p. 341 Fig. 14.8 shows a series of pictures taken from a video shot during fieldwork. If you look carefully, you can see a particular type of transformation applied to the seeds of the mother-*sikidy*. The upper row read from right to left (one, two, two, two) is displaced and oriented in the vertical direction. Then the second row (two, two, one, one) is transformed in the same way and placed as a new column beside the previous one. The same operation is applied to the other rows so that at the end of the process a new mother-*sikidy* is obtained in which rows and columns have been exchanged. The diagram displayed following the series of pictures in Fig. 14.8 summarizes the whole process. Notice that the first two rows are equal to the corresponding columns, since the mother-*sikidy* is partly symmetrical.

This operation creates a new matrix by inverting rows and columns of the initial one. Thus it is similar to the matrix transposition used in linear algebra, except that in mathematics the reflection is done by the main diagonal, which starts from the top left, whereas in *sikidy* divination it is done by the second diagonal, which starts from the top right. Obviously, the properties of a transpose in matrix algebra are not drawn in the context of divination since they are mainly related to the matrix product, which does not seem to be relevant in this context as far as we know. Recall that the transpose is used for defining an 'orthogonal matrix', which is a square matrix whose product with their transpose is equal to the identity matrix. Despites the fact that the function of matrix transposition is different in the context of divination, as we will explain, it is worth mentioning that there exists a close similarity between this transformation and the formal operation used by mathematicians.

Malagasy diviners use a specific word *avaliky* to name this formal transformation in the south of the country. The corresponding verb is *mivaliky*, which means 'to invert'. In official Malagasy it corresponds to the verb *mivadika* because in the dialect of the south words are often derived by replacing the letter 'd' by the letter 'l' (in fact the word for divination itself in the South is *sikily*). For instance, a sentence like '*Mivadika ny akanjoko*' ('inverted-the-shirt') can be translated into 'I put my shirt on the wrong way round'.

What is the function of matrix transposition in *sikidy* divination? The diviner's interest for this formal procedure is related to particular types of tableaux that are of great importance in their practice. One of them is called *fohatse*, and refers to tableaux where the same figure is repeated many times among both its mother-*sikidy* and daughters. Noël Gueunier, a linguist specializing in southwestern Malagasy dialects, noticed that *fohatse* is a variant of the word *vokatse*, which is used in the south with the meaning of 'coming out of the earth' (Chemillier et al. 2007: 28). Lanto Raonizanany, a member of our fieldwork team, observed that the corresponding word in official Malagasy is *vokatra* (with the usual suffix replacement leading to 'tra' instead of 'tse') and that its meaning is 'harvest' so that one can say, for instance, *Vokatra ny katsaka* ('harvest-the-maize') meaning 'the harvest will give a lot of maize'. A possible explanation could be that the
p. 342 repetition of a ↳ figure in a tableau called *fohatse* is compared to an abundant harvest of maize ear (or whatever cereal it might be).

The relation between the repetition of a figure in a tableau and the exchange of rows and columns in its mother-*sikidy* relies on the following property. If a figure is repeated at least n times, then the same figure is repeated at least $n - 1$ times in the new tableau obtained by transposing the mother-*sikidy*. Indeed, the matrix transposition preserves most of the daughters of the initial *sikidy* tableau. In Fig. 14.9 the daughters are the same in both tableaux except that some of them have been permuted. The three daughters on the right P_{13}, P_{14}, P_{15} have been exchanged with the three daughters on the left P_9, P_{10}, P_{11}; the daughter P_{12} in the middle remains unchanged. The only daughter that can be changed in this process is P_{16}. The tableau *fohatse* on the left is called *adabarà sivy*, which means 'nine occurrences of figure *adabarà* (two, two, one, one)'. One can easily verify that this figure is repeated nine times (namely at position P_2, P_5, P_6, P_9, P_{10}, P_{12}, P_{13}, P_{15}, P_{16}), and that the tableau obtained on the right by transposing the mother-*sikidy* is also *fohatse* with eight occurrences of the same figure (namely at position P_1, P_2, P_3, P_9, P_{11}, P_{12}, P_{13}, P_{14}).