CHAPTER TWO

THE NILE WATER CRYPTS

In Egypt at many of the major sanctuaries along the Nile River are found relatively small underground structures called Nilometers. The primary purpose of these is clear from their name: they measured the rise and fall of the Nile. No doubt such measuring devices were introduced at a very early date in Egypt's history since even a difference of half a meter in the height of the annual flood had a significant economic impact on the Nile valley.¹ In the first century AD Pliny observed how the area around Memphis was affected by varying amounts of flood water:

The Nile flood normally rises about 12 meters. A smaller quantity of water does not irrigate all the land and a larger one by withdrawing too slowly retards agriculture. The latter gives less time for sowing because the soil is soaked with water while the former gives no opportunity at all for planting because the soil is too dry. The province makes the following computation with regard to these conditions: with a rise of 6 meters it senses the onset of starvation and even with $6^{1/2}$ m it is still hungry. But 7 m brings joyfulness, $7^{1/2}$ m freedom from care, and 8 m sheer delight.²

In short, a change of forty or sixty centimeters in the rise of the annual flood was able to make the difference between a year of well-being and a year of bare subsistence or even of starvation. Because of this, efforts were undertaken to measure day by day the upward movement of the water. Such an enterprise was especially important in Upper Egypt since the flood crested there well before it reached the Faiyum and the Delta. Information could then be sent northwards to help those areas prepare for the expected quantity of water.³

In Pharaonic and Ptolemaic times most Nilometers were constructed in conjunction with a temple precinct.⁴ Typically these structures consisted of a covered stairway leading down from high ground to a depth equal to the local low-water level of the Nile. River water was channeled in at an opening at the bottom either directly or by means of infiltration through the soil; it was then able

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to rise freely along the enclosed staircase until it reached the same height as the river outside. Very often scales on the walls above the steps served to measure the height of the water more precisely. In most cases, if a person wished to descend into the Nilometer, he or she first passed through an entry and vestibule and then down a first flight of steps to a landing. Here a second flight of stairs branched off at a ninety degree angle either to the right or to the left. Often there was then a second landing and still another set of stairs running down at a right angle to the previous descent (Pl. I). At Edfu a spiral staircase of at least forty-five steps replaced this third set of stairs. Less commonly—examples are found at Esna, Luxor, and Philae—the Nilometer stairway made a single, straight-line descent (Fig. 11). Because all of these structures were enclosed and dark, their designers often provided light slits in the walls above ground and niches for lamps in the subterranean sections.5

This general type of Nilometer continued to be constructed during the whole Ptolemaic period and also in Roman times. However, during the early Imperial period it began to be replaced by a new and simpler measuring device, a well with a column set into it to serve as a measuring stick.6 Perhaps the best known pictorial representation of this new type is found on a mosaic from Leptis Magna which dates from the second century AD.7 Since it appears here as a typical Egyptian motif, we can safely assume that it began to be utilized in the early Roman period if not even in late Hellenistic times.

Although Nilometers were primarily designed to measure the Nile flood, they also served as sources of water. Because virtually all known Nilometers have an evident connection with a sanctuary, H. W. Fairman suggested that they were intended to provide pure Nile water for liturgical rites and were not utilized for more ordinary needs.8 Several factors offer some support for this viewpoint. First of all, because the entrances to these Nilometers are usually situated inside the precinct, these installations in effect served to bring the Nile within the sacred area.9 Secondly, at Edfu and apparently also at the Temple of Amun at Karnak, the Nilometer is situated directly to the right of the central adytum, a location perhaps intended to underscore the importance of this facility for the sacred rites. A most significant factor is the relationship of these