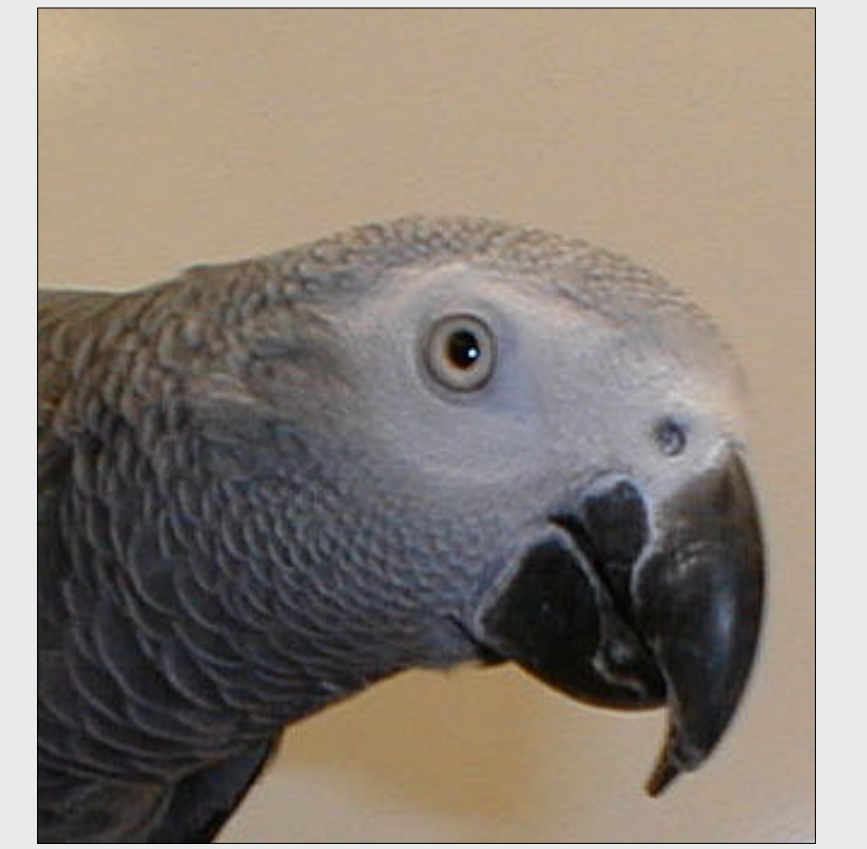




Serial TrHacking

Learning in African Grey Parrots



Pigeons can perform impressive feats when trained with classical chaining. But these apparently sophisticated performances diminish in accuracy if the context changes and the chained behavior is interrupted. Pigeons cannot easily start chaining in the middle of the sequence, omit steps, or modify the chained sequence to adapt to new conditions (Straub & Terrace, 1981).

