Some Comments on

A Structural Approach to Operational Semantics

page 84 In the formal definition of $\vdash$, replace $w \in \Sigma$ with $w \in w'$.

page 85 Then *programs* are just sequences $P = O_1, \ldots, O_n$ of instructions. Now, fixing P, the set of *configurations* is

$$\Gamma_P = \{ \langle m, i, j, k \rangle \mid 1 \leq m \leq n \text{ and } i, j, k \in \mathbb{N} \}.$$

Replace $\langle v, e \rangle$ with $\langle r, e \rangle$.

page 86 $T_P = \{ \langle m, 0, j, 0 \rangle \in \Gamma_P \mid O_m = \mathsf{stop} \}$.

page 87 Replace aotomata with automata and $()(()S) \Rightarrow ()(()())$ with $()(()S) \Rightarrow^2 ()(()())$.

page 90 Replace $\langle \text{addop} \rangle ::= * \mid -$ with $\langle \text{addop} \rangle ::= + \mid -$.
Control Stacks is ranged over by C.

page 96 Replace "size if its own" by "size of its own".

page 99 $\langle t_1 \text{ or } t_2, \sigma \rangle \rightarrow \langle t, \sigma \rangle$, where the truthvalue t is the logical disjunction of the truthvalues t_1 and t_2.

page 104 Replace the second configuration of the example with $\langle w, \langle 3, 1 \rangle \rangle$.

page 106 Replace $e = v \in N$ with $e = v \in \text{Var}$.

page 107 $Q\,(b) \equiv$ if $b \notin T$ and $m - n$ does not occur in b for all $m < n$ then $\langle b, \sigma \rangle$ is not stuck.

page 108 Replace "evaluatimg" by "evaluating'.

page 109

$$\frac{\langle b,\, \sigma \rangle \quad \rightarrow \quad \text{error}}{\langle \sim b,\, \sigma \rangle \quad \rightarrow \quad \text{error}}$$

page 112

$$\frac{\langle c_0,\, \sigma \rangle \quad \rightarrow_V \quad \sigma'}{\langle c_0\,;c_1,\, \sigma \rangle \quad \rightarrow_V \quad \langle c_1,\, \sigma' \rangle}$$

$\text{Var}\,(e) = V$

page 113 Replace "sould" with "should".

page 116

Defining occurrence	Applied occurrences
2	$\{5, 7, 10, 11\}$
6	$\{8, 13\}$
9	$\{12\}$

For example occurrences 1, 3 and 4 above are free.

page 117 $\rho : V$.

page 119 Replace "definition" with "definitions".

page 121

	$d_0 \,;\, d_1$	d_0 and d_1	d_0 in d_1
DV	$\mathrm{DV}\,(d_0) \cup \mathrm{DV}\,(d_1)$	$\mathrm{DV}\,(d_0) \cup \mathrm{DV}\,(d_1)$	$\mathrm{DV}\,(d_1)$
FV	$\mathrm{FV}\,(d_0) \cup (\mathrm{FV}\,(d_1) \setminus \mathrm{DV}\,(d_0))$	$\mathrm{FV}\,(d_0) \cup \mathrm{FV}\,(d_1)$	$\mathrm{FV}\,(d_0) \cup (\mathrm{FV}\,(d_1) \setminus \mathrm{DV}\,(d_0))$

page 123 $\rho \vdash_V d \to d'$

page 127 Replace $\Gamma_\alpha = N + T$ with $T_\alpha = N + T$.
Replace $d,\, d' \in \Gamma_d$ with $d,\, d' \in \Gamma_\alpha$.

page 131 Add to the paragraph about the assertions about commands: meaning that given α the command c is well-formed.

page 133

$$\frac{\rho \vdash_\alpha \langle e_0,\, \sigma\rangle \quad\to\quad \langle e_0',\, \sigma\rangle}{\rho \vdash_\alpha \langle \mathrm{if}\, e_0 \,\mathrm{then}\, e_1 \,\mathrm{else}\, e_2,\, \sigma\rangle \quad\to\quad \langle \mathrm{if}\, e_0' \,\mathrm{then}\, e_1 \,\mathrm{else}\, e_2,\, \sigma\rangle}$$

$$\frac{\rho \vdash_\alpha \langle d_0,\, \sigma\rangle \quad\to\quad \langle d_0',\, \sigma'\rangle}{\rho \vdash_\alpha \langle d_0 \,;\, d_1,\, \sigma\rangle \quad\to\quad \langle d_0' \,;\, d_1,\, \sigma'\rangle}$$

page 141 Replace “Thees” with “These”.

$$\frac{\alpha[x = \tau_0] \vdash_V e : \tau_1}{\alpha \vdash_V f\,(x : \tau_0) : \tau_1 = e : \{f = \tau_0 \to \tau_1\}}$$

page 142

$$\frac{\rho : \alpha}{\beta \vdash_V \rho : \alpha}$$

page 143 $\rho = \{\mathrm{double}\,(x) = \mathrm{let}\,\emptyset\,\mathrm{in}\,2 * x\}$

$$\begin{array}{ll}
\multicolumn{2}{l}{\rho \vdash \mathrm{double}\,(\mathrm{double}\,(2))} \\
\to & \mathrm{let}\, x : \mathrm{int} = \mathrm{double}\,(2) \,\mathrm{in}\, \mathrm{let}\,\emptyset\,\mathrm{in}\,2 * x \\
\to & \mathrm{let}\, x : \mathrm{int} = (\mathrm{let}\, x : \mathrm{int} = 2 \,\mathrm{in}\, \mathrm{let}\,\emptyset\,\mathrm{in}\,2 * x) \,\mathrm{in}\, \mathrm{let}\,\emptyset\,\mathrm{in}\,2 * x \\
\to^* & \mathrm{let}\, x : \mathrm{int} = 4 \,\mathrm{in}\, \mathrm{let}\,\emptyset\,\mathrm{in}\,2 * x \\
\to^* & 8
\end{array}$$

page 145

$$\frac{\mathit{form} : \beta \qquad \alpha[\beta] \vdash_{V \cup V_0} e : \tau}{\alpha \vdash_V (f\,(\mathit{form}) : \tau = e) : \{f = \mathit{aet} \to \tau\}} \qquad \text{where } \beta : V_0 \text{ and } \mathit{aet} = T\,(\mathit{form})$$

page 148 $\vdash_V f\,(\mathit{form}) : \tau = e : T\,(\mathit{form}) \to \tau$