ved, before the turn of the century.

We begin in Section 1 by refining the Kodaira embedding theorem in the case of dimension one. We then describe the local structure of maps between Riemann surfaces, and we use this to prove the Riemann-Hurwitz and genus formulas. We suggest the reader start with Section 2 and refer back to Section 1 as needed.

In section 2 we introduce the theory of Abelian integrals and Abel's theorem and its converse. This theorem is perhaps most accessible in the case of elliptic curves — where indeed it was originally found — and we conclude with a discussion of this case.

We turn in Section 3 to the study of linear systems on curves. The fundamental result here is, of course, the Riemann-Roch formula. Next, we introduce the canonical curve, an intrinsically defined projective model of any nonhyperelliptic Riemann surface. The importance of the canonical curve is suggested by the geometric version of the Riemann-Roch; its full significance will continue to emerge through the remainder of the chapter. We initiate our study of special linear systems with Castelnuovo's bound on the genus of a curve of given degree in projective space; following a discussion of hyperelliptic curves and Riemann's count — which establishes our notion of the dependence