```clojure
(defn flip-query& [outcome k1]
  (uniform-continuous& 0 1
    (fn [dist1]
      (sample& dist1
        (fn [p] ((fn [p k2]
                  (flip& p
                    (fn [dist2]
                      (observe& dist2 outcome
                        (fn []
                          (predict& :p p k2))))))
                p k1))))))
```