

Contents

Part I Olivier and Meteor Astronomy 1884–1936

Virginia	3
Fortunes of War and Peace	3
Charles William Pollard	3
George Wythe Olivier	4
Katharine Roy Pollard Olivier	6
George Olivier’s Career After the War	8
The Lost Cause Psychology	9
Virginia’s Astronomer	10
Ormond Stone and Gravitational Astronomy	10
Classical Astronomy	12
Classical Astronomy as a Scientific Style	12
Some of Ormond Stone’s Accomplishments	13
Educator and Mentor of Future Prominent Men	15
Virginia’s Leander McCormick Observatory	16
Young Charles	16
Life in Charlottesville Circa 1890	17
First Meteor Watch	18
The 1899 Leonid Meteor Shower	18
Leonids and Other Meteor Showers	18
The 1899 Leonid Shower	19
Postmortem	22
Damage to Public’s Trust in Professional Astronomy	22
Portrait of the Young Man as an Astronomer	23
A Research Plan Conceived in High School	24
Astronomical Activities in High School	25
Astronomical Work During Undergraduate School	25
Graduate School Years 1905–1908	27
Sojourn at Lick Observatory	30
Assigned Duty: Comet Photography	32

Double Stars	33
Mira	33
Meteors	34
Summary of a Hectic Internship	34
Sad News	35
Doctor of Philosophy	35
Nature of an Orbit	36
Charting the Sky Position of a Meteor Shower Radiant Is More Difficult Than Charting a Comet's	36
A First Reform for Meteor Science: Criteria for a Meteor Radiant	36
Another Reform	37
175 Orbits	37
His Career's Meteor Results	38
Why Did Meteoric Science Become a Lifelong Passion?	38
References	39
Enrollment Began	41
Starting Out	41
Astronomy, the University, and Professor Olivier	41
First Academic Post	42
Friends at McCormick Observatory	43
McCormick Observatory Colleagues	44
In Summary	50
Society for Practical Astronomy	50
Society for Practical Astronomy and How the American Meteor Society Began	51
First Amateur Members of the Hybrid SPA-AMS	53
American Astronomical Society	57
Early History of the AAS	57
The Luminous Meteor Committee	58
Charles P. Olivier, the AASA, and the American Meteor Society	60
Chairman Olivier's Program	62
Setting the Agenda for Future Meteor Research	64
R.K. Young's Gnomonic Star Maps	67
Maps and Publicity	67
Rewards from Enlisting the Assistance of AAS Members	69
Academic Colleagues Contributed	69
Summary	71
American Association of Variable Star Observers	71
Introduction—AAVSO's Origin	71
Simultaneous Memberships	71
Olivier's Invitation to AAVSO Members	74
AAVSO Members Responded	75
Some AAVSO Members Join the AMS	76
Dr. Olivier Returned the Favor	77

The Weather Bureau	79
Predecessor of the Weather Bureau	79
Signal Corps Observers Reported Meteors	79
Scientific Advisor to Corps' Chief Signal Officer	80
Cleveland Abbe and Meteor Science at the Weather Bureau	80
Monthly Weather Review as a Platform for Meteor Studies	81
Abbe's Support for the AMS	82
Hydrographic Office of the US Navy	83
Introduction.	83
Brief History of the Hydrographic Office	84
Matthew Fontaine Maury, Lt., US Navy: Visionary First Director of Hydrographic Office	84
The Hydrographic Office Aids the AMS.	85
New Members Join the American Meteor Society, 1915–1918.	87
Membership Roster and Statistical Summary for the Years 1915–1918	89
Statistical Summary of the 1915–1918 Membership	89
Roster of Members	89
Key and Abbreviations	90
Outcomes from Olivier's Membership Efforts 1911–1918	94
References	95
The First Assignment	99
Trans-Atlantic Controversy	99
Criticism from England.	99
Olivier's Retort	101
Help from Two Senior Colleagues	101
The Best Olivier Could Manage	102
Status of the Controversy in 1914.	103
W.F. Denning, A.S Herschel, and the Stationary Radiant Concept	104
Denning: In the First Rank of Observational Astronomers	104
Denning's Meteor Career	105
Alexander Stewart Herschel (1836–1907).	107
The Herschel–Denning Collaboration	107
Olivier's Analysis of Factors that Created Erroneous Radiants	108
Olivier Used Informed Approach to Reduce His Own Meteor Plots.	110
First Assignment: Discredit Stationary Radiants	110
Olivier's Earliest Application of Stringent Radiant Definitions	110
Results of the AMS' First Assignment: 126 Parabolic Orbits	111
Aligning Professional Astronomy Behind Stringent Radiant Definitions. . . .	113
Meteor Committee's Radiant Criteria Recommendations	114
1920 Monograph: "349 Parabolic Orbits".	115
Arguments Against SRs	116
Arguments Against SRs in <i>Meteors</i> (1925).	117
AMS Report 1919–1925 (1929)	118

