



Fig. 4.8 (a) A Petri net model of a producer-consumer system (b) Some of the reduced nets obtained by applying the reduction rules shown in Fig. 4.6.

As pointed out in the introduction in Chapter 1, a major weakness of Petri nets is the complexity problem. Thus it is very important to develop methods of transformations which allow hierarchical or stepwise reductions and preserve the system properties to be analyzed. Such an approach is discussed in [204], where subnets are reduced to single transitions or places while keeping liveness and/or boundedness properties. However, much work remains to be done in this area of research. For example, given a property or a set of properties, it is desired to develop a complete set of transformations which allows transformation between any two nets having the given properties. For further information on this subject, the reader is referred to [200-205, 245, 246, 256].