

COMPI LATION FILE

CLASSIFICATIONS

0.0

GENERAL FORESTRY

(Material covering entire subject or several
branches not classified elsewhere.)

0.1 Bibliographies

0.2 Manuals of forestry

0.21 General treatises

0.22 Essays

0.23 Addresses

0.3 Dictionaries

0.4 Biographies

0.5 Periodicals (today)

0.51 Periodicals (deceased)

0.52 Bulletins, circulars, etc.

0.53 Annuals

0.6 Proceedings and reports of societies, associations, organizations

0.61 Comments on meetings

0.62 Annual reports, associations and societies.

0.63 Annual reports, State, city, etc.

0.64 Reports of official commissions and committees

0.65 Activities of societies and associations

0.66 Chief's Annual reports - FS

0.7 Research, general

0.71 Forest research

0.72 Research by regions

0.721 Forest experiment stations

0.8 Forest education (See also 8.713 and 8.724)

0.81 Forest schools

0.811 School catalogues

0.82 Arbor day and American forest week

- 0.8 Forest education (continued)
 - 0.84 Profession
 - 0.85 Extension - general
 - 0.851 Extension - schools
 - 0.86 Exhibits, museums
 - 0.87 Demonstration and research forests
- 0.9 History and status of forestry
 - 0.901 U. S. and world war
 - 0.91 Forestry in United States
 - 0.92 Forestry in Canada
 - 0.93 Forestry in foreign countries
 - 0.94 Forestry possibilities and future
- 1.0 FOREST BOTANY
 - 1.1 Physiology (See also 1.3116)
 - 1.2 Dendrology
 - 1.21 Anatomy and morphology (including cytology and histology)
(See also 5.111)
 - 1.22 Taxonomy, general
 - 1.221 Nomenclature
 - 1.222 Family, genus, group descriptions
 - 1.3 Forest ecology
 - 1.301 Studies
 - 1.31 Biological dendrology (Environmental factors and reaction
of individual trees to them)
 - 1.311 Site factors, per se (See also 1.32)
 - 1.3111 Light
 - 1.3112 Temperature
 - 1.3113 Precipitation
 - 1.3114 Humidity
 - 1.3115 Soils - general, soil moisture and temperature
 - 1.31151 Soil physics, aeration, absorption
 - 1.31152 Soil chemistry, fertility
 - 1.31153 Soil biology, bacteria, mycorrhiza
 - 1.3116 Water relations (Transpiration in relation to humidity,
soil, water and temperature)
 - 1.3117 Measurement of site factors
 - 1.314 Development and growth: seasonal, ring, abnormal
(See also 1.316, 7.17)
 - 1.3141 Crown development, habit, competition (See also 2.24)
 - 1.3142 Sprouting capacity (See also 2.01, 2.1)
 - 1.3143 Root development, habit competition (see also 2.24)
 - 1.3144 Fruit, seed crop development (see also 2.511)

- 1.3 Forest ecology (continued)
 - 1.315 Acclimatization and adaptation (see also 2.58)
 - 1.316 Phenology
 - 1.317 Distribution - geographical range
 - 1.318 Silvical characteristics
 - 1.3181 Silvical leaflets
 - 1.32 Silvics (Reaction of tree aggregates to environmental, site factors) (See also 1.311)
 - 1.3201 Monographs
 - 1.3202 Tolerance, shade
 - 1.3203 Temperature
 - 1.3204 Moisture, drainage
 - 1.3205 Soils, litter humus
 - 1.3206 Fire, effect, physical damage
 - 1.3207 Other
 - 1.321 Forest description - Regions (See also 0.87)
 - 1.3211 Canada
 - 1.3212 Foreign
 - 1.3213 National forest descriptions
 - 1.3214 State forest descriptions
 - 1.3215 U. S. Geological Survey forest descriptions
 - 1.3216 Description - types
 - 1.3217 Description - big, unusual, or historical trees, etc. (See also 8.18)
 - 1.322 Type classification and site qualities (See also 1.3216)
 - 1.3221 Basis of classification
 - 1.3222 Origin and development (Migration, invasion and establishment)
 - 1.32221 Prairies
 - 1.32222 Timberline
 - 1.3223 Succession
 - 1.3224 Alternation and zonation
 - 1.3225 Type study and mapping
- 1.4 Regional floras and plant description
 - 1.41 Keys and check lists
 - 1.42 Natural wilderness areas
- 1.5 Accessory forest vegetation - cryptogams, phanerogams
- 1.6 Forest geology and physiography - petrified wood
- 2.0 SILVICULTURE
 - 2.01 Natural reproduction (See also 1.3142, 1.3144)
 - 2.02 Reproduction studies

