Corrigenda to the book

Syntax-Directed Semantics –
Formal Models Based on Tree Transducers

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page VII, line -10: drop “the”

page 6, Fig. 1.6: The code fragment on the left should be

```
  ADD i
  SUB i
  MUL i
```

page 11, Fig. 1.10: each occurrence of "temp = i" should be "temp = i + 1" for i ∈ \{1, 4, 6\}

page 82, line 6: 

```
i = \{1, 2\}
```

page 88, (ii): after the 3rd equality sign 

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\tau_T^2, \tilde{q}(\xi_i . . .
```

page 115, Fig. 4.2: It should be replaced by Fig. 1.

page 124, item L: 

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\omega \in (T_\Sigma)^k
```

page 126, item 2): "... states q, q’ ∈ Q with q \neq q’..."

page 126, line after Note 4.28: "... \Delta = \{\sigma^{(2)} | \sigma \in \Sigma \} \cup \{nil^{(0)}\}\)"

page 132: Replace the first eight lines by: " We apply the decomposition of Lemma 4.34 to M_{bal}. Then

mx = 2 and we obtain the top-down tree transducer T = (Q', \Sigma, \Gamma, q', R') with

- Q' = \{q''^{(1)}\}
- \Gamma = \{\sigma^{(0)}, \alpha^{(0)}\} \cup \{\alpha_1^{(0)}, \alpha_2^{(0)}\} \cup \{c_3^{(3)}, c_2^{(2)}\}
- R' consists of the rules
  1') q'(\sigma(x_1, x_2)) \rightarrow c_2(q'\langle x_2\rangle, c_2(q'\langle x_1\rangle, \alpha_1))
  2') q'(\alpha) \rightarrow c_3(\sigma', \alpha_1, \alpha_1)

and the function g : \Gamma^{(0)} \rightarrow T_\Delta(Z_1) with g(\sigma') = \sigma(z_1, z_2), g(\alpha') = \alpha, g(\alpha_1) = z_1, and g(\alpha_2) = z_2."

page 132, Lemma 4.36: The proof of inclusions 2) and 3) is wrong, hence they should be dropped.
Figure 1: A sequence of derivation steps of the macro tree transducer $M_{bal}$.

Figure 2: The dependency graph of $\gamma$. 
page 134, Theorem 4.37: Statements 2) and 3) should be dropped.

page 134, proof of Corollary 4.39: Replace it by the following. “We can prove the inclusions $MAC \subseteq HOM \circ l-MAC$ and $l-MAC \subseteq HOM \circ sl-MAC$ by generalizing the corresponding constructions in the proof of Theorem 3.45 and the proof of Lemma 3.46, respectively. In fact, the parameters of the given macro tree transducer do not interfere with these constructions. Then, by Corollary 3.40, we obtain $MAC \subseteq HOM \circ sl-MAC$. The other inclusion follows from Corollary 4.38(2).”

page 135, Proof: The first “=” sign must be “$\subseteq$”.

page 152, Example 5.19, line 2: “$ATT_{syn}$” should be “$Att_{syn}$”.

page 152, Fig. 5.8: The attribute occurrences “$s_2(\pi 2)$”, “$a_2(\pi 2)$”, and “$a_2(\pi 2)$” at the two descendants of $\sigma$ should be replaced by “$a_1(\pi 1)$”, “$a_2(\pi 1)$”, “$b_1(\pi 2)$”, and “$b_2(\pi 2)$”, respectively.

page 153: in line 7 “is-set$_a$” should be “is-set$_A$”, and in line 23 “is$_4$” should be “is$_6$”.

page 180, Fig. 6.3: The dependency graph of $\gamma$ should be replaced by the one on Fig. 2.

page 183, Lemma 6.21: Replace Statement 2) by “$sl-MAC \subseteq 1v-ATT$”.

page 185: Replace the last but one paragraph of the proof of Lemma 6.21 by the following. “Now we assume that $M$ is superlinear. By Notes 6.9 and 6.7, and (1) of our lemma, we have $sl-MAC \subseteq anc-ATT$. Moreover, the condition that $M$ is superlinear guarantees that each brother graph of $A$ is acyclic. Hence $A$ is one-visit.”

page 187, Theorem 6.23: The Statement 2) should be dropped.

page 187, proof of Corollary 6.24: Replace the 3rd and 4th lines by “$\subseteq 1v-ATT$”.

page 187, proof of Theorem 6.25: Replace the 3rd and 4th lines by “$\subseteq HOM \circ 1v-ATT$”.

page 188, Step 2, line 7: Replace “$swp-MAC$” by “$1v-ATT$”.

page 189, Fig. 6.6: Drop “$swp-MAC =$”.

page 208, line -6: Insert the following sentence after the period: ”The $m$-fold composition of $ATT$ and $MAC$ are also denoted by $ATT^m$ and $MAC^m$, respectively.”

page 209, proof of Theorem. 6.53: Replace “Note 6.9 and Theorem 6.23” by “Lemma 6.21 (2)” in the last line of the first sequence of inclusions and in the last but one line of the second sequence of inclusions.

page 239, proof of Corollary 7.32: Replace “Note 6.9 and Theorem 6.23” by “Lemma 6.21 (2)” in the sixth line.

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