Supplementary Methods

Experiment 1

Stimuli
Motion for the male and female prototype PLWers was extracted from motion captured human actors and applied to a computer-generated 3D virtual human figure\(^1\) (Character Studio 4.0; Autodesk Inc., California, USA). Four gait cycles (175 frames) were selected and the motion was edited to match the gait length of the figures and to ensure each looped smoothly. A continuum of gender-ambiguous PLWs was constructed by using the built-in Motion Mixer Editor, which uses weighted-averaging to vary the proportion of motion information from the male and female prototypes. Fifteen stimuli (range: 0.66/0.34 - 0.34/0.66 male/female) were created. The 0.50/0.50 male/female stimulus served as the neutral adapting stimulus, and the remaining fourteen were the test stimuli. The adapting stimuli depicted eight gait cycles (175 frames shown twice) of a PLWer driven by prototype male, prototype female or neutral (0.5/0.5 male/female) motion. The test stimuli consisted of 30 consecutive movie frames, selected randomly from the 175-frame movie. All PLWers subtended 3 X 7.5 degrees visual angle and were shown in frontal perspective. The observers were instructed to maintain their gaze at the centre of the PLWer.

Experimental Procedure
Each of the three adapting conditions was completely crossed with each of the fourteen test stimuli. The resulting forty-two combinations were presented once per block of trials, and the order was randomly interleaved so that the observers average adaptation state would be neutral. Observers completed twenty blocks of trials over the course of four one-hour testing sessions. The observers reported gender judgments by means of a key
press at the end of the trial. They did not receive any feedback on the accuracy of their judgments.

**Experiment 2**

**Stimuli**

The coherent adapting stimuli were identical to those used in the first experiment. The dephased adapting stimuli were produced by decomposing the coherent PLWer stimuli into fifteen movies, one for each individual light. The fifteen movies were recombined, but the starting frame of each movie was randomized. Thus, while the motion paths of individual lights were identical in the dephased and coherent movies, the relative motions of the lights were out of phase. Examples of the stimuli are available as supplementary material.

**Experimental Procedure**

Coherent and dephased versions of the experiment were completed by all participants, with the order counterbalanced.