

## Contents

Preface	vii
Maps published under the auspices of Project 27	ix
<b>Geophysics of the Caledonian–Appalachian orogen</b>	
HAWORTH, R. T., HIPKIN, R., JACOBI, R. D., KANE, M., LEFORT, J. P., MAX, M. D., MILLER, H. G. & WOLFF, F. Geophysical framework and the Appalachian–Caledonide connection	3
COOK, F. A., MATTHEWS, D. H. & JACOB, A. W. B. Crustal and upper mantle structure of the Appalachian–Caledonide orogen from seismic results	21
BRIDEN, J. C., KENT, D. V., LAPOINTE, P. L., LIVERMORE, R. A., ROY, J. L., SEGUIN, M. K., SMITH, A. G., VAN DER VOO, R. & WATTS, D. R. Palaeomagnetic constraints on the evolution of the Caledonian–Appalachian orogen	35
LEFORT, J. P., MAX, M. D. & ROUSSEL, J. Geophysical evidence for the location of the NW boundary of Gondwanaland and its relationship with two older satellite sutures	49
<b>Pre-Arenig activity in the Caledonian–Appalachian orogen</b>	
POWELL, DEREK, ANDERSEN, T. B., DRAKE, A. A. JR, HALL, LEO & KEPPIE, J. D. The age and distribution of basement rocks in the Caledonide orogen of the N Atlantic	63
SCHWAB, F. L., NYSTUEN, J. P. & GUNDERSON, L. Pre-Arenig evolution of the Appalachian–Caledonide orogen: sedimentation and stratigraphy	75
CONWAY MORRIS, S. & RUSHTON, A. W. A. Precambrian to Tremadoc biotas in the Caledonides	93
RAST, NICHOLAS, STURT, B. A. & HARRIS, A. L. Early deformation in the Caledonian–Appalachian orogen	111
HARTE, BEN Lower Palaeozoic metamorphism in the Moine–Dalradian belt of the British Isles	123
BRYHNI, INGE Early Palaeozoic metamorphism in the Scandinavian Caledonides	135
LAIRD, JO Pre-Arenig metamorphism in the Appalachians	141
RANKIN, D. W., FURNES, HARALD, BISHOP, A. C., CABANIS, B., MILTON, D. J., O'BRIEN, S. J. & THORPE, R. S. Plutonism and volcanism related to the pre-Arenig evolution of the Caledonide–Appalachian orogen	149
SKEHAN, JAMES W., SJ Evolution of the Iapetus Ocean and its borders in pre-Arenig times: a synthesis	185
<b>Arenig–Wenlock activity in the Caledonian–Appalachian orogen</b>	
FORTEY, R. A. & COCKS, L. R. M. Arenig to Llandovery faunal distributions in the Caledonides	233
BRUTON, DAVID L. & HARPER, DAVID A. T. Arenig–Llandovery stratigraphy and faunas across the Scandinavian Caledonides	247
NEUMAN, ROBERT B. Palaeontological evidence bearing on the Arenig–Caradoc development of the Iapetus Ocean basin	269
STILLMAN, C. J. Ordovician to Silurian volcanism in the Appalachian–Caledonian orogen	275
HALL, LEO M. & ROBERTS, DAVID Timing of Ordovician deformation in the Caledonian–Appalachian orogen	291
LAIRD, JO Arenig to Wenlock age metamorphism in the Appalachians	311
OLIVER, G. J. H. Arenig to Wenlock regional metamorphism in the Paratectonic Caledonides of the British Isles: a review	347
DALLMEYER, R. D. Polyphase tectonothermal evolution of the Scandinavian Caledonides	365

WONES, DAVID R. & SINHA, A. K. A brief review of early Ordovician to Devonian plutonism in the N American Caledonides	381
STEPHENS, W. E. Granitoid plutonism in the Caledonian orogen of Europe	389
MCKERROW, W. S. The development of the Iapetus Ocean from the Arenig to the Wenlock	405
<b>Wenlock to mid-Devonian activity in the Caledonian–Appalachian orogen</b>	
THIRLWALL, M. F. Wenlock to mid-Devonian volcanism of the Caledonian–Appalachian orogen	415
ROBERTS, DAVID Timing of Silurian to middle Devonian deformation in the Caledonides of Scandinavia, Svalbard and E Greenland	429
MCKERROW, W. S. Wenlock to Givetian deformation in the British Isles and the Canadian Appalachians	437
OSBERG, P. H. Silurian to Lower Carboniferous tectonism in the Appalachians of the USA	449
ROBINSON, PETER, TRACY, R. J., SANTALLIER, D. S., ANDREASSON, P.-G. & GIL IBARGUCHI, J. I. Scandian–Acadian–Caledonian <i>sensu strictu</i> metamorphism in the age range 430–360 Ma	453
KENT, D. V. & KEPPIE, J. D. Silurian–Permian palaeocontinental reconstructions and circum-Atlantic tectonics	469
SOPER, N. J. Timing and geometry of collision, terrane accretion and sinistral strike-slip events in the British Caledonides	481
CHALOUPSKÝ, J. Caledonian folding in the Bohemian Massif	493
HATCHER, R. D. JR The third synthesis: Wenlock to mid-Devonian (end of Acadian orogeny)	499
<b>Mid-Devonian–Permian activity in the Caledonian–Appalachian orogen</b>	
HATCHER, ROBERT D. JR Basement–cover relationships in the Appalachian–Caledonian–Variscan orogen: mid-Devonian (end of Acadian orogeny) to end of Permian	507
THOMAS, WILLIAM A. & SCHENK, P. E. Late Palaeozoic sedimentation along the Appalachian orogen	515
ALLEN, K. C. & DINELEY, D. L. Mid-Devonian to mid-Permian floral and faunal regions and provinces	531
LEEDER, M. R. Devonian–Carboniferous river systems and sediment dispersal from the orogenic belts and cratons of NW Europe	549
DON HERMES, O. & MURRAY, DANIEL P. Middle Devonian to Permian plutonism and volcanism in the N American Appalachians	559
FRANCIS, E. H. Mid-Devonian to early Permian volcanism: Old World	573
RAST, NICHOLAS Tectonic implications of the timing of the Variscan orogeny	585
MURRAY, DANIEL P. Post-Acadian metamorphism in the Appalachians	597
MARTÍNEZ, FRANCISCO J. & ROLET, JOËL Late Palaeozoic metamorphism in the northwestern Iberian Peninsula, Brittany and related areas in SW Europe	611
RODGERS, J. Fourth time-slice: mid-Devonian to Permian synthesis	621
INDEX	627