from the complex manifold M to the algebraic variety N is given by a holomorphic map

$$f : M - V \longrightarrow N$$

defined on the complement of a subvariety V of codimension 2 or more in M.

Next, we would like to relate rational maps to $\mathbb{P}^n$ to linear systems of divisors and sections of line bundles, as we have done with holomorphic maps. Let $L \to M$ be a line bundle and $\sigma_0, \cdots \sigma_n \in H^0(M, \mathcal{O}(L))$ a collection of linearly independent global holomorphic sections of L. Then the meromorphic functions

$$f_i = \frac{\sigma_i}{\sigma_0}$$

determines a rational map

$$f : M \longrightarrow \mathbb{P}^{n*}.$$

$$\begin{array}{ccccc} f : & M & \longrightarrow & \mathbb{P}^n & \longrightarrow & \mathbb{P}^{n*} \\ & \rotatebox{90}{$\in$} & & & & \rotatebox{90}{$\in$} \\ & x & \longmapsto & [1, f_1(x), \cdots f_n(x)] & \longmapsto & H \\ & & & & & \parallel \\ & & & & & (a_0 + a_1 f_1(x) + \cdots + a_n f_n(x) = 0) \end{array}$$

In terms of divisors, suppose $|D_\lambda|_{\lambda \in \mathbb{P}^n}$ is a linear system on M. Let E be the fixed component of $\{D_\lambda\}$ — that is, the largest effective divisor such that $D_\lambda - E > 0$ for every λ — so that the divisors $\{D'_\lambda = D_\lambda - E\}$ form a linear system with base locus of codimension at