Contents

Preface vii		
Introduction ix		
THE EVOLUTION OF SIGNIFICANT IDEAS		
Mountain-building theory: The nineteenth-century origins of isostasy and the geosyncline 1 Dwight E. Mayo		
Evolving tectonic concepts of the central and southern Appalachians 19 Rodger T. Faill		
A basement of melanges: A personal account of the circumstances leading to the breakthrough in Franciscan research		
The Coon Butte Crater controversy 65 Ellen T. Drake		
Development of quantitative geomorphology		
The history of American theories of cave origin 109 Richard A. Watson and William B. White		
Glacial geology and the North American craton: Significant concepts and contributions of the nineteenth century		
Development of ideas about the Canadian Shield: A personal account		
Vestiges of a beginning		

Contents

CONTRIBUTIONS OF INDIVIDUALS

•

James Hall's discovery of the craton	157
E. O. Ulrich's impact on American stratigraphy	169
The Iowa landscapes of Orestes St. John Jean C. Prior and Carolyn F. Milligan	189
Dust in the wind: J. A. Udden's turn-of-the-century research at Augustana	203
Ralph Stockman Tarr: Scientist, writer, teacher	215
L. R. Wager and the geology of East Greenland C. K. Brooks	237
Dr. Atl: Pioneer Mexican volcanologist	251
Joseph A. Cushman and the study of ForaminiferaRuth Todd	257
Wrong for the right reasons: G. G. Simpson and continental drift Léo F. Laporte	273
CONTRIBUTIONS OF ORGANIZED GROUPS	
Surveying the geology of a vast, empty, cold country	287
The G. William Holmes Research Station, Lake Peters, northeastern Alaska, and its impact on northern research J. Thomas Dutro, Jr.	301
Notes of a packer in the Idaho-Montana line survey, summer of 1899 Ross R. Brattain	313
Contributions of the state geological surveys: California as a case history Gordon B. Oakeshott	323
The role and development of the Smithsonian Institution in the American geological community Ellis L. Yochelson	337
Rummaging through the attic; Or, A brief history of the geological sciences at Yale Brian J. Skinner and Barbara L. Narendra	355

Contents

A history of geology at the University of Pennsylvania: Benjamin Franklin and the rest Carol Faul	377	
A chronology from Mohole to JOIDES	391	
APPLICATION OF SIGNIFICANT IDEAS		
North American paleomagnetism and geologyJohn Verhoogen	401	
The early development of archaeological geology in North America	409	
The anticlinal theory of oil and gas accumulation: Its role in the inception of the natural gas and modern oil industries in North America	423	
Application as stimulus in geology: Some examples from the early years of the Geological Society of America	443	
Seismic exploration of the crust and upper mantle of the Basin and Range provinceL. C. Pakiser	453	
The development of earthquake seismology in the western United States	471	
Geology from space: A brief history of orbital remote sensing Paul D. Lowman, Jr.	481	
Index	521	