1016-32-274 **Frederico Xavier*** (xavier.1@nd.edu), 255 Hurley Hall, Notre Dame, IN 46556. *Rigidity of the Identity.*

The structure of the group $\mathrm{Aut}(\mathbb{C}^n)$ of biholomorphisms of $\mathbb{C}^n$ is largely unknown if $n > 1$. For instance, the still unsettled jacobian conjecture claims that $\mathrm{Aut}(\mathbb{C}^n)$ contains all polynomial local biholomorphisms. In stark contrast $\mathrm{Aut}(\mathbb{C})$ is rather small, consisting of the non-constant affine linear maps. The description of $\mathrm{Aut}(\mathbb{C})$ follows from the observation that an injective holomorphic function $f : \mathbb{C} \to \mathbb{C}$ satisfying $f(0) = 0$ and $f'(0) = 1$ must be the identity. These considerations suggest that similar characterizations of the identity might be useful in understanding the structure of $\mathrm{Aut}(\mathbb{C}^n)$. Using (real) geometric methods we prove that an injective holomorphic map $f : \mathbb{C}^n \to \mathbb{C}^n$ is the identity I if and only if the power series at 0 of $f - I$ has no terms of order $\leq 2n + 1$ and the function $|\det Df(z)|\ |z|^{2n}|f(z)|^{-2n}$ is subharmonic throughout $\mathbb{C}^n$. (Received February 14, 2006)