Abstract--In 1915, the electric wave filter was introduced to meet the needs of the young communications industry. This was followed by the introduction of equalizer to compensate for the gain and phase distortion introduced by the transmission media. Soon, sophisticated techniques were developed to realize passive electrical networks capable of meeting the exacting performance demands of complex communication and control systems. Active network design became a fruitful area of investigation after the invention of Audion and the introduction of feedback amplifier. The first active filters naturally rose out of the wedding of the feedback amplifier with passive RLC networks. Since then, extensive research on the theory and practice of active networks, coupled with the growing availability of cheap, reliable, and small passive and active components, made the area of active networks one of the most attractive and promising branches of circuit theory. Signal processing, prior to the 1960s, was based primarily on continuous-time analog circuit technology. The rapid development of high-speed electronic digital computers, microelectronics, and integrated circuit fabrication technologies coupled with a number of major theoretical developments resulted in the use of digital techniques for signal processing and led to the field of digital signal processing. This talk provides an overview of the major advances made in the fields of analog and digital signal processing, and mixed analog-digital signal processing during the last fifty years. It concludes with a speculation on the future trends in both analog and digital signal processing fields.