Figure 14.2.

Seeds are set up on the ground in Malagasy divination (ર 2000 Victor Randrianary). Each randomly chosen pile of seeds is reduced by deleting the seeds two at a time so that at the end only one or two remain.

p. 325 A fundamental detail is missing in the previous description. When the diviner deletes the seeds of the piles, he does it two at a time with his forefinger and middle finger. It is not very easy to see this on the fixed photograph reproduced in Fig. 14.2, but on the original video from which it has been taken the process is more visible. This detail is of great importance for the consistency of the procedure because it explains why the remaining seeds in each pile can only be one or two seeds. In fact it is a well-known principle of Euclidian division learnt at school that the remainder obtained by dividing an integer is always less than its divisor. This means that the number of possible values for the remainder cannot exceed the value of the divisor. It is precisely the reason why the process of picking up seeds always ends up with one or two seeds, because the diviner picks them up two at a time. Thus in this case the divisor is equal to two and the remainder can only take two values. As we will see later, Malagasy diviners are clearly aware of this mathematical rule, which determines the parity of the number of seeds contained in each fistful that are pulled out of the bag.

14.3 Number Words, Their Mathematical Construction, and Their Historical Contingency

It is well known that many kinds of numeration systems exist all over the world, which may vary considerably from a few number words to elaborate constructions in which counting extends into the millions. Some societies only have words for ‘one’, ‘two’, and a third word signifying ‘many’. For example, the Bushmen of South Africa or the communities of the savannah and the tropical forest of South America use very rudimentary numerical systems. We shall discuss later the question of how to describe mathematical abilities in such societies by presenting fieldwork experiments for accessing this kind of ability, a question related to the current debate about Everett's (2005) claim that Pirahã has no number. For the moment, it must be pointed out that numeration systems are developed mainly in relation to practical constraint such as economic need, and that it is obvious in societies in which necessities of life are produced within the community that people do not have to rely on a complex system of counting.

A simple way to represent numbers with sounds is to repeat a simple-sounding event as many times as the value of the number. Actually, this principle is used in the peals of a bell to indicate what time it is. As the value increases, the perception of the corresponding number becomes harder. Thus in languages dealing
p. 326 with ↳ numbers not reduced to one, two, and a few positive integer values, the numeration system must involve a grouping of units according to a fixed reference value called a ‘base’. Crump noticed that ‘the representation of numbers by the single repetition of a simple sound is not to be found in any spoken language’ (Crump 1990: 33), highlighting the fact that the construction of number words is not reduced to the simple juxtaposition of units. In most languages, it involves the grouping of units into sets containing a