



Figure 2. Walker 1 in the most outstretched positions. Brightness of the image is turned up to reveal the approximate location of the reflectant tape. Blurring and fuzziness are due to both the nature of the medium and to the rerecording process.

The viewers' answers to the question "How did you recognize each of the walkers?" gives us some indication of how they dealt with the task. It is noteworthy that none said, for example, "It simply looked like Marty walking" or "I saw Elaine walking," although demand characteristics may have contravened any such tendency. Instead, viewers tended to mention as clues certain critical features of the display, such as the speed, bounciness, rhythm of the walker, amount of arm swing, or the length of steps. The most accurate viewers claimed to associate these dynamic aspects of the display with particular individuals. Interestingly, the poorest viewer was the only one who reported using height of the walkers (a nondynamic aspect that was controlled in the selection of walkers) as a way of deciding.

Our subjects ranked how well they would be able to recognize the walkers, but they were strikingly inaccurate in their opinions. The correlation between the ranked ease of recognition and the percent correct responses was small and insignificant ($\rho = -.06$).

Although this account is tentative and speculative, we are led to believe that the viewers were acting in large part as conscious problem solvers rather than as direct perceivers of particular individuals walking in the dynamic displays. From the start of the session, when their task was made clear to them, they may have tried to think of characteristic features of the walkers. Perhaps many of these features were not actually presented in the abstract arrays, so the viewers had to reassess the features that would allow them to identify the walkers. This process of hypothesis testing might account for the relatively poor performance on the early trials and the improved performance in later trials. Without feedback, viewers learn what they can extrapolate from the displays and use it to better their performance. It is our impression that performance would continue to improve without feedback, and that one or two trials with feedback for each walker would yield essentially perfect performance. What is re-

each of the six walkers (range: 17% to 39%), to 59% for the last three (range: 22% to 95%) [$t(6) = 3.1$, $p < .025$ for this increase]. The confidence judgments reflect the fact that viewers knew what they were doing. When maximally confident, they were 75% correct (range: 31% to 100%) [$t(6) = 6.2$, $p < .001$]; when minimally confident, they were only 24% correct (range: 0% to 43%) [$t(6) = 1.3$, not significantly better than chance]. Finally, self-recognition was not significantly better than the recognition of others (43% vs 36%), a result that fails to replicate Wolff (1943, pp. 88-90).

Table 1
A Matrix for the Identification of Self and Others,
as Represented by Percent Correct

Viewers	Walkers						Mean
	Nancy	Mary	Elaine	Mark	Marty	Lane	
Nancy	<i>10</i>	30	60	30	40	0	28
Mary	10	<i>20</i>	40	30	50	50	33
Elaine	78	40	<i>78</i>	38	78	40	53
Deborah	44	40	89	13	78	50	38
Mark	10	40	40	<i>50</i>	80	10	38
Marty	0	30	10	60	<i>20</i>	0	20
Lane	0	20	50	20	80	<i>70</i>	40
Mean	21	31	51	35	60	31	38

Note—Self-identification is shown in italics. There are missing data for viewers Elaine and Deborah. Numbers of walkers correspond to those in Figure 1.

How Do Viewers Do It?:

Direct Percept vs Conscious Problem Solving

From the very first trial, viewers had no difficulty envisioning a person walking in the point-light display: The percept seems to be direct and immediate, as Johansson suggests. Do viewers come to see particular persons walking the point-light presentations or do they learn how to match limited information from the display with stored knowledge of the walkers' gaits?