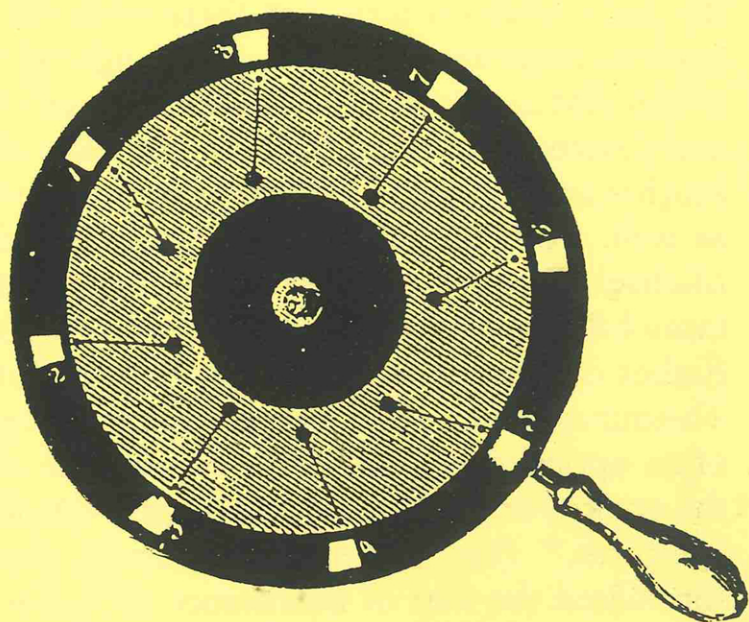
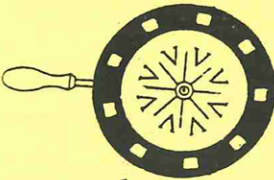


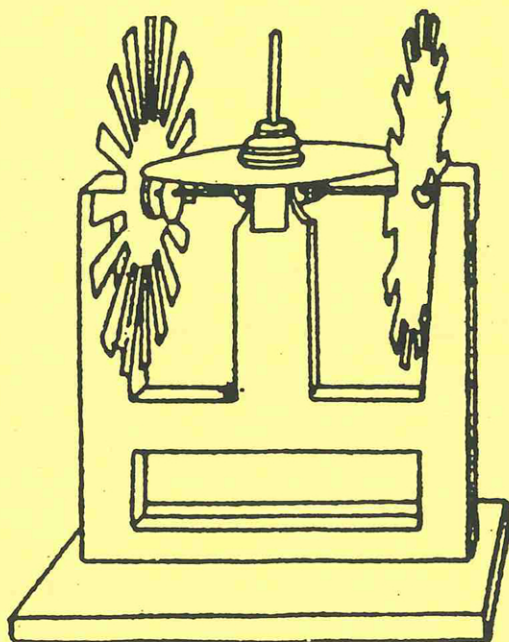
PHENAKISTASCOPE



"I shall not describe the variety of curious illusion which can be produced by this new method. I leave to the imagination of persons who would try these experiences the care to find out the most interesting."

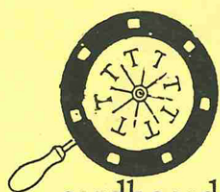
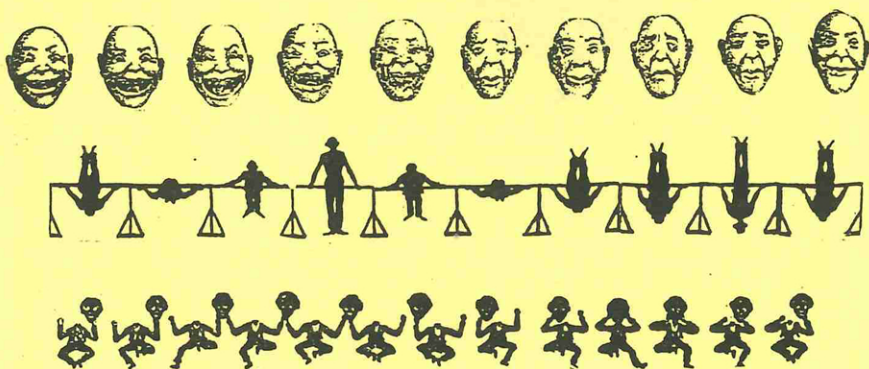
— J.A. Plateau

