# INTERDISCIPLINARY AND INTRADISCIPLINARY CONTEXTS

Geomorphology is clearly a scientific discipline embedded in the earth sciences, but it is, even more formally, an academic subdiscipline of geography and geology. Intellectually, this position provides the enrichment of diversity; academically, it often produces tension. Where diversity promotes substantively disparate views of the discipline or contrasting immediate objectives (often accompanied by sharply differing techniques) there is clearly great scope for fragmentation. Conflicting loyalties emerge as geomorphologists identify with geomorphology, geography, or geology; or increasingly with environmental science, geophysics, or engineering of one sort or another. As a practical matter of survival the practitioners of an academic (sub)discipline as small as geomorphology cannot dismiss such issues as trivial. One of the primary roles that a strong sense of scientific identity and purpose can play, after that of quality control, is disciplinary unification.

Rowland Twidale uses his long career both as an academic and as a consulting geomorphologist as a vantage point for examining the role of geomorphology in contemporary geology. Using numerous examples from Australia he demonstrates that geomorphology may be viewed as a powerful component of geology undeserving of the short shrift which it frequently receives from the majority of geologists. Bernard Bauer traces the development of geomorphology in relation to geography. In doing so he champions a sophisticated perspective on the relationships among geomorphology, geography, and geology in which he demonstrates that attempts to assign modern geomorphology to a single academic discipline based on historical heritage are inappropriate.

Waite Osterkamp and Cliff Hupp cast the disciplinary net wider by comparing the development of geomorphology to that of ecology within the context of Thomas Kuhn's conception of scientific development. They highlight that even though both disciplines experienced periods when concepts derived from Darwinian evolution, equilibrium theory, and both evolution and equilibrium were important, the role that these various schools of thought played in the 'complex' disciplines of geomorphology and ecology differs fundamentally from Kuhn's notion of a paradigm or exemplar, which he developed for the 'basic' sciences (e.g. physics, chemistry). Based on this analysis they conclude that the

development of geomorphology does not conform with Kuhn's model of scientific development.

The section concludes with what might be categorized as an applied view of geomorphology by William Graf. However, in this context it also serves as an exemplar of a future role for geomorphology. In examining the role that geomorphology and geomorphologists have, and may play, in management of American rivers, Graf draws attention to something that geomorphologists have generally preferred to ignore - the fundamental influence of humanity on the landforms/landscapes that are studied. There is little doubt that most geomorphologists focus their attention on understanding what they identify as a 'natural' or unsullied world. Even where this reality is understood to be a myth (almost everywhere?), the significance of human intervention tends to be downplayed. To understand the landscapes before us, as well as to manage them for society, geomorphologists must plunge quickly and vigorously into the task of pursuing a course in which human impact is overtly and systematically integrated into the fabric of the discipline.