This presentation examines the ambivalences and tensions that arise during the life course of research groups as they strive to establish and maintain an identity, acquire and retain control of an ensemble of research technologies, and evaluate and choose the risks they are willing to accept in their work. Based on intensive, repeated, face-to-face interviews with scientists of various seniorities at elite universities, the paper demonstrates the choices and consequences group leaders face in guiding their groups through these critical junctures. The central ideas are: (1) research groups are socio-technical organizations that depend heavily on the ensemble of research technologies they construct to do their work; (2) research aims not only to answer questions for publication but also, and perhaps more importantly, to open spheres of inquiry that are both productive and protected; (3) many critical choices confronting group leaders are essentially ambivalent: opposite courses of action seem equally attractive, and in many cases elements of both must be pursued simultaneously. This analysis has implications for thinking about strategy and leadership in science, competition, risk, research group dynamics, age-structured interactions, and the responsible conduct of research.