- 2.03 Response to cutting (increment, see 7.174)
- 2.1 Silvicultural systems of natural reproduction
- 2.24 Thinning, girdling, poisoning, release (See also 1.214)
- 2.26 Pruning, artificial and natural (See also 1.3202)
- 2.3 Marking
- 2.4 Brush disposal (See also 8.61)
- 2.5 Forestation - general
 - 2.501 Reforestation (comment and examples)
 - 2.51 Seed (dissemination)
 - 2.511 Seed production and source (see also 1.3144)
 - 2.512 Collection
 - 2.513 Extracting and cleaning
 - 2.514 Testing - vitality
 - 2.5141 Germination and early survival
 - 2.516 Storage - seed treatments
 - 2.52 Direct seeding - methods, protection, results
 - 2.53 Nursery practice (for damping-off, see also 3.38)
 - 2.531 Sowing, fertilizing, etc.
 - 2.532 Vegetative propagation
 - 2.54 Planting - general
 - 2.5401 Planting instructions and manuals
 - 2.5402 Prairie planting
 - 2.5403 Planting studies
 - 2.541 Kinds and classes of plant material
 - 2.542 Methods
 - 2.543 Sites and effect of cover; care and protection of plantations
 - 2.545 For investment
 - 2.546 For windbreaks and shelterbelts
 - 2.547 For watershed protection (See also 8.7112)
 - 2.548 Shade and ornamental trees, hedges, willow holtz, etc.
 - 2.55 Costs and cost keeping
 - 2.56 Tools and equipment
 - 2.57 Underplanting
 - 2.58 Tree introduction (See also 1.315 and 8.1811)
 - 2.581 Introduction of exotics (See also 5.29, products and 8.1811, arboreta)
 - 2.582 Extension of range of native species
 - 2.59 Tree breeding, genetics and heredity

3.0

FOREST PROTECTION - GENERAL

- 3.1 Fire (See also 8.61)

- 3.1 Fire (continued)
 - 3.101 Manuals and instructions
 - 3.102 Reports
 - 3.103 Fire weather
 - 3.104 Equipment
 - 3.105 Causes
 - 3.106 Results of fire (See also 1.3205)
 - 3.107 Fires in --
 - 3.11 Prevention (See also 7.23)
 - 3.12 Detection (Fire towers, see 6.38)
 - 3.121 Airplane patrol
 - 3.13 Suppression (Fire lines, see 6.38)
 - 3.14 Protection
 - 3.141 Cooperation
- 3.2 Animals
- 3.3 Tree diseases - general
 - 3.31 Reports - pathology
 - 3.32 Check lists
 - 3.33 Observations and notes
 - 3.34 Fungi studies
 - 3.35 Tree studies (For shade trees, see 8.183)
 - 3.36 Control
 - 3.37 Forest management and pathology
 - 3.38 Damping-off and seedling diseases
- 3.4 Insects - general
 - 3.41 Reports
 - 3.42 Check lists
 - 3.43 Observations and notes
 - 3.44 Insect studies
 - 3.45 Tree studies
 - 3.46 Control
 - 3.47 Damage
- 3.5 Mistletoe
- 3.6 Climatic injuries
- 3.7 Mechanical injuries (Logging damage)
- 3.8 Chemical injuries
- 3.9 Trespass

h.0

LUMBERING: THE UTILIZATION OF MAJOR FOREST PRODUCTS

- h.01 Utilization - comment
- h.02 Utilization - examples, problems
- h.03 Waste - examples, problems
- h.04 Utilization of waste - general
- h.041 Chemical utilization of waste
- h.05 Utilization studies
- h.06 Lumber and logging industry (See also 8.2)

- h.1 Logging engineering
 - h.101 Lumbering - regions and types
 - h.102 Logging in --
 - h.103 Logging practice
 - h.11 Log making - felling, limbing, bucking
 - h.12 Transportation of logs
 - h.121 Animal
 - h.122 Stem, electricity or gas
 - h.1221 Power skidding and aerial tramways
 - h.1222 Logging railroads and bridges
 - h.1223 Tractors
 - h.1224 Motor trucking
 - h.123 Water
 - h.1231 Rafting
 - h.1232 Driving
 - h.1233 Fluming and sluicing
 - h.1234 Barging
 - h.124 Gravity chutes and timber slides
 - h.13 Logging equipment, and depreciation
 - h.14 Log grades
 - h.15 Logging costs; logging administration
 - h.17 Camp management
 - h.171 Camp equipment
 - h.172 Commissary and dietary
 - h.173 Camp sanitation
 - h.174 First aid and medical data

