Visualizing Body Movement: Experimental Techniques for Mapping Change

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I made these map posters to visually compare our experience of the moving body, as the dance theorists Maxine Sheets-Johnstone and Rudolf Laban each thought of it. For both, movement is made up of our changing existence as it is felt and expressed in space. When I turned to cartographic methods to visualize their ideas, I used flow mapping, spatial reference systems, and small multiples.

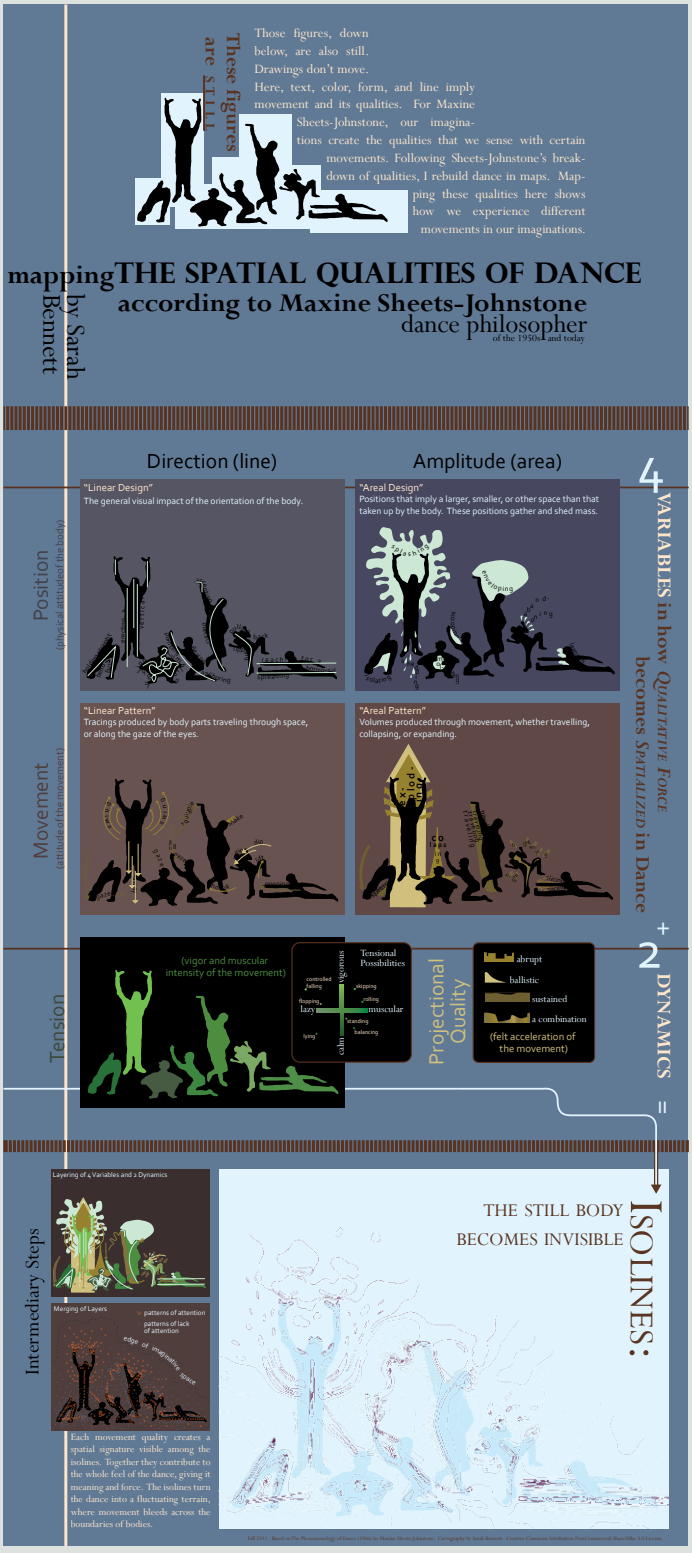


Figure 1. The steps needed to create an isoline map of dance according to Sheets-Johnstone's movement system.