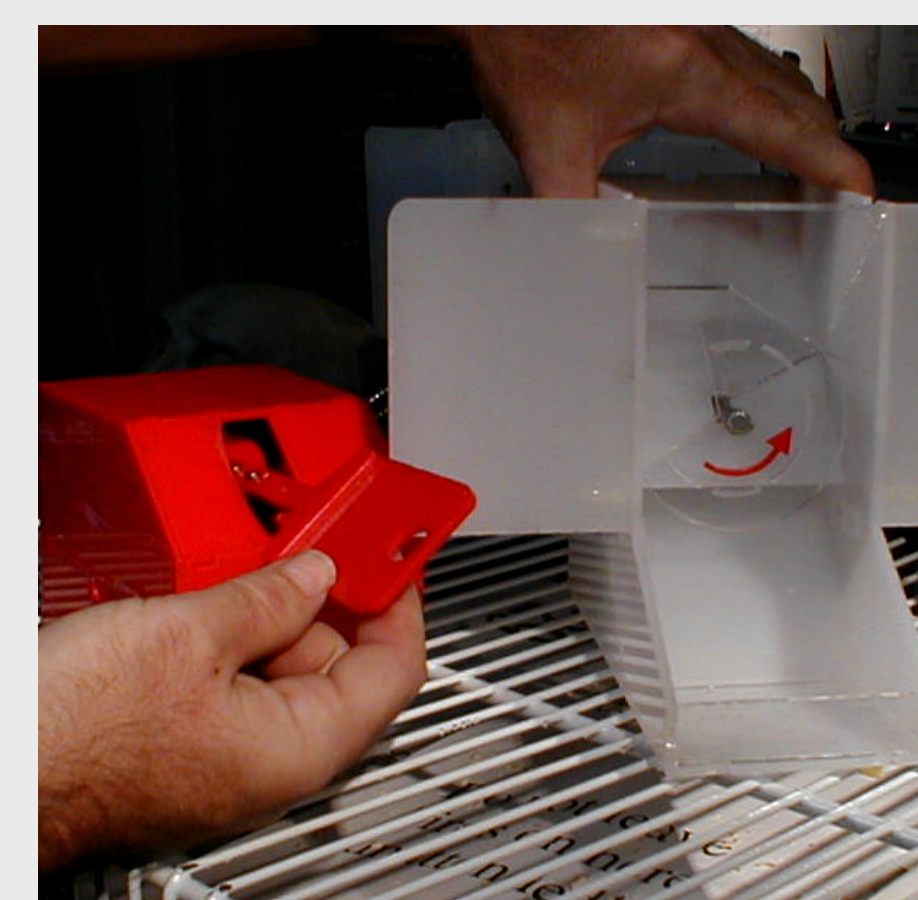
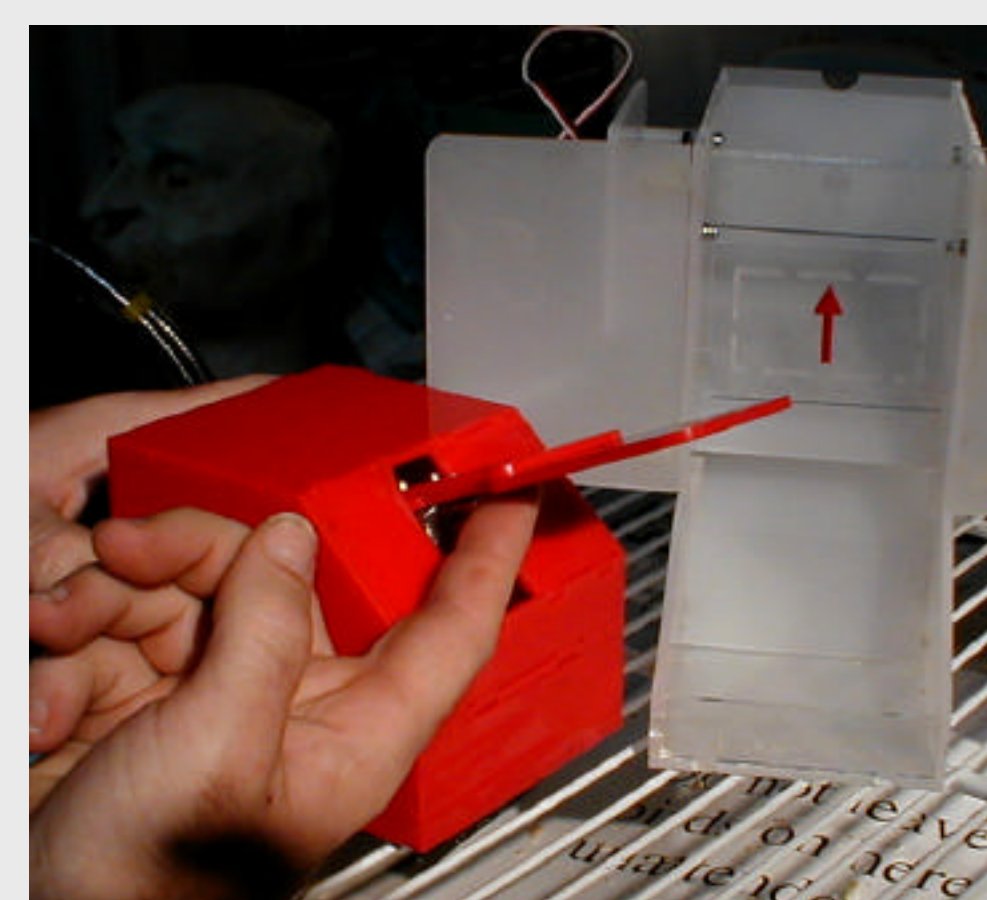
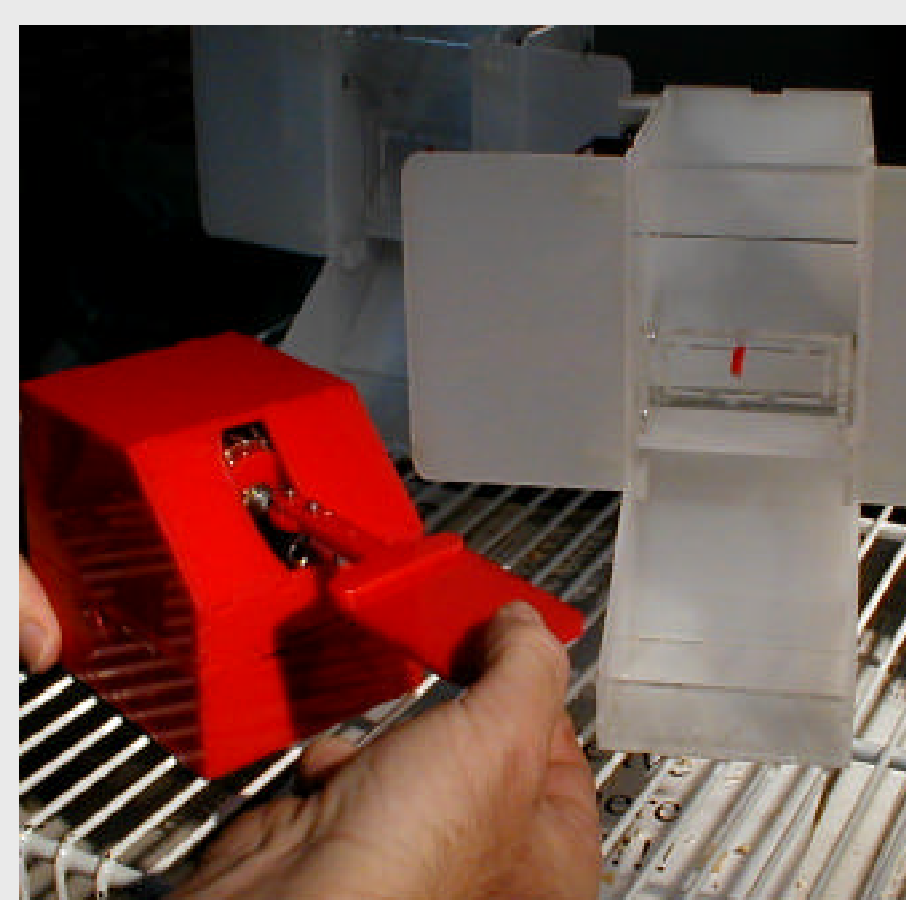
We are studying whether Wart, a Grey Parrot, can transfer serial learning from an initial context to new contexts with minimal retraining, and acquire knowledge beyond simple stimulus-response. This experiment may appear similar to classic operant-conditioning studies, but the difference is that to succeed, Wart must demonstrate versatility in his behavior.



