Errata - Corrige. December 2014.
Alberto Pettorossi. *Semantics of Programming Languages*. Second Edition. Aracne. 2011.
'm, $\pm n$' means 'page m and line $\pm n$' from above (+) or below (−)

12, -6. where *should be*: which

57, In Table 2 Rule $R5$: $(\alpha + \beta) \times (\alpha + \gamma)$ *should be*: $(\alpha \times \beta) + (\alpha \times \gamma)$

61, -10,-11,-12. *Replace*: (*Step*) We assume ... two generic values m and n. *by*:
(*Step*) We have to show that:
$\forall m \in N,\ (\forall n \in N,\ s(m{+}n) = m{+}s(n)) \rightarrow (\forall n \in N,\ s(s(m){+}n) = s(m){+}s(n))$.
Let us consider a generic value m. We assume that $\forall n \in N, s(m{+}n) = m{+}s(n)$ and we have to show that $\forall n \in N$, $s(s(m){+}n) = s(m){+}s(n)$.
Let us consider a generic value n.

70, +2, +3. *Erase* : $\subseteq 0\, L(A)\, L(B)\, L(B) \subseteq$ {by hypothesis}

70, -17. $0\, b \subseteq L(B)$ *should be*: $0\, b \subseteq L(A)$

88, -12,-11,-10,-9. d *should be*: d_j

122, +1. Fact 2.3 is correct, but the proof considers only the case when the command c is **skip**

135, +1,+2,+3,+10. wp *should be*: A

136. In this page all occurrences of wp *should be*: A

137, -9,-10. The two occurrences of wp *should be*: A

144, -12,-13. equation e, where $a_1, a_2 \in$ **Aexp** *should be*: equation e of the form $a_1 = a_2$, where $a_1, a_2 \in$ **Aexp**, holds in Integer Arithmetic

163. Rule ($OG6$). In the premise: $\{B2\}\, c_2\, \{C2\}$ *should be*: $\{A2\}\, c_2\, \{B2\}$

182, +18. $<_{lex} \subseteq N^{\geq 0} \times N^{\geq 0}$ *should be*: $<_{lex} \subseteq (N^{\geq 0} \times N^{\geq 0}) \times (N^{\geq 0} \times N^{\geq 0})$

182, -15. $\delta(m,n) = let\ \ell \Leftarrow f(m, n{-}1) \,.\, f(m{-}1, \ell)$ *should be*: $\delta(m,n) = let\ \ell \Leftarrow \delta(m, n{-}1) \,.\, \delta(m{-}1, \ell)$

183, +2 and +22. *Cond*((*should be*: *Cond*(

189, -7. the the *should be*: the

195, +15. *leftmost computation* rule *should be*: *free-argument computation* rule

203, 5. *Twice* $\mathbf{fst}(t) \rightarrow c_2$ *should be*: $\mathbf{snd}(t) \rightarrow c_2$

204, -4. the the *should be*: the

224. Equation (EF) holds also if $down([\![F]\!]) = \lambda X.\bot \in [V_\tau \rightarrow (V_\tau)_\bot]$.

273, -8. $P' \sim q'$ *should be*: $p' \sim q'$

273, -5. the the *should be*: the

281, Figure 2 (δ) and -4 and -3. The two lines should be:
(δ) the assertion $\mu X.(\langle a \rangle\, \mathbf{true} \vee [\,\mathbf{.}\,] X)$ means that for every path π starting from the root, we have that: *either* (i) π is finite, *or* (ii) π has an arc with label a, that is, on π there is a process which can do an a action (see Figure 2 (δ)) (informally, in the tree of paths there is a frontier whose nodes are either leaf nodes or nodes on which an action a can be done).

Figure 2 (δ) should be improved by making some of the nodes of the frontier to be leaf nodes. Thus, those nodes cannot do an a action.

286. In the proof of $\mathcal{P}, P_1 \vdash \nu X.(\emptyset \vee \langle a \rangle X)$ the five lines the form $\ldots \vdash \{\ldots\} \vee \ldots$ or $\ldots \vdash (\{\ldots\} \vee \ldots) \ldots$ (that is, the lines where a set occurs immediately to the right of $\vdash$) should be erased.

287. In the proof of $\mathcal{Q}, Q_1 \vdash \nu X.(\emptyset \vee \langle a \rangle X)$ the four lines the form $\ldots \vdash \{\ldots\} \vee \ldots$ (that is, the lines where a set occurs immediately to the right of $\vdash$) should be erased.

288. In the proof of $\mathcal{Q}, Q_1 \vdash \mu X.\langle a \rangle X \;\mapsto^* \mathbf{b}$ the four lines the form $\ldots \vdash \{\ldots\} \vee \ldots$ (that is, the lines where a set occurs immediately to the right of $\vdash$) should be erased.

292, -20. In the definition of `prop B1`, replace the six occurrences of $[\ldots]$ by $[[\ldots]]$.

297, -8 and -9 . `Set` should be `Defs` (twice).

313, -12. The proof of Proposition 5.4 (ii) should be as follows.

(ii) Take an ω-chain $d_0 \sqsubseteq d_1 \sqsubseteq \ldots$ in D. Assume $\bigsqcup_{m \in \omega} d_m \in \bigcup_{i \in I} D_i$. We have to show that there exists $n \in \omega$ such that $d_n \in \bigcup_{i \in I} D_i$. Indeed, since $\bigsqcup_{m \in \omega} d_m \in \bigcup_{i \in I} D_i$ we have that there exists $k \in I$ such that $\bigsqcup_{m \in \omega} d_m \in D_k$. Since D_k is open, there exists $n \in \omega$ such that $d_n \in D_k$. Thus, there exists $n \in \omega$ such that $d_n \in \bigcup_{i \in I} D_i$.

314, +1. The proof of Proposition 5.6 (ii) should be as follows.

(ii) Take an ω-chain $d_0 \sqsubseteq d_1 \sqsubseteq \ldots$ in D. Assume $\bigsqcup_{m \in \omega} d_m \in \bigcap_{i \in F} D_i$. We have to show that there exists $n \in \omega$ such that $d_n \in \bigcap_{i \in F} D_i$. Indeed, since $\bigsqcup_{m \in \omega} d_m \in \bigcap_{i \in F} D_i$ we have that for all $k \in F$, $\bigsqcup_{m \in \omega} d_m \in D_k$. Now, by definition of an open set, we have that for all $k \in F$, there exists $n_k \in \omega$ such that $d_{n_k} \in D_k$. Let us consider the maximum value, call it n_{max}, in the set $\{n_k \mid k \in F\}$. We have that $d_{n_{max}} \in \bigcap_{i \in F} D_i$, because for all $k \in F$, D_k is an open set (and thus, upward closed). Therefore, Condition (ii) of Definition 5.1 holds and the proof is completed.