S2. Mathematical Formulas:

* Hypothesis-selection rule in ELPH: probability of selecting Hypi is proportional to its entropy:



* Choice-selection rule in ELPH: probability of selecting each ei in the prediction-set of Hypis proportional to its count (ci):



* Hypothesis-selection rule in RELPH: probability of selecting Hypi is proportional to its value (known as soft-max formula):



* Choice-selection rule in RELPH: probability of selecting each ei in the prediction-set of Hypis proportional to its accumulated reward (known as soft-max formula):



* Entropy formula in ELPH: the event entropy value for hypothesis, Hyp, is calculated bellow:



* Entropy formula in RELPH: the outcome entropy value for hypothesis, Hyp, is calculated bellow:



in which oi is the count of numbers that win, tie and lose have happened.