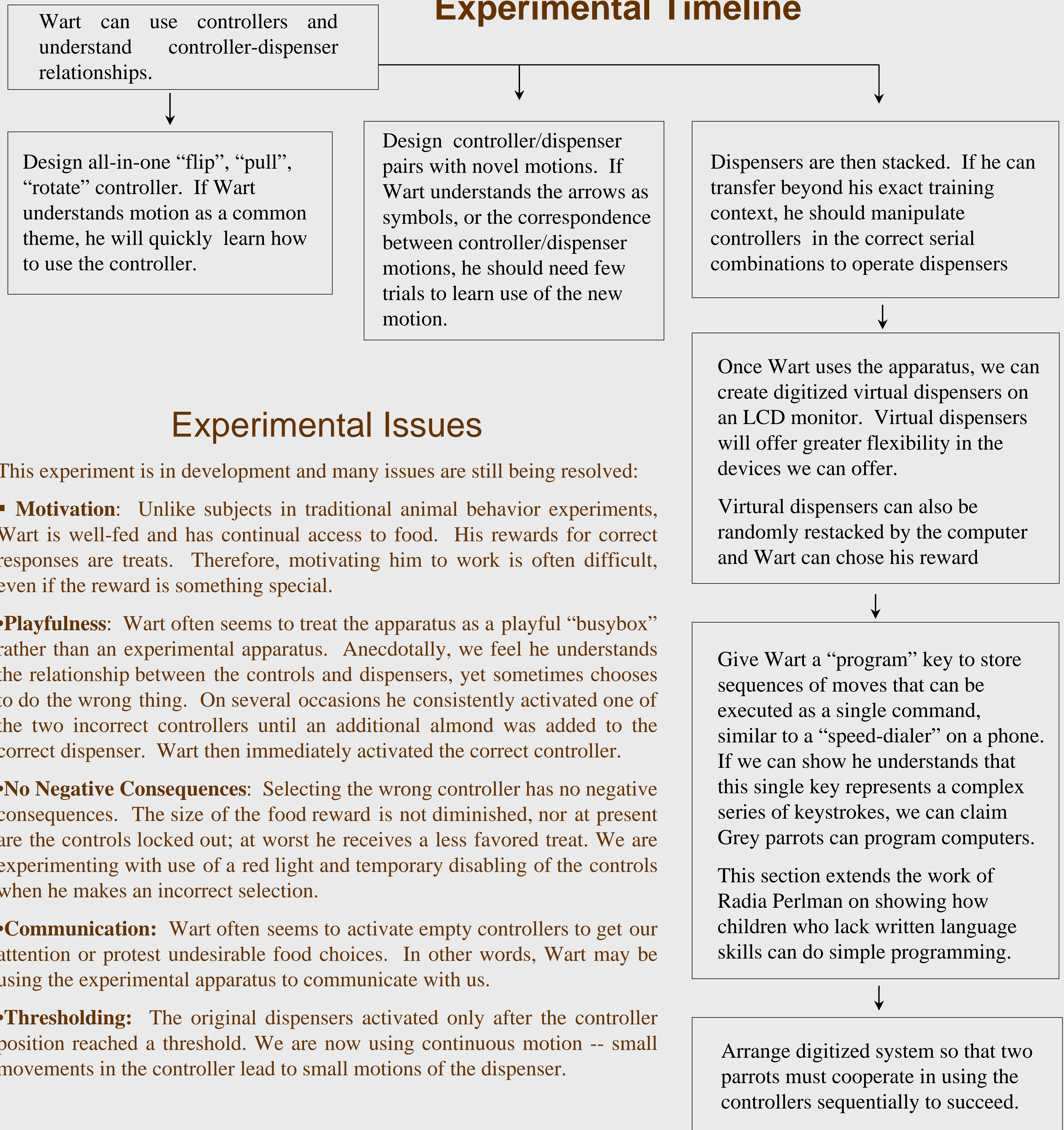
Pull

Flip

Rotate



Experimental Timeline



Experimental Issues

This experiment is in development and many issues are still being resolved:

- **Motivation:** Unlike subjects in traditional animal behavior experiments, Wart is well-fed and has continual access to food. His rewards for correct responses are treats. Therefore, motivating him to work is often difficult, even if the reward is something special.
- **Playfulness:** Wart often seems to treat the apparatus as a playful "busybox" rather than an experimental apparatus. Anecdotally, we feel he understands the relationship between the controls and dispensers, yet sometimes chooses to do the wrong thing. On several occasions he consistently activated one of the two incorrect controllers until an additional almond was added to the correct dispenser. Wart then immediately activated the correct controller.
- **No Negative Consequences:** Selecting the wrong controller has no negative consequences. The size of the food reward is not diminished, nor at present are the controls locked out; at worst he receives a less favored treat. We are experimenting with use of a red light and temporary disabling of the controls when he makes an incorrect selection.
- **Communication:** Wart often seems to activate empty controllers to get our attention or protest undesirable food choices. In other words, Wart may be using the experimental apparatus to communicate with us.
- **Thresholding:** The original dispensers activated only after the controller position reached a threshold. We are now using continuous motion -- small movements in the controller lead to small motions of the dispenser.

Arrange digitized system so that two parrots must cooperate in using the controllers sequentially to succeed.