In my maps, arrows show sensations flowing through the body. Lines organize the space around the body into platonic solids that are used as landmarks for movement. Small multiples overlap to show progression across a river.

These techniques fall short of the spatial reality of movement for Sheets-Johnstone and Laban. For them, movement is not a change in position that can be described as traveling from A to B. Movement is dynamic, the way a melody moves through time. The qualitative sensations and expressions that happen between A and B, like suddenness or heaviness, are what make up movement. An arrow or a still drawing of the body can only approximate movement qualities, since they indicate the end points better than what happens in between.

Because traditional mapping methods ignore the nature of movement, I first turned to isoline mapping, which you can see at the bottom of the blue poster (Figure 1). Isolines are usually used to show a snapshot, a single point in time. Here, the isolines are ekstatic: they show "nowness" the way we experience it, as a synthesis of the immediate past, the present moment, and the immediate future. This allows the isolines to describe change through time using their tendency to seem like they are moving themselves, through their aesthetic force. Ideally, tracing the isolines with your eye causes sensations akin to those in the original movement, recreating the betweenness of qualities of movement. Viewers of this map usually stare at it for a while, and come away pleased, if not really able to describe what they were looking at.

My second move was to do away with Bertin's visual symbolic taxonomy. Step three (Figure 2) uses a gestural system to describe each motion: a thick or thin line does not denote "heavy" or "light" weight in each instance the way a large or small shape would normally denote quantity, so the symbol cannot be read as the constituent parts of the line. Instead, you must perform the gesture that would create that line. I gave the lines textural qualities that suggest a gesture with familiar marking tools like pens or paint. This was a better way of evoking quality than a simple arrow or a symbolic puzzle, but it remains to be seen whether the viewer can really understand it.

While these methods of mapping movement probably introduce confusion by breaking many rules, they may make mapping change easier or more attractive in other, more common mapping contexts.

