

And here is the long-awaited esophageal timetable, narrating movement of food from mouth to stomach. Sequenced images are condensed onto a space-time grid, along with a measure of radioactive intensity:

Eight of the consecutive 0.2 second 64 by 64 standard image frames (top) show radioactive liquid descending to the stomach. The transit process involves only one dimension of the esophagus; lateral motion is of no concern. Therefore, each image frame was compressed into a column one pixel wide by summing the counts along horizontal rows. The columns were assembled in order side by side, including the eight above but totalling sixty in the entire study, to create the condensed dynamic image of an entire swallow (bottom). The horizontal axis encompasses 12 seconds of time, the vertical axis the spatial span from mouth to stomach. The bolus shows uncomplicated downward transit, a normal result.⁸

Also recounting place in time, the engaging "bumps chart" at right tallies results of English collegiate rowing contests. Bumps races come about because the narrowness of rivers precludes more than two crews from rowing side-by-side; in fact on bends there may be room for only one boat. At the beginning of a race, crews are spaced apart at intervals, the starting gun is fired, and they row like mad trying to catch the boat immediately in front. When a boat overtakes another, the crew in front pulls over and the one formerly behind goes on by, now in pursuit of the boat next ahead. In times past, the boats may have actually bumped, signaling a passing and crossed lines on the chart. And, below, a timetable of Wagner's operas, from writing of text and music to first performance.



