Chapter 8
Other Related Work and Further Discussion

Several authors discuss styles of SUSs, application domains and the strengths and weaknesses of models (e.g. Mellor et al. 2004; Hoppenbrouwers et al. 2005b; Jackson 2009; Hoppenbrouwers and Wilmont 2010). Selic (2003) proposes five characteristics for all engineering models: abstraction, understandability, accuracy, predictiveness and inexpensive. Seidewitz (2003) and Muller et al. (2009) examine how model truth can be ascertained from both forward-looking and backward-looking models. Henderson-Sellers (2011a), based on an overview of conceptual modelling, concludes with recommendations for enhancing research programmes in quality assessment of conceptual models (including metamodels). Since these are not strictly mathematically-related, we have deemed such discussions out of scope for this present discussion but encourage its adoption in a more mathematical format in future research. Furthermore, although model transformations are a key idea (e.g. Bézivin 2004) for model-driven engineering (MDE), including the OMGs MDA (OMG 2003), they are consequent on the mathematics presented here but are not discussed further in this book.

As discussed in part above, the several recent papers on ontological versus linguistic metamodelling have provoked much discussion. Despite these publications and as a consequence of some reservations identified during the course of this research, a final conclusion has not been reached. Indeed, some publications seem to add obfuscation to the discussion with poor and semantically-invalid examples (e.g. Gašević et al. 2007; Atkinson et al. 2009 and Fig. 5.13).