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# Active Inference Book Post-Publication Corrections

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## Chapter 2

1. Page 25, Line 15: ‘Section 2.5’ should be ‘Section 2.6’ and ‘Section 2.4’ should be ‘Section 2.5’
2. Page 34, Line 23: ‘from observations to states’ should be ‘from states to observations’

## Chapter 3

1. Page 61, Box 3.3: ‘maximisation of expected free energy’ should be ‘minimisation of expected free energy’
2. Figure 3.1 – For the Equation labelled ‘Active States’ the  $x$  should be replaced with the  $\mu$  symbol. Similarly, for the equation labelled ‘Sensory States’ the  $\mu$  should be replaced with the  $x$  symbol.

## Chapter 4

1. Figure 4.1 legend ‘wherethe’ should be separated into ‘where’ and ‘the’.
2. Page 73, Line 1: ‘the order in which must’ should be ‘the order in which we must’.

## Chapter 7

1. Missing panel in Figure 7.2: this has been corrected in latest print run but is still missing online.
2. Equation 7.8: The two ‘ $E$ ’ symbols should be ‘ $\mathbb{E}$ ’ symbols.
3. Page 140, Line 9 of Section 7.5: ‘equation 7.5’ should be ‘equation 7.8’

## Chapter 8

1. Page 161, Box 8.2, 3<sup>rd</sup> line of Equation: Should be  $\dot{\mu}_\theta = -\partial_{\mu_\theta} S(\mu_\theta)$  (currently missing minus sign).
2. Figure 8.6: Missing arrow from box with G to circle with  $\pi$ .

## Appendix A

1. Page 226, Lines 2-3: ‘the number of columns of  $B$  match the number of columns in  $C$ ’ should be ‘the number of rows of  $B$  match the number of rows in  $C$ ’.
2. Page 234, Equation A.32: ‘ $(\mu - x)$ ’ should be ‘ $(x - \mu)$ ’.

3. Page 235, Line 6: ‘posterior precision’ should be ‘posterior covariance’.
4. Equation A.60 should be:

$$\begin{aligned}
\rho(h) &= e^{-\frac{1}{2}\lambda h^2} & \rho(0) &= 1 \\
\dot{\rho}(h) &= -\lambda h \rho(h) & \dot{\rho}(0) &= 0 \\
\ddot{\rho}(h) &= \lambda(\lambda h^2 - 1)\rho(h) & \ddot{\rho}(0) &= -\lambda \\
\dot{\dot{\rho}}(h) &= -\lambda^2 h(\lambda h^2 - 3)\rho(h) & \dot{\dot{\rho}}(0) &= 0 \\
\ddot{\dot{\rho}}(h) &= \lambda^2(\lambda^2 h^4 - 6\lambda h^2 + 3)\rho(h) & \ddot{\dot{\rho}}(0) &= 3\lambda^2
\end{aligned}$$

Currently there is a missing minus sign in line 4 (first column), one too many dots in the second line (second column) and a missing  $h$  in the second row (first column).

## Appendix B

1. Equation B6 should be:

$$\begin{aligned}
\dot{\mathbf{v}}_{\pi\tau} &= \boldsymbol{\varepsilon}_{\pi\tau} \\
\boldsymbol{\varepsilon}_{\pi\tau} &= \ln \mathbf{A} \cdot \mathbf{o}_{\tau} + \frac{1}{2} \left( \ln(\mathbf{B}_{\pi\tau-1} \mathbf{s}_{\pi\tau-1}) + \ln(\mathbf{B}_{\pi\tau}^{\dagger} \mathbf{s}_{\pi\tau+1}) \right) - \ln \mathbf{s}_{\pi\tau} \\
\mathbf{B}_{\pi\tau}^{\dagger} &\propto \mathbf{B}_{\pi\tau}^T
\end{aligned}$$

(Changes to the subscripts of  $\mathbf{B}$  in the second line)

## Appendix C

1. Figure C.3: Swap both instances of ‘left cue’ for ‘right cue’ and swap both instances of ‘right cue’ for ‘left cue’.
2. Figure C.7: There should be a semicolon at the end of the line ‘ $\mathbf{V}(:, :, 1) = [1 \ 1 \ 1 \ 1 \ 3 \ 4 \ 2 \ 2 \ 2 \ 2]$ ’