- h.2 Lumber manufacture
 - h.21 Manufacturing plant
 - h.2101 Small sawmills
 - h.211 Log storage
 - h.212 Sawmill equipment
 - h.22 Milling practice
 - h.225 Storage and stacking (See also 5.13)
 - h.23 Remanufacture of lumber
 - h.24 Other sawmill products; milling by-products
 - h.243 Miscellaneous

- 4.2 Lumber manufacture (continued)
 - 4.25 Mill refuse fuel
 - 4.26 Lumber grades and inspection
 - 4.261 Odd lengths, end matched lumber
 - 4.262 Standardization of lumber
 - 4.27 Manufacturing administration
- 4.3 Rough forest products
 - 4.31 Poles, piling
 - 4.33 Logs
 - 4.34 Cross ties (grades)
 - 4.35 Posts
 - 4.36 Pulpwood (supply)
 - 4.37 Timbers (specifications)
- 4.4 Wood-using industries
 - 4.401 Wood using industries of --
 - 4.402 Wood use, general
 - 4.403 Correct use
 - 4.404 Wood working
 - 4.41 Box crate, basket
 - 4.42 Cooperage
 - 4.43 Furniture and flooring
 - 4.44 Vehicles and implements
 - 4.45 Veneers, plywood (for glues, See 5.121)
 - 4.46 Ship and boat building
 - 4.47 Shingle
 - 4.48 Airplane
 - 4.49 Miscellaneous
 - 4.491 Wooden pipe
 - 4.492 Wooden blocks for paving
 - 4.493 Construction
 - 4.494 Cabinet and interior trim
- 4.5 Merchandising or marketing of products (Extension, trade names)
 - 4.52 Transportation - freight rates - distribution
 - 4.54 Shipping weights
- 4.6 Lumbering accounting
 - 4.61 Milling and selling costs
 - 4.63 Lumber prices
- 4.7 Timber and lumber trade associations

5.0 FOREST TECHNOLOGY

- 5.1 Wood technology
 - 5.101 Wood lists and collections
 - 5.102 Wood descriptions - general

- 5.1 Wood technology (continued)
 - 5.11 Timber physics (crate design)
 - 5.111 Wood structure and identification (See also 1.21)
 - 5.112 Physical properties of wood
 - 5.113 Mechanical properties - timber testing
 - 5.114 Effect of environment on properties of growing wood
 - 5.12 Wood and paper chemistry
 - 5.121 Glue
 - 5.13 Conditioning of wood (See also 4.225)
 - 5.1301 Drying of species
 - 5.1302 Drying plywood and veneer
 - 5.1303 Drying poles, ties, etc.
 - 5.1304 Wood stain
 - 5.131 Air seasoning
 - 5.132 Kiln drying
 - 5.133 Moisture content
 - 5.134 Shrinkage, warping
 - 5.14 Wood preservation
 - 5.1401 Insect damage
 - 5.1402 Decay
 - 5.141 Preservatives (penetration)
 - 5.142 Methods and costs
 - 5.143 Treating plants and apparatus
 - 5.1431 Objects treated and results
 - 5.144 Fireproofing
 - 5.145 Painting and finishing wood
 - 5.15 Fuel value of wood
 - 5.16 Wood substitutes vs. wood
 - 5.19 Properties and uses of individual woods, foreign and domestic
 - 5.191 Genus or group
 - 5.192 Woods from a region
- 5.2 Forest by-products: derived products
 - 5.21 Naval stores
 - 5.22 Pulp and paper - general
 - 5.221 Pulp, paper and cellulose industries
 - 5.222 Paper making
 - 5.223 Pulp process - ground
 - 5.224 Pulp process - chemical
 - 5.225 Pulp species and fibers
 - 5.226 Paper board and rayon
 - 5.23 Wood distillation - general
 - 5.231 Hardwood distillation
 - 5.232 Charcoal
 - 5.24 Tan bark and tannins
 - 5.25 Sugar
 - 5.27 Dyestuffs
 - 5.28 Cork
 - 5.29 Miscellaneous (tung oil, wood flour, etc.)