 Various forms of optical devices had been invented well before the 1800's: most notably the camera obscura and the magic lantern. It was only in the early 19th century that there were discoveries regarding the effects of *both* light and movement in the eye. Though optical studies and devices were being made by the likes of knights and priests, scientists were involved as well. Both Sir Charles Wheatstone and Michael Faraday showed the illusion of immobility given to a moving object by brief flashes of light. It was Dr. Peter Roget's (of Thesaurus fame) 1825 paper, "Explanation of an optical deception in the appearance of the spokes of a wheel seen through vertical apertures," (i.e. picket fence-posts!) that formalized the idea of persistence of vision.

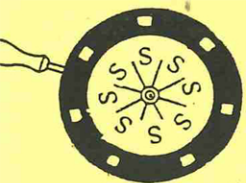


Faraday's
Wheel

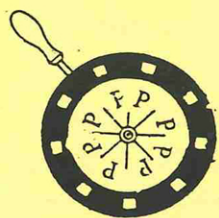
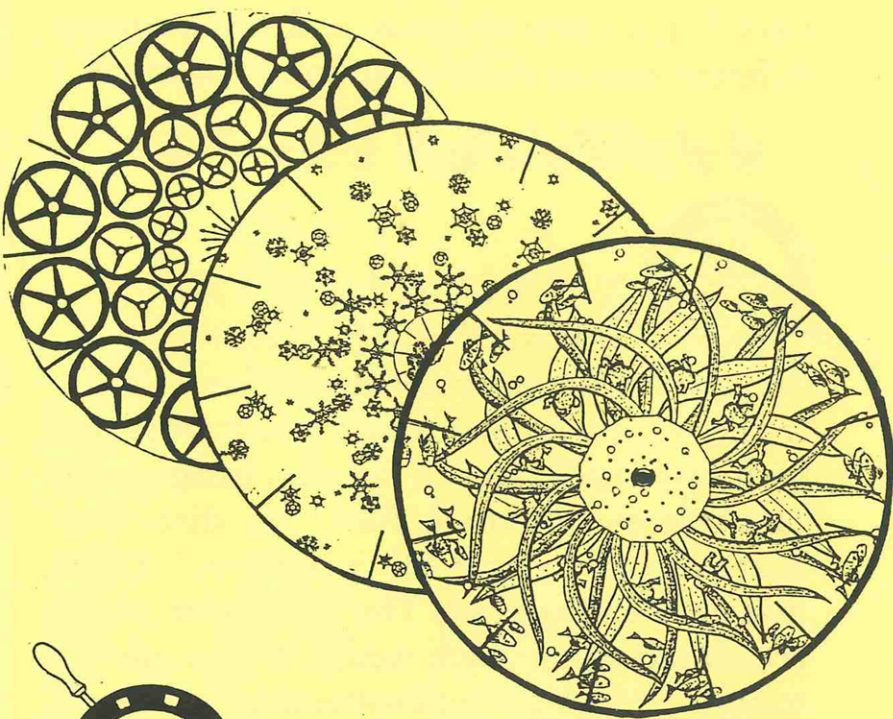
This physiological reaction to light is the cornerstone to how motion pictures can work. It was this idea of how we briefly retain an image captured by the eye that allowed for the development of a device that would "divide up" the images of successive movement and also allowed for their "recombination."



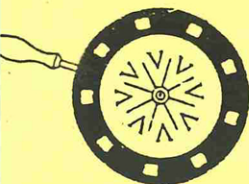
The device known by the name 'Phenakistiscope' (sic) consists of a cardboard disque pierced near the circumference by a certain number of little openings and carrying painted figures on one of its faces. When one turns the disque around its center facing a mirror looking through the openings, the figures seen reflected in the mirror instead of merging seem to contrarily stop rotating in a circle, come to life and perform their own particular movements," said Dr. Joseph Antoine Plateau, one of the inventors of this toy in 1832. (The other inventor was Ritter von Stampfer, of Belgium, also claiming invention in 1832.)



ince then it has been the development of instantaneous photography and the mechanical movements to both gather and project enough image per second, a little bit of Dolby™ sound, a few hams, a contract to the state of Iowa for a steady supply of popcorn and Viola! . . . Star Wars.

