of a Riemann surface on parameters — we start out on the road toward the solution of the complementary problem of Brill and Noether.

Section 4 and 5 represent a shift of focus toward the extrinsic aspect of curves. In section 4 we prove the general Plücker formulas and the Plücker formulas for plane curves. There is a basic distinction between these results: the general Plücker formulas apply to curves in projective space of arbitrary dimension but deal only with the local character of the curve, while the formulas for plane curves describe such global phenomena as bitangents and double points, but apply only to curves in $\mathbb{P}^2$. The apparent gap is partially filled in the following section, where we introduce the powerful computational technique of correspondences and as an application derive formulas for the geometry of space curves. In both sections, the application of projective-geometric formulas to the canonical curve yields results about the intrinsic structure of Riemann surfaces: in Section 4 we obtain the count of Weierstrass points, and in Section 5 we solve some special cases of the Brill-Noether problem.

In the final two sections of the chapter we return to the study of the Jacobian variety associated to a compact Riemann surface. To begin with we give in Section 6 the rudiments of the theory of Abelian varieties; the dominant theme here is the working out of the Kodaira embedding theorem in the ca