6.0

FOREST ENGINEERING

- 6.1 Surveying (topographic) and mapping (aerial)
- 6.3 Construction engineering; forest improvements
 - 6.31 Roads, trails, bridges, buildings, fences
 - 6.36 Telephones and telephone lines
 - 6.38 Lookout towers and special protective works

7.0

FOREST MANAGEMENT

- 7.01 Management (studies) of species and or type
- 7.02 Commercial and industrial forestry
- 7.1 Forest mensuration and statistics
 - 7.11 Measurement of logs
 - 7.111 Log rules
 - 7.112 Scaling
 - 7.12 Measurement of lumber
 - 7.13 Measurement of other forest products
 - 7.14 Measurement of felled trees (stem analysis, bark)
 - 7.15 Measurement of standing trees
 - 7.151 Diameter
 - 7.152 Height
 - 7.153 Volume tables
 - 7.154 Form factors: taper tables
 - 7.16 Determination of contents of stands (stand tables and stocking)
 - 7.17 Growth of timber (for seasonal growth, see 1.314)
 - 7.171 Determination of age
 - 7.172 Diameter growth
 - 7.173 Height growth
 - 7.174 Volume growth or increment (See also 2.03)
 - 7.175 Growth of stands and yield
 - 7.1751 Yield tables: permanent sample plots (mortality)
 - 7.18 Measurement of timber quality
- 7.2 Forest finance (For commercial forestry, see 7.02)
 - 7.21 Forest valuation: determination of forest values
 - 7.216 Stumpage values and appraisals
 - 7.22 Forest statistics: comparison of forest values
 - 7.23 Timber risks and insurance
 - 7.24 Timber bonds
 - 7.25 Forest taxation (See also 8.62)
 - 7.26 Forest credit
 - 7.27 Leasing

- 7.3 Forest regulation (sustained yield)
 - 7.321 Forest survey; timber surveys; forest reconnaissance; collection of data
 - 7.324 Control and revision of working plans; working plan control
 - 7.325 Forest working plans for special areas (See also 7.01)
- 7.4 Forest administration and organization
 - 7.41 Personnel and organization of forest staff
 - 7.411 Federal
 - 7.412 State
 - 7.415 Foreign (Canada)
 - 7.42 Forest business practice: forest accounting
- 7.5 Farm woodland forestry (articles and reports)
 - 7.51 Woodlots - bulletins and circulars
 - 7.52 Woodlot marketing

8.0

FOREST ECONOMICS

- 8.01 Problems
- 8.02 Land use and classification
- 8.03 Ownerships
- 8.04 Population
- 8.05 Regional economy
- 8.06 Agriculture
- 8.07 Manufacturing
- 8.08 Economic theory
- 8.09 Economics - General

- 8.1 Forest influences
 - 8.11 Climate
 - 8.12 Soil
 - 8.13 Water resources and streamflow
 - 8.131 Flood control
 - 8.132 Irrigation
 - 8.14 Erosion
 - 8.141 Sand areas
 - 8.15 Avalanches and snow melting
 - 8.16 Public health
 - 8.17 Ethics, morals, verse
 - 8.18 Forest aesthetics (See also 1.3217)
 - 8.1801 Christmas trees
 - 8.1802 Landscaping
 - 8.181 Forest parks
 - 8.1811 Arboreta (See also 1.315 and 2.58)
 - 8.182 Shade trees and city parks (See also 2.548)
 - 8.1821 Suitable trees by regions
 - 8.1822 City forestry
 - 8.1823 City plans
 - 8.183 Shade tree pests and diseases
 - 8.184 Shade tree care
 - 8.1841 Tree surgery
 - 8.1842 Moving large trees (Roots - 1.3143)
- 8.2 Lumber and timber economics (See also 4.0)
 - 8.22 Production and prices
 - 8.221 Foreign production
 - 8.23 Consumption: demand for forest products and requirements
 - 8.231 Markets
 - 8.24 Lumber trade
 - 8.241 American - Canadian trade
 - 8.242 Foreign exports and imports
 - 8.25 Marketing
- 8.3 Industrial relations of forests
 - 8.31 Employment and wages
 - 8.32 Housing
- 8.4 Forest resources: forest conditions (See also 7.321)
 - 8.41 United States (by county, state or type)
 - 8.411 Canada
 - 8.42 Foreign countries
- 8.5 Tariff on lumber and forest products
- 8.6 Forest legislation (For game and fish legis., see 8.712)
 - 8.601 Federal legislation
 - 8.602 U. S. - Congress - House committees
 - 8.603 U. S. - Congress - Senate committees
 - 8.604 State - general

