that it was possible in 1927 to utilize all the geodetic data referred to above, because none of the points had been marked on the terrain, various criteria adopted for the development of the several networks conflicted with one another, and the data was insufficient. Therefore, it was decided to set up a new network with the initial base at Tirana and, for the elevations, to utilize the tidal observations to be made at Durazzo. For the cartographic work, the ellipsoid elements of Bessel and the sinusoidal equivalent conic projection of Bonne were adopted, with the central meridian passing through Tirana and the central parallel at 41° 20' N.

Work began in 1927. A tide gauge was installed at Durazzo for mean observations of the sea level, and the Tirana base was measured at 1,755.38 meters. Then, 226 trigonometric points were successively determined, reaching approximately as far as Tirana-Durazzo. This work was immediately followed by surveying operations by 5,000 experts, covering an area of 35.4 square kilometers.

In 1928, the triangulation was extended to the north (the region of the middle and lower Drin and the region of the Albanian Alps), with a total of 4,000 [square?] kilometers of territory triangulated and 155 triangulation points determined. In regard to topographic operations, the surveying at 1 : 5,000 of the Durazzo area (34 [square?] kilometers) was continued, and the 1 : 50,000 survey was begun of zones triangulated the previous year (Dibrane) for 1,248 square kilometers of territory.

In 1929, the triangulation was completed in every phase for the area of the Albanian Alps and Scutari, that is, the entire border area from Lake Scutari to Doberdol. The area between Elbasan, the Yugoslav border, Lake Ohrid, and the Shkumirini height was also triangulated. A part of the personnel assigned to the operations were then employed for the measurement and development of the Scutari base. The measurement, made on the basis of the already existing Austrian measurement of 1869 (revised by the Austrians in 1922), showed a discrepancy of 70 centimeters in relation to ours; systematic checks to ascertain the cause of this discrepancy revealed that a post had been erected in built-up land and therefore was subject to slippage. At the completion of the project, a total of 2,520 square kilometers of territory had been triangulated, 137 points had been constructed, and a base had been measured. The area of Peshkopja and Kukus was surveyed at 1 : 50,000, totaling a good 2,450 [square?] kilometers of territory.

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Triangulation operations were carried out in 1930. An accurate check of the calculations on the spot was required to eliminate any discrepancy or error before beginning the development of the networks of the first and second order. A survey at 1 : 50,000 was made of the Scutari area (Albanian Alps as far as the northern boundary), a total of 3,851 square kilometers. To achieve a suitable basis for proceeding with the geodetic operations, the inspection and checking operations begun in 1930 were continued in 1931. It was decided to suspend operations on the Tirana base (provisional base) and to set up a base in southern Albania with a tidal measuring station at one end. No topographical operations of special interest were carried out.

In 1932, four triangulators with a section chief began and completed the Valona base. The lack of suitable posts required the choice of the place fixed in 1917 by the Italian Navy, of which only one end was found at first. There was also a survey of the Mirdizia-Scutari-Shengjergji-Elbasan area, as well as a special 1 : 5,000 quadrant, also obtained by utilizing previous Austrian surveys. Total area surveyed: 1,200 square kilometers.

In 1933, the detailed triangulation to the north of Tirana was completed, as well as an elaboration for the 1 : 2,500 survey of that city. In all, 2,840 square kilometers of territory were triangulated and 122 trigonometric points determined. The 1 : 50,000 survey in the area of Mati-Pogradec, on the Greek-Yugoslav border, was also carried out. The 1 : 2,500 survey of Tirana was begun and interrupted. In all, 1,806 square kilometers were surveyed.

In 1934, with few personnel, 3,510 square kilometers were triangulated and 118 trigonometric points determined: the definitive calculations for the compensation of the Scutari base were completed on the spot. The 1 : 50,000 survey in the area north of Korca was carried on as far as the Greek border. A total of 1,950 square kilometers were surveyed.

In 1935, the markers were refurbished to make them visible on photographs taken from the air, and a supplementary survey was made in the area of the lower course of the Arzen River. It should be pointed out that a very small complement of personnel -- two operators -- was able to triangulate 4,460 square kilometers and determine 137 trigonometric points. The 1 : 50,000 surveys were conducted in the Scutari-Krija-Medio Mati-Shetaj Peninsula area, for a total of 1,290 square kilometers.

In 1936, the second-order triangulation in the area of the lower Arzen, Gemeni, and Bassa Vojussa was extended as far as Valona, and a detailed triangulation was made between Tirana and Durazzo to check the existing geodetic data for greater accuracy. Elaborations were made of trigonometric points in the cities of Tirana, Valona, and Scutari to serve for subsequent aerial photogrammetric surveys. A total of 6,000 square kilometers were triangulated and 223 points determined.

Also in 1936, the aerial photogrammetric survey by the Santoni system was begun; 50 square kilometers were surveyed directly and 1,565 square kilometers were covered by reconstruction.

In 1937, the second-order, third-order, and detailed triangulations for all of Albania were completed. The aerial photographic work for all the remaining Albanian territory (10,500 square kilometers) was completed. The Durazzo, Fjeri, Elbasan, and Gramshi areas were surveyed by the Santoni system; a total of 4,420 square kilometers were covered by reconstruction, and the reconstruction of 875 square kilometers was made on the spot.

Finally, in 1938, as for Valona, elaborations were made to serve for the 1 : 2,500 photogrammetric survey of the following cities: Scutari, Elbasan, Santi Quaranta, Argirocastro, Berat, and Korca. A total of 2,464 square

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kilometers were surveyed topographically. Two operators began the 1 : 1,000 plan of Tirana, while the reconstruction of 4,949 square kilometers were made on the spot.

In 1939, it was not possible to conduct any field work because of the military operations. However, a 1 : 50,000 map was compiled in less than one month.

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