Watch the following video for a demonstration of the phi phenomenon:

A YouTube element has been excluded from this version of the text. You can view it online here: https://pressbooks.bccampus.ca/thescienceofhumanpotential/?p=180

It has been quipped that sciences advance when one scientist stands on the shoulders of another and psychology advances when one psychologist stomps on the head of another. The originator of this comment could have had John Watson in mind. Watson was trained as a functionalist at the University of Chicago and upon
graduation accepted an excellent position at Johns Hopkins, where he remained for 12 years. Publication of his Psychological Review article, “Psychology as the Behaviorist Views It” (1913), resulted in no less than a permanent transformation of the discipline. Unlike the functionalists and Gestalt psychologists, Watson considered Wundt’s approach to have been a false start. His manifesto called for a change in the definition, goals, and methods of psychology. Watson reasoned that if psychology were to be considered a natural science the subject matter had to meet the three criteria of being observable, testable, and replicable. Since conscious experience cannot be independently verified by any means, testable questions could not be formulated and results could not be replicated. Watson limited the subject matter of psychology to observable behavior and defined the discipline as the science of individual behavior. The scientific method would be applied to the goal of prediction and control of observable behavior.

Watson’s behaviorism was particularly critical of introspection as a method of inquiry. Not only was introspection inherently subjective, making independently verifiable replication of results impossible, it was a reactive procedure that unnecessarily limited the discipline's subject matter. A reactive procedure is one in which the observational procedure affects the results. Watson argued that the act of introspecting necessarily altered one's conscious experience. That is, the research findings obtained while introspecting would only apply under circumstances where an individual is engaged in introspection. This is not ordinarily the case. Also, since only reliable verbal human beings could accurately describe their introspections, it was impossible to study abnormal populations, children, or other animals as subjects.
Psychology Today

Each of the major early schools contributed significantly to the way psychology is currently practiced. Working backward, it is recognized that our scientific observations are limited to observable behavior (Skinner, 1990). Indeed, just as in other sciences, psychology’s subject matter is expanded with the development of new instruments. Astronomy benefited from the invention of the telescope, biology from the microscope, and psychology from such innovations as the IQ test, personality tests, reaction timer, galvanic skin response (GSR), Skinner-box, electroencephalograph (EEG), magnetic resonance imaging (MRI), computerized recording of behavior, and so on.