Not Persuaded by Olivier’s Arguments and AMS’ Findings

Against SRs (1911–1925) 119

Top Achievers 1914–1925 120

Top Achievers in 349 PO 120

Top Achievers in AMS Report for 1919–1925 121

References 121

Postwar Years 1919–1929 123

Challenges for Olivier and the American Meteor Society 123

Olivier’s Wartime Years 123

Olivier Urged Observers to Resume Meteor Work After Their
War Duties 124

Downturn in Membership 124

Career and Family Demands as Reasons Why AMS Membership
Declined 1921–1925 125

Realm of the Director 136

So, Why Did AMS Membership Decline in the Early 1920s? 136

Leadership Style also Had a Role 140

Rise of Astrophysics in US Astronomy 141

Astrophysicists’ “Family Trees” 141

Astrophysicists Struggled to Find the Relevance of Meteoric
Astronomy 146

In Summary, How Would Astrophysicists Study Meteors? 147

Membership Roster 1919–1929 148

Statistical Summary of the 1919–1929 Membership 148

Description of the 1919–1929 Roster 150

Advances Made by the American Meteor Society 1919–1929 155

Astrophysical Discoveries as a Competitor to Meteor Science 155

Organizational Advances: Improved Communication with Members
and Other Amateur Astronomers 156

Olivier’s Public Lectures 157

Amateurs Return to Meteor Work 157

How AMS Members’ Meteor Data Were Used 159

Radiants 159

Meteor Rates 161

Telescopic Meteor Magnitudes 162

Long-Enduring Meteor Trains 164

Meteor Heights 165

Fireballs 166

Members’ Productivity 1919–1929 169

References 170

1930s—The Best of Times 173

The Best of Times During the Worst of Times 173

The Depression Years in the USA 173

Meteor Astronomy Appealed to the General Public 174

Academics Adopted Meteor Astronomy 175

Olivier Was Overwhelmed by Reported Data 175

The Man at Midlife. 176

Home 176

Loved Ones 176

The Observatory Director’s Lifestyle 180

Rest and Recreation in the Old Dominion 183

Religious and Political Convictions. 184

The Astronomer at Midlife 184

Double and Variable Star Research Work. 184

Professional and Graduate-Level Astronomers’ Attitudes Toward
 Meteoric and Stellar Astronomy 189