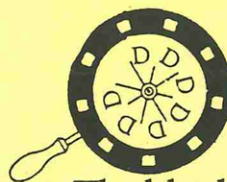


henakistascopes in their time, along with other optical toys like the Zoetrope, were popular parlor toys and amusement park past-times. Today, and hopefully tomorrow, the Phenakistascopes has merit both as an historical piece as well as an explorable medium for animated designs and stories . . . well, short stories.



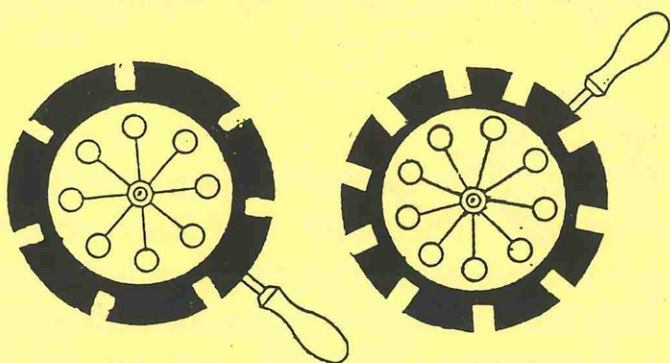
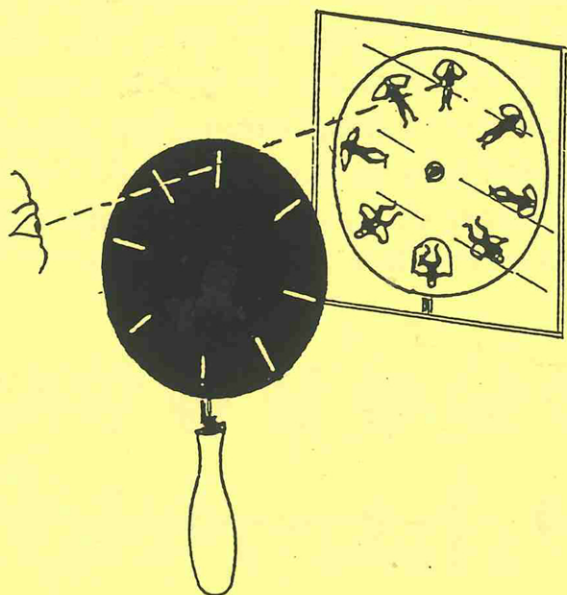
VIEWING THE PHENAKISTASCOPE

As Dr. Plateau described it, one simply faces the images toward a mirror, viewing them through the slots while spinning the disc. Lighting is important in getting a clear view. To avoid glare, a light facing slightly towards the *reflection* works best. Spinning the disc at different rates helps control focus and can produce different effects depending upon the image.



DRAWING YOUR OWN PHENAKISTASCOPIES

The blank discs provided have 10 or 12 slots. In theory any number of slots will work, but with varying degrees of success. Imagine that like frames of movie film, the discs have frames in the shape of "pie slices." (Kids, don't try eating one!) The successive images are placed within each wedge. If you are new to animation, start with some simple subjects, such as a ball bouncing or a pendulum swinging (see cover), and view what you've drawn to get an idea how you can create the illusion of motion for yourself. One especially nice trick to try that is peculiar to Phenakistascopes is to draw, for example, 13 images evenly spaced around the 12 slotted disc. (Or another example, 9 images around the 10 slotted disc.) You'll be surprised at the effect.



iving as we are in an age where rules are followed, or broken, to produce "what works," half the fun is in taking delight with the surprises, mistakes and experiments for new and unplanned effects. For more help in basic animation techniques, check the many books available on the subject at your local library or bookstore.