Although J-holomorphic functions do not make sense, the notion of J-plurisubharmonicity is meaningful. Like in complex analysis, pluripolar sets are sets included in the $-\infty$ set of a J-plurisubharmonic function. Poles with logarithmic singularities (positive Lelong number) are most helpful. J-holomorphic discs are J-pluripolar but not $-\infty$ sets of functions with logarithmic singularity (work in progress).

The first example of uniqueness in complex analysis is the theorem of isolated zeros in one complex variable. In fact, one does not need the Cauchy-Riemann equation $\overline{\partial} f = 0$ to be satisfied, and that leads to uniqueness results in almost complex analysis. A differential inequality ($|\overline{\partial} f| \leq C|f|$) is enough, (but $|\overline{\partial} f| \leq \epsilon |\partial f|$ is not). Pluripolarity plays a role in the study of uniqueness problems such as accumulation of zeros at the boundary.