Presentation of Meteor Results to Professional Organizations 191

Formal Honors Awarded. 192

“Neighbors” 192

Organizing Flower Observatory Staff for the Leonids 194

Staffing and Work at Flower Observatory 1930–1936 195

Observatory Staff and Leonid Shower Research 1930–1936 195

Hiring Human Computers Doris Wills and Clarence Clemminshaw 196

Summary in a Metaphor 198

Membership Roster and Statistical Summary for the Years 1930–1936 198

Statistical Summary of the 1930–1936 Membership 199

Description of the 1930–1936 Roster 201

How the Meteor Quest Was Won 213

How Olivier Instructed American Meteor Society Members 213

Regional Groups: Coordination at a Distance 214

Summary 223

What the American Meteor Society Accomplished 223

Introduction. 223

“Out” with an Old Research Objective 224

“In” with New Research Objectives for the AMS in the 1930s 225

Plan for This Chapter 225

New Radiants Determined 1930–1936 226

Meteor Heights 227

Long-Enduring Trains (LETs), a Shift of Dr. Olivier’s Priorities 230

Telescopic Meteor Observations 232

Meteor Rates. 232

Fireball Observations 236

Fireball Reports 1930–1936 236

Members’ Innovations. 238

New Developments. 241

Chapter Summary 242

Citizen Scientists Caught Meteor Fever 243

Olivier’s Publicity Efforts and Results 243

Citizen Science and Crowdsourcing in the 1930s 244

Olivier’s Publicity Efforts and CG’s Results 1930–1934 244

Crowdsourced Fireballs. 246

Summary of the 1930s Chapter. 246

References 247

Meteor Astronomy at Home and Abroad 251

Contemporary Meteor Organizations in the USA 251

C.C. Wylie and Midwest Meteor Association: Challengers
from the Midwest 251

Cosmological Issues as a Rationale for Reticule Use 259

Dr. Thomas C. Poulter and His Antarctic Meteor Program. 260

Harvard College Observatory Meteor Programs 262

Society for Research on Meteorites. 268

Summary 270

Outside the USA: A Survey of Meteor Astronomers and Organizations. 270

Introduction. 270

Argentina 270

Belgium 271

Canada 272

Czechoslovakia 273

England. 274

Estonia 275

France. 275

Germany 276

Italy 280

Japan. 281

New Zealand. 281

South Africa 281

Union of Soviet Socialist Republics 282

Olivier’s Influence Abroad 282

References 283

Summing Up 287

Summing Up: Olivier at Midlife. 287

Part II The Stalwarts’ Biographies

The Stalwarts 291

Who Were the Stalwarts? 291

Comparison of Stalwarts with Other Active AMS Members. 291

Examining Chronological Age Issues 292

Stalwarts’ Occupational Data 293

Other Reasons the Stalwarts Continued in Meteor Work 293

Associated or Enrolled 1900–1918	297
N.P. Ball	297
Grace H. (Bingham) Bessey	298
Donald Brooks	301
F.J. Carr	304
Robert M. Dole	306
Family and Early Life	306
Early Meteor Watches and Variable Star Work	308
Variable Star Observations	309
Career with the Weather Bureau	309
Dole’s Support for Olivier’s Goals	310
A Lifetime of Contributions to Meteor Astronomy	312
Kathleen M. Hempel	313
H. I. Johnson	315
John Koep (1898–1949) and Philip Trudelle (1897–1966)	316
Summary	319
G.F. Kronenberger (1885–1926), R. Lambert, and W. Pattison	320
Lincoln Lapaz	321
Howard H. Martin (1889–1944) and John Whitaker Crain (1887–1953)	324
Personal History	324
Meteor Observation Career	325
J.M.T. Partello	326
Meteor Career	327
J.L. Peters	328
T.K. Tomkins	329
References	330
Enrolled 1919–1929	337
Vincent Anyzeski	337
F.L. Bradley	338
Robert Brown	339
Sterling (1901–1945) and Mildred (1906–?) Bunch	340
J.J. Conboy, Jr.	342
B.C. Darling	343
Mrs. W.H. Edwards	344
C.B. Ford	345
A.J. Klapperich	345
A.S. Lawrence	346
J.H. Logan	346
F.F. Marsh	347
R.A. McIntosh	348
Oscar E. Monnig	351
Miss V.J. Niebuhr	354
A.L. Peck	355
Blakeney Sanders	356

R.C. Shinkfield 357

F.W. Smith 358

I.L. Thomsen 359

Miss M.E. Trimmier 360

Goodrich Watkins 362

B.S. Whitney 363

References 364

Enrolled 1930–1936. 371

Russell Anderson 371

L.E. Armfield 372

Introduction. 373

Early Years. 373

Armfield’s Astronomy Career 374

Intensified Activity in 1934. 375

1935: Milwaukee Hosted Drs. Shapley and Olivier 377

1935: The Year the Wisconsin and Missouri Regions Joined Forces 378

AAAA “Notes” in *Astronomical Discourse* and the *MAS Bulletin* 379

1936–1937: Armfield’s Final Years of AMS Involvement 380

Unfortunate Events 380

Legacy in Wisconsin. 381

Other Aspects of Armfield’s Life in Wisconsin 382

Armfield’s Later Life Story 382

L. Arslanian 383

Stewart R. Baker. 384

James L. Black 384

Edward F. Bowman 385

Milton L. Braun 385

Herbert A. Burns 388

E.E. Friton 389

Murray Geddes 393

K.E. Gell 395

J.W. Graham. 396

Gordon Green. 397

Edward A. Halbach. 399

Family History 399

Making of an Engineer. 400

Astronomy: A Scientific Pastime 401

Variable Stars 402

Meteors and Technology. 402

Academic Career at Marquette University. 405

The Professor Married 405

Scientific Work During Solar Eclipses 405

More Participation in Scientific Aspects of Astronomy. 407

Another Service to Amateur Astronomy 408

Employment After Marquette University 408

Volunteering After Retirement 409

William L. Holt 409

Hideo Inouye 410

Mary L. Jewett 413

Jack T. Kent 414

Texas A&M Astronomer. 415

Mohd. A.R. Khan 416

George P. Kirkpatrick 419

J.H. Kusner. 421

Louise M. Larrabee. 423

Joseph Leerman 427

Eppe Loreta 428

R.W. Miller. 432

Stuart L. O’byrne 433

P.O. Parker 436

J. Fraser Paterson 438

W.J. Persons 439

Frank Preucil 442

Hope S. Pruett 444

J. Hugh Pruett. 446

Family Background and Early Life. 446

AMS’ Needs and Personal Interests Coincide. 447

Educator and Publicist 448

“Act as a Local Director or Leader” 449

An Appreciation 450

G.W. Ridley 451

J. Wesley Simpson 452

G. B. Skinner 459

Claude H. Smith 460

Comet Country... 460

And Meteors Too 460

Autodidact 462

A Life in Central New York’s Lake District. 462

H. Stackpole 463

William R. Stone 464

Octogenarian Meteor Watcher. 465

Sally Urquhart. 466

Paul S. Watson 467

J.D. Williams and the Arizona Observers 471

Biographical Sketch 471

Arizona Meteors 472

The Arizona Observers 473

Williams’ Academic Career After the Leonid Epoch 475

Wartime Consultant 476

Research ANd Development 477

R.H. Wilson, Jr. 478

References 480

Erratum to: Virginia E1

Appendix A: American Meteor Society Data Published After 1936 483

Appendix B: Guide to Sources American Meteor Society

Annual Reports 485

Index 489



<http://www.springer.com/978-3-319-44517-5>

Charles Olivier and the Rise of Meteor Science

Taibi, R.

2017, XXXII, 497 p. 29 illus., 1 illus. in color., Hardcover

ISBN: 978-3-319-44517-5