

# 7.7. Soundness & completeness

## 7.7.0. Overview

While the positive use of derivations with generalizations is not too unlike what we had seen in previous chapters, their negative use involves some new ideas and the differences affect arguments for the adequacy of the system of derivations.

### 7.7.1. Aspects of adequacy

The system of derivations for generalizations may give no answer at all regarding validity and, as result, an argument for its completeness must be based on ideas a little different from those used in earlier chapters.

### 7.7.2. Soundness

New vocabulary may appear in the course of derivation and the idea of a sound rule must be modified to accommodate this.

### 7.7.3. Thoroughness

The central new feature of derivations involving generalizations is that we need never run out of rules to apply, so we must make an effort to explore all options since we are never forced to do so.

### 7.7.4. Effectuality

To argue that a gap that cannot be closed is divided by an interpretation, we must take account of the possibility that a generalization will be exploited infinitely often in the course of a never-ending derivation.