THE DESIGN OF OBJECT-ORIENTED
META-ARCHITECTURES
FOR PROGRAMMING LANGUAGES*

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Abstract. This paper is a survey of the design of four object-oriented meta-level architectures for programming languages. We present overviews and compare the salient features of the meta-architectures of Smalltalk, Common Lisp Object System (CLOS), a Scheme Compiler, and Etyma, our framework for modular systems. This comparison clarifies important architectural aspects of the surveyed systems, such as the space of concepts captured by the architectures, and the abstractions that embody similar language concepts across the architectures. We find that there are considerable differences in the goals and conceptions of these architectures, yet they can all be used for similar applications. Finally, we point out some strengths and weaknesses of the architectures surveyed.