**1. Methods**

To provide some independent support of the proposed hypothesis that a genotype to phenotype mapping that includes epigenetic operators may be more evolvable than an equivalent mapping without such operators, we evolved simulated robots to solve the same task as the physical robot. Fig. 1 shows the behavior of the simulated robot when equipped with the best controller evolved using EO.

Fig1

* 1. The task environment
  2. The robot
  3. The controller
  4. The genotype to phenotype mapping
  5. The evolutionary algorithm

**2. Results**

adsfas

|  |
| --- |
| Macintosh HD:Users:jbongard:Dropbox:JoshBongard:0_Code:bbots:Fig1.png |
| **Fig. 2.** Relative performance of the GO (red lines) and EO (blue lines) genotype to phenotype mappings. Twelve evolutionary trials of GO and 13 evolutionary trials of EO were performed, each lasting for 500 generations. Thick lines report the mean fitness of the best individual in the population, averaged across the trials. Thin lines report ± one unit of standard error of the mean. By the end of the trials, the EO treatment produced statistically significantly more fit individuals than the GO treatment. (*p*<0.05 according to a Student’s *t*-test, assuming unequal variances.) |

**3. Discussion**

adsfas