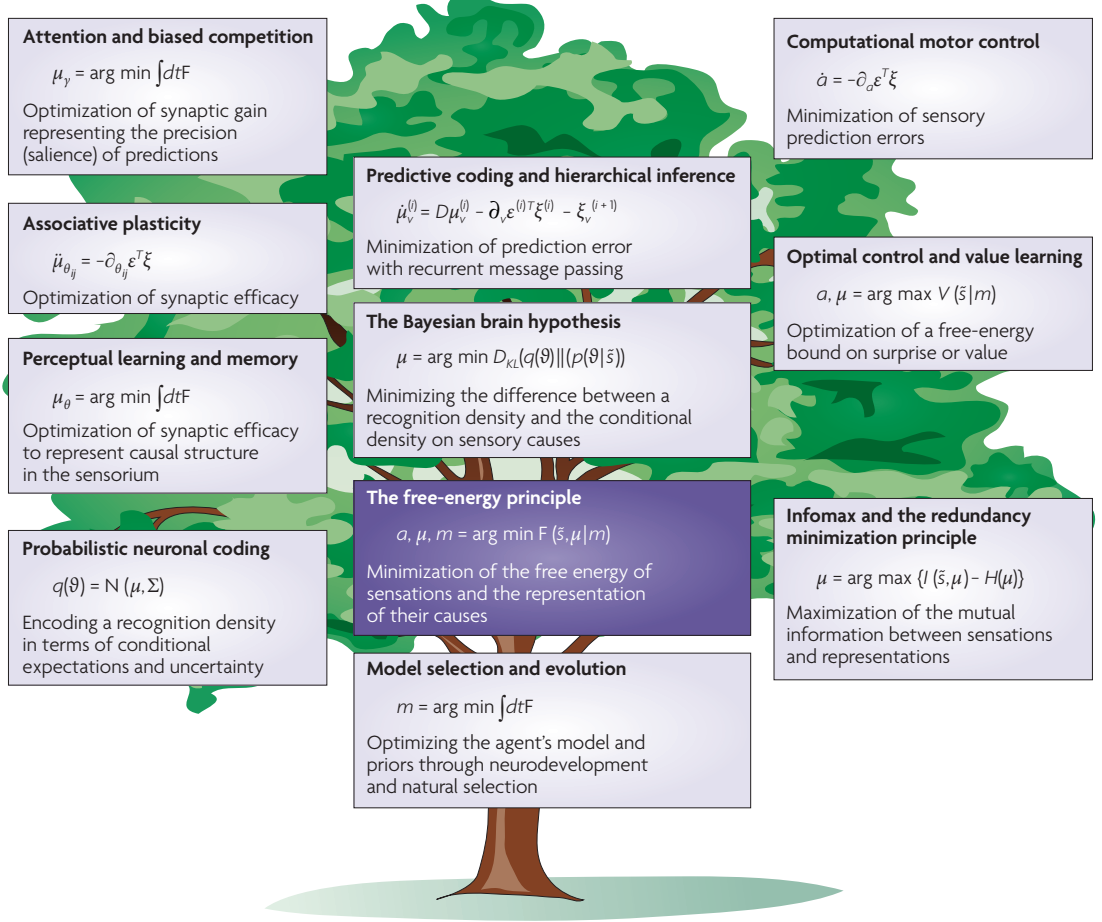
Attention and biased competition
$\mu_\gamma = \arg\min \int dt F$
Optimization of synaptic gain representing the precision (salience) of predictions
Associative plasticity
$\dot{\mu}_{\theta_{ij}} = -\partial_{\theta_{ij}} \varepsilon^T \xi$
Optimization of synaptic efficacy
Perceptual learning and memory
$\mu_\theta = \arg\min \int dt F$
Optimization of synaptic efficacy to represent causal structure in the sensorium
Probabilistic neuronal coding
$q(\vartheta) = N(\mu, \Sigma)$
Encoding a recognition density in terms of conditional expectations and uncertainty
Predictive coding and hierarchical inference
$\dot{\mu}_v^{(i)} = D\mu_v^{(i)} - \partial_v \varepsilon^{(i)T} \xi^{(i)} - \xi_v^{(i+1)}$
Minimization of prediction error with recurrent message passing
The Bayesian brain hypothesis
$\mu = \arg\min D_{KL}(q(\vartheta) \| (p(\vartheta|\tilde{s}))$
Minimizing the difference between a recognition density and the conditional density on sensory causes
The free-energy principle
$a, \mu, m = \arg\min F(\tilde{s}, \mu | m)$
Minimization of the free energy of sensations and the representation of their causes
Model selection and evolution
$m = \arg\min \int dt F$
Optimizing the agent's model and priors through neurodevelopment and natural selection
Computational motor control
$\dot{a} = -\partial_a \varepsilon^T \xi$
Minimization of sensory prediction errors
Optimal control and value learning
$a, \mu = \arg\max V(\tilde{s} | m)$
Optimization of a free-energy bound on surprise or value
Infomax and the redundancy minimization principle
$\mu = \arg\max \{I(\tilde{s}, \mu) - H(\mu)\}$
Maximization of the mutual information between sensations and representations