

# Errata for [de Roever and Engelhardt, 1998]

Kai Engelhardt

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Typos are indexed in the format  $\langle \text{pagenumber} \rangle : [+|-]\langle \text{linecount} \rangle$ , where a minus-sign indicates that line counting starts at the bottom of the page.

**x:-12** The old URL for this book hosted in Kiel is dead. A correct URL for the book web site is <https://doi.org/10.1017/CB09780511663079> which currently resolves to its homepage at the publisher. Sadly the publisher doesn't host this list.

**35:-5** “*cons*” should be “*append*”.

**38:+3** omit hyphen between “value” and “returned”.

**57:+14** “ $S(P)$ ” should be “ $P(S)$ ”.

**79:+4** “ $(\xi, \xi)$ ” should be “ $(\tau, \xi)$ ”.

**96:-6** insert “ $\sigma$ ” after “ $\mathcal{T}[[p]]$ ”.

**99:+1** “ $\tau$ ” is missing at the end of the line.

**100:+3** “ $e$ ” should be “ $e_1$ ”.

**101:-3** spelling “straightforward”

**105:-14** spelling “discussion”

**118:+10** “Hence, there is no such  $\sigma^{(i)}$ ” could be a bit terse. It might help to insert “The existence of such a  $\sigma^{(i)}$  contradicted the requirement stated above, namely, that  $(\sigma^{(i)}, \sigma^{(i+2)})$  should not be contained in  $\mathcal{P}[[\phi \rightsquigarrow \psi]]^A$ .” before.

**120:+8** insert “the remaining parts of” after “5.5 Prove”.

**121:+4** should be

$$\{x < 17\} x + 3 = x_0 \rightsquigarrow x < x_0 \{\exists y_0 (y_0 < 17 \wedge \forall x_0 (y_0 + 3 = x_0 \Rightarrow x < x_0))\}$$

that is, there's no role for vectors in this example because there's only one variable of each kind to begin with.

**121:+6** “ $x < 20$ ” should be “ $x < 19$ ” since we're going through two  $<$ .

**136:+11** the postcondition of the specification statement should be “ $(b, x = b_0 \oplus x_0, x_0)$ ”.

**151:-8** “ $\perp_a$ ” should be “ $\perp_A$ ”.

**153:+1** “on proves” should be “one proves”.

**153:-14** “ $i \in \mathbb{N}$ ” should be “ $i \in I$ ”.

**321:+7** “ $b' = b \oplus x$ ” should be “ $b' = b \oplus x?$ ”.

**322:-1** “quantification over all the schema's variables” is not complete, as the predicate should also be included. So the example in the first line of page 323 becomes:

$$\begin{aligned} & \forall \text{NonEmptyBagC} \bullet P \Leftrightarrow \\ & \forall \text{sum} : \text{Real}; n : \mathbb{N}; \text{elements} : \mathbb{N} \bullet (((n = 0) \Rightarrow (\text{sum} = 0)) \wedge n < \text{elements} \wedge n \neq 0) \Rightarrow P \end{aligned}$$

**364:-15** “ $\{\kappa\} S_1 \{\rho\}$ ” should be “ $\{\kappa\} S_2 \{\rho\}$ ”.

**364:-4** drop “the” between “case” and “of”.

Thanks to Eerke Boiten, Ulrich Hannemann, Wolfgang Hielscher, and Ronald Kriemann for pointing out errors.

## References

Willem-Paul de Roever and Kai Engelhardt. *Data Refinement: Model-Oriented Proof Methods and their Comparison*. Number 47 in Cambridge Tracts in Theoretical Computer Science. Cambridge University Press, 1998.