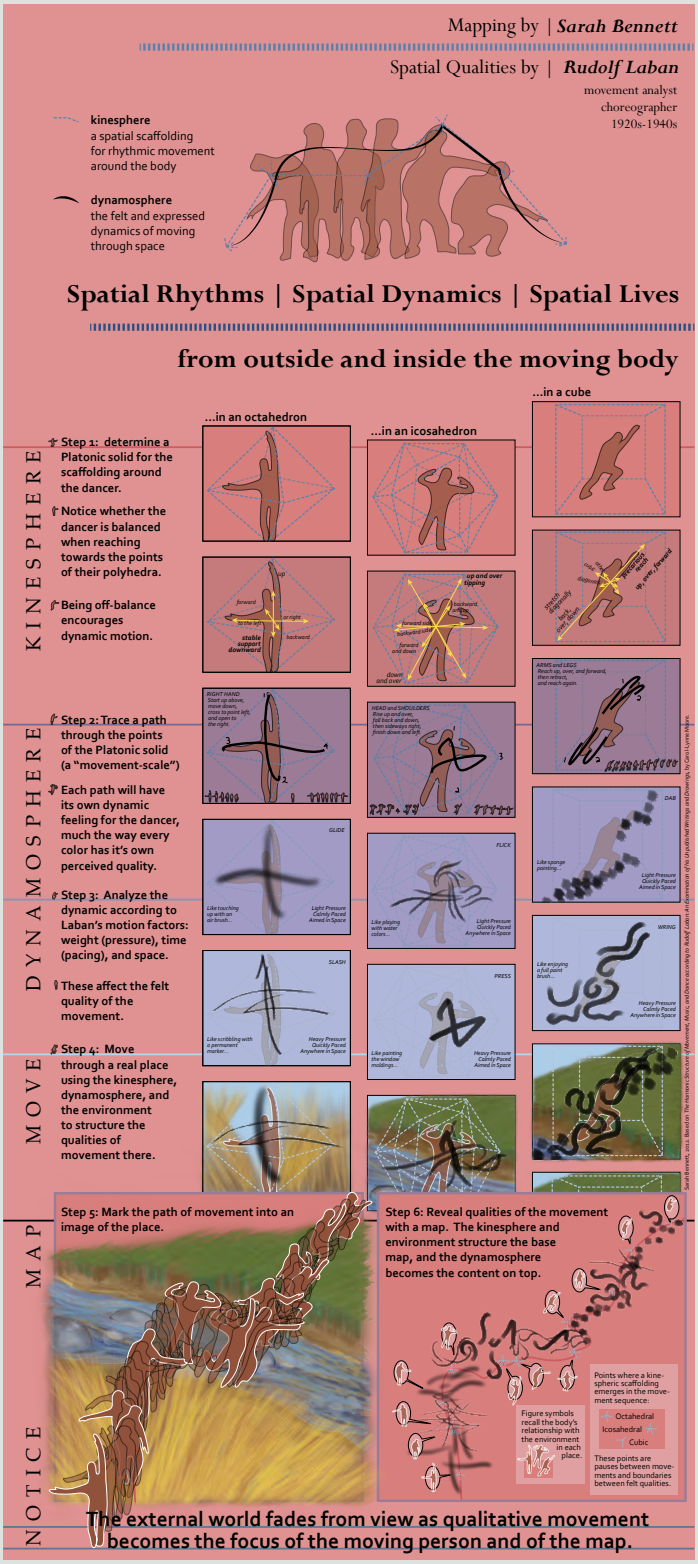
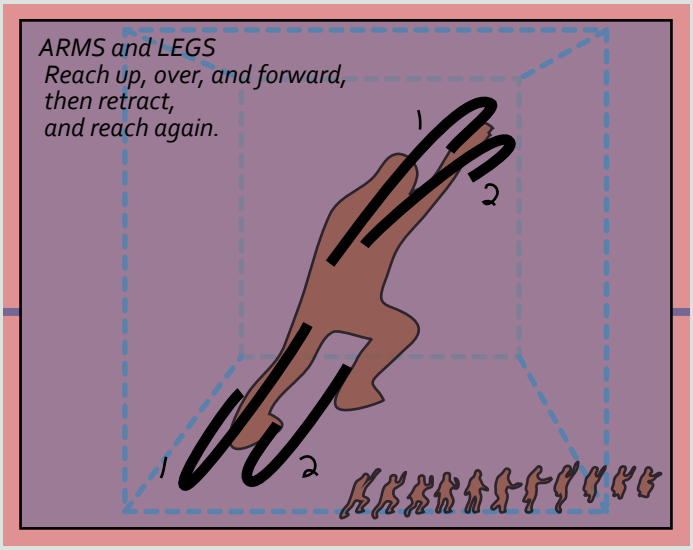


Figure 2. Visualizing Laban's famous movement system applied to a trip across a creek.



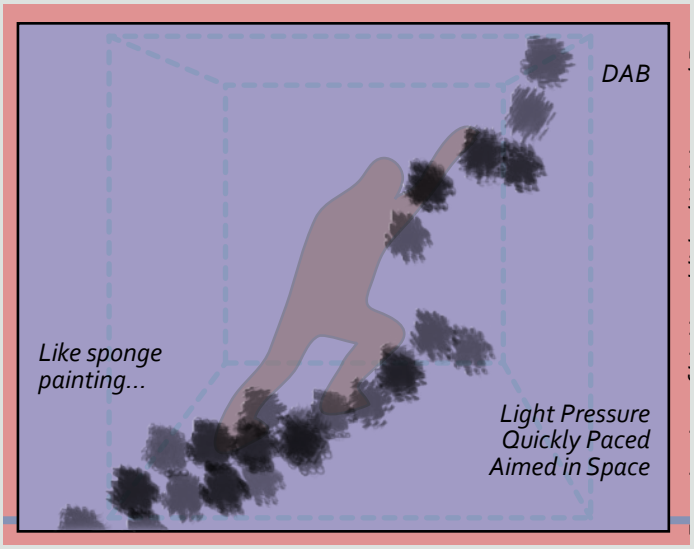


Figure 2 (detail). Development of a gestural symbology to show climbing a steep hill.

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