lence region is also important to very high-energy physics. Particle discovery experiments and Standard Model tests with colliders are only possible if the QCD background is completely understood. QCD evolution, apparent in the so-called scaling violations by parton distribution functions, entails that with increasing center-of-mass energy, s, the support at large-x in the distributions evolves to small-x and thereby contributes materially to the collider background.

Deep inelastic scattering (DIS) of electrons from protons and bound neutrons at the Stanford Linear Accelerator Center (SLAC) led to the discovery of quarks. These experiments observed more electrons scattering with high energy at large angles than could be explained if protons and neutrons were uniform spheres of matter.[2] In the approximately forty intervening years, electron DIS has played a central role in measuring structure functions, and SLAC has been especially effective in mapping the proton's structure functions in the valence-quark region.

More recently, muon scattering experiments – performed by the European Muon Collaboration (EMC), the New Muon Collaboration (NMC) and the Bologna-CERN-Dubna-Munich-Saclay Collaboration (BCDMS) – have contributed to our store of information. There have also been a substantial number of neutrino scattering experiments. However, they have generally used nuclear targets rather than pure hydrogen targets. Drell-Yan experiments have been effective at measuring the anti-quark distributions in the proton and nuclei. Putting all this together, it can be said that as a consequence the proton structure function is extremely well known, at least for $x \lesssim 0.7$.

Herein we will discuss the status of charged-lepton and Drell-Yan experiments, as well as prospects for new experiments at, e.g., the Thomas Jefferson National Accelerator Facility (JLab) and FermiLab (FNAL). On the other hand, although a number of experiments at the *Conseil Européen pour la Recherche Nucléaire* (CERN) and *Deutsches Elektronen-Synchrotron* (DESY) have also provided measurements of the proton structure function, many of these efforts focused on the low-x behavior and hence they will not be discussed.

An experimental determination of the neutron structure function at high Bjorken-x has proved especially troublesome, the main reason being that most of our information about the

[2] In both method and results this series of experiments, conducted from 1966-1978 and for which Taylor, Kendall and Friedman were awarded the 1990 Nobel Prize in Physics, was kindred to that which led Rutherford to discovery of the nucleus in 1911.