

Corrigenda to ECOOP '93 Paper

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We would like to make two corrections to our paper, "A New Definition of the Subtype Relation," which appears in the Proceedings of the 7th European Conference on Object-Oriented Programming (ECOOP) 1993.

The first is a change to the pre-condition rule stated on p. 125. The implication should be an equivalence: $m_r.pre[A(x_{pre})/x_{pre}] \Leftrightarrow m_o.pre$. The weaker formulation using just an implication allows some undesired subtype relations to hold. Our technical report, "Family Values: A Behavioral Notion of Subtyping," (CMU-CS-93-187, July 1993) discusses this issue in more detail. We thank Ian Maung for pointing out this problem with the original definition.

The second correction is to the discussion of related work by Leavens and Weihl on p. 138. We wrote that "their *simulation relations* map supertype values down to subtype values; hence they do reasoning in the subtype value space." Both parts of this statement are incorrect. Their simulation relations go in the same direction as our abstraction function, i.e., from subtype values to supertype values; they reason in terms of supertype values as we do. Their simulation relations are a more general form of our abstraction functions. However, for most practical purposes, abstraction functions are adequate (compared to relations) and have the advantage that we can freely use equality in assertions. We thank Gary Leavens for pointing out our error.

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