- 8.6 Forest legislation (continued)
 - 8.605 State laws and statutes
 - 8.606 Foreign and Canada
 - 8.61 Fire, brush burning (See also 2.4)
 - 8.62 Tax (See also 7.25)
- 8.7 Forest policy (federal vs. state and private)
 - 8.701 Policy - nation wide
 - 8.702 Public domain
 - 8.71 Federal forest policy
 - 8.7101 U. S. Forest Service (general)
 - 8.7102 Indian Forest Service
 - 8.7104 Federal acquisition policy
 - 8.7111 Timber production and silviculture policy
 - 8.7113 Watershed protection: waterpower development, and mining
 - 8.7114 Public use and recreational purposes
 - 8.7115 Use of agricultural land
 - 8.7116 Use of grazing lands and grazing policy
 - 8.712 Game and fish policy (See also 9.2)
 - 8.713 Educational policy
 - 8.714 Development of science by investigation and research
 - 8.715 Cooperation and demonstration
 - 8.72 State forestry - general
 - 8.7201 State or provincial forest policies
 - 8.721 Land policy
 - 8.722 Silvicultural policy
 - 8.723 Grazing policy
 - 8.724 Educational policy and recreation
 - 8.725 Cooperation and demonstration
 - 8.726 Regulation of privately owned forests
 - 8.73 Municipal forests and policies
 - 8.74 Private forest policies
 - 8.75 Foreign forest policies
 - 8.76 Conservation
 - 8.77 Destruction, devastation, denudation, etc.

9.0.

ASSOCIATED USES OF FORESTS

- 9.1 Grazing
 - 9.12 Range plants
 - 9.13 Forage types: systems of range allotment and control
 - 9.15 Range management
 - 9.151 Grazing working plans
 - 9.1511 Range reconnaissance and surveys
 - 9.152 Range utilization and maintenance
 - 9.1521 Adaptability of range to different classes of stock
 - 9.1522 Seasons of stocking
 - 9.1523 Carrying capacity

- 9.1 Grazing (continued)
 - 9.1524 Intensity of grazing
 - 9.1525 Grazing systems
 - 9.153 Range improvement
 - 9.1531 Natural revegetation
 - 9.1532 Artificial reseeding
 - 9.1533 Range destroying rodents
 - 9.1534 Eradication of poisonous and unpalatable plants
 - 9.154 Range development (For engineering features, see 6)
 - 9.1541 Drift and division fences
 - 9.1542 Stock watering places
 - 9.1543 Stock trails and driveways
 - 9.1544 Corrals, chutes, dipping vats, etc.
 - 9.155 Handling stock
 - 9.1551 Cattle
 - 9.1552 Horses
 - 9.1553 Sheep
 - 9.1554 Goats
 - 9.156 Breeds and breeding
 - 9.1561 Improvement in grade of stock
 - 9.157 Feeds and feeding
 - 9.158 Livestock enemies
 - 9.1581 Diseases
 - 9.1582 Insect pests
 - 9.1583 Predatory animals
 - 9.16 Grazing influences
 - 9.161 Forest growth and reproduction
 - 9.162 Forest fires
 - 9.163 Watershed protection
 - 9.1631 Erosion and streamflow
 - 9.1632 Landslides and avalanches
 - 9.1633 Water for irrigation and municipal supply
 - 9.164 Soil fertility
 - 9.165 Game
 - 9.166 Recreational use
 - 9.17 Range economics
- 9.2 Wild life (See also 8.712 and 3.2)
 - 9.23 Game and fish management
- 9.5 Forest recreation (See also 8.7114)
- 9.9 Other special uses

10.0

TECHNICAL FORESTRY EQUIPMENT AND USE
(Photography, increment borers, etc.)

10.1 Statistical Methods

10.2 Directories

10.3 Instruments used in forestry

10.4 Photography

10.5 Technical writing

11.0 Personnel

11.1

11.2 Training

11.3 Safety

12.0 Forest Service Administration and Fiscal Policy

REMEMBERING Franklin B. Hough

by Frank J. Harmon

*History Section
U.S. Forest Service*

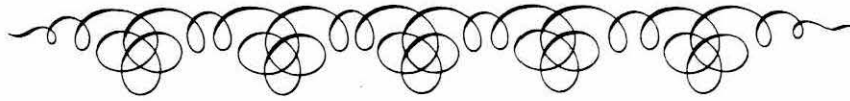
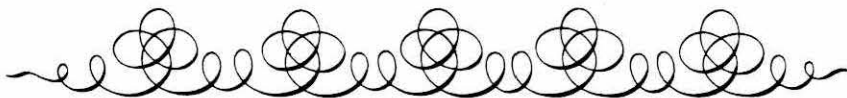


Photo courtesy Lewis County, N.Y. Historical Association

Franklin B. Hough



FRANKLIN B. HOUