for dealing with codimension-one subvarieties (points on curve, curves on surface, etc) on an algebraic variety.

The basic question of constructing meromorphic functions with prescribed properties - e.g. the principal parts on a Riemann surface - is a problem admitting local solutions where the obstruction to patching these together globally may be measured by a sheaf cohomology group. The Kodaira vanishing theorem provides the most useful condition under which these higher groups are zero. It is a remarkable result, one which is proved by potential theory and differential geometry, but which in the end turns out to be equivalent to the Lefschetz theorem concerning the topological position of a hyperplane section of a complex algebraic variety. Explaining these matters occupies Section 2.

In Section 3, we began the transition

$$\left\{\begin{matrix}\text{abstract compact}\\ \text{complex manifold}\end{matrix}\right\} \longrightarrow \left\{\begin{matrix}\text{algebraic variety}\\ \text{in projective space}\end{matrix}\right\}$$

The intermediate step is an analytic variety in projective space: the Chow theorem asserts that this must be an algebraic variety. The essential philosophical point here is illustrated by the identity of the two objects "global meromorphic function on the Riemann sphere" and "rational function of one complex variable". The practical consequence is that we may work either locally complex analytically or globally algebraically with the same end result. Our approach at this stage is analytic, as this ties in more readily with the topological and metric properties of an algebraic variety, but the understanding that in the end we are talking about solutions of polynomial equation