My interest in natural products was stimulated by a series of lectures given by the Nobel Laureate Professor Alexander Todd in my final year at Cambridge University, and I began my research under his direction in Fall 1960. In this lecture, I will describe my sixty-year career in studying the chemistry of natural products and how advances in instrumentation, particularly NMR and mass spectrometry, has made an enormous difference to the way in which this work is carried out. The work discussed will include structural, synthetic, and biosynthetic studies of natural products ranging from insect pigments, antibiotics, and fecal mutagens to taxol and other anticancer natural products, as well as antimalarial natural products. One of the compounds discussed, napabucasin, is now an anticancer drug in Phase III clinical trials.