We allow the use of several universally quantified variables in a single ordering rule, but such usage is not trivial, and can be difficult to understand at times. Essentially, the use of more variables leads to rules for more specific circumstances, and the specifier should be aware of this. A potential specification pitfall is lurking in the use of universally quantified variables. As a rule of thumb, whenever more than a single such variable is used, the specifier should carefully check the semantics of the rule. As an illustrative example of this, consider the following rule:

forall `c : chapter, an : annotation`
order `addChapter(_,c,_);`
`(addAnnotation(_,c,an); delAnnotation(_,c,an))*;`
`delChapter(_,c)`

This rule seems to state that arbitrary annotations can be added to and deleted from a chapter after the chapter is added and before it is deleted. Now read the rule again carefully. Consider a chapter *value* and an annotation *value*. The rule states that for any such combination, that specific annotation can be first added to, then deleted from the chapter and this twin invocation combination may happen arbitrarily often. It is unlikely that this is what we wanted to specify. For instance, the rule requires that we delete any annotation in a chapter before deleting the chapter itself. (Do observe, however, that this rule allows several annotations to be added to a chapter, as each annotation would be covered by a separate rule instantiation.)

Rather, the following *two* rules do what we had in mind:

(3) **forall** `c : chapter`
order `addChapter(_,c,_);`
`(addAnnotation(_,c,_) | delAnnotation(_,c,_))*;`
`delChapter(_,c)`

(4) **forall** `c : chapter, an : annotation`
order `addAnnotation(_,c,an); delAnnotation(_,c,an)`

Why is this specification correct? As is often the case, it is the separation of concerns that makes the difference. First of all, addition/deletion of annotations may only happen during the existence of the chapter. This is captured by the first rule. We resist to state anything about