

# Errata

Few general remarks should be made before going more in detail.

- (i) In the whole thesis **intuitionistic** should be written instead of **intuicionistic**.
- (ii) There is nothing in my thesis about non-distributive logics, so every time I speak of FL logic, FL calculus etc., I should have written distributive FL logic (abbreviated as dFL), calculus etc.
- (iii) The structural rule which in the thesis is being called **right weakening** is actually just a part of the left weakening. The actual right weakening is missing and thus the calculus presented is not complete. The missing rule could be using the constant 0 as follows

$$\frac{\Gamma \Rightarrow}{\Gamma \Rightarrow 0} rW$$

In a Hilbertian manner it can be introduced as  $0 \vdash \varphi$ .

Now I shall correct the concrete mistakes, enumerating them by pages on which they occur.

- 2 The Hilbert equivalents of the structural rules are not correct, they should be written as axioms with an implication, rather than as rules, so  $\varphi \& \psi \rightarrow \psi \& \varphi$  is the Hilbertian way of expressing exchange etc.
- 6 The cut rule should have been introduced, since it in fact cannot be eliminated from the calculus.
- 25 In the definitions 3.0.28 and 3.0.29 as well as in the lemma a wrong concept of entailment is used, which speaks about entailment in all models. Actually, I should be speaking about entailment in a concrete point of a concrete model. Thus the equivalences proven in lemma 3.0.30 should be understood, as well. So, the first one, for instance, says that the frame is commutative if and only if for every formula of the form  $\varphi \& \psi$  if the formula is valid at a given point of a given model based on the frame, then  $\psi \& \varphi$  is valid as well.
- 46 In the definition 5.0.17 the index class  $I$  should have been specified, as the class of indexes  $i$  for  $Ar$ . For the sake of clarity I should have also mentioned that  $O$  and  $Ar$  are classes.

- 47 In the definition 5.0.19 the indefinite article was mistakenly used two times while the definite one should have been used, thus speaking of **the** class of all morphism between residuated lattices and of **the** the composition of the morphism defined in a standard manner.
- 49 Similarly to the previous point, in the definition 5.0.24 I have mistakenly used the indefinite article two times and I should have written about **the** class of all frame-morphisms between Kripke frames and about **the** composition of them defined in a standard manner.