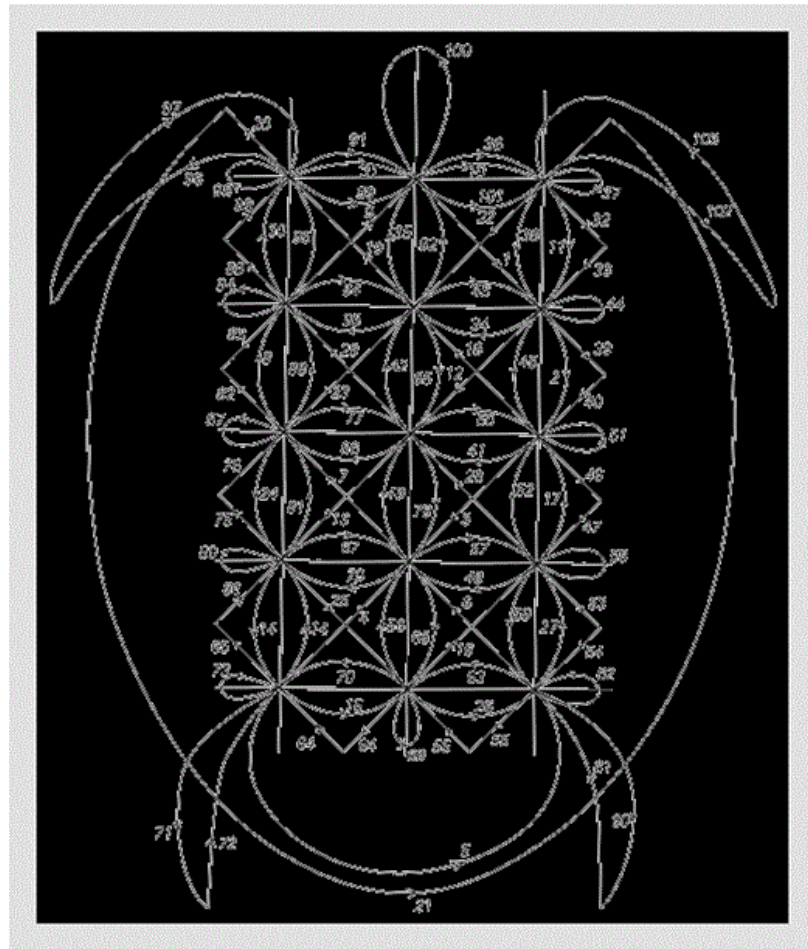**Figure 14.1.**

Sand drawing from Vanuatu recorded by Deacon (1934). His numbering of the tracing path shows that each line is covered once and only once in a continuous way, except the jump that occurs between lines 31 and 32 near the head of the turtle.

The fact that Deacon recorded the details of the tracing paths is of crucial importance for the study of the mathematical knowledge embedded in sand drawing. Note that in the particular case of the turtle, the analysis of the sequence of numbers reveals an amazing fact (Chemillier 2002; 2007: 56). Strictly speaking the tracing path is not Eulerian. If you look at it carefully, you will find a discontinuity between lines 31 and 32 (near the head of the turtle). It seems not to be a flaw in the record, since various videos available on the Internet showing people from Vanuatu drawing the turtle always follow the tracing path recorded by Deacon. What is amazing in this case, from a mathematical point of view, is that the turtle could have been traced in a different way, by following Euler's conditions. The fact that it did not remains an unsolved ethnomathematical question.

As soon as a simple detail is missing in the recording of the ethnographic data, then the consistency of the underlying knowledge can be destroyed. In another example taken from our fieldwork on Malagasy divination, Fig. 14.2 shows the gesture of randomly placing seeds on the ground in the process of divination. The diviner takes two fistfuls of seeds from his bag in a random way, and then lumps the seeds into piles on the ground. Then he reduces each pile by deleting the seeds until either one or two are left, and places the remaining seeds in a tableau. On the right part of the picture, the diviner's hand is reducing one pile, and a second pile has not yet been reduced. On the left, some elements have already been placed—a complete column with four entries equal to two, one, two, two, and the beginning of a second column with entries two and one. At the end of the process the final tableau has four rows and four columns, the entries of which can only be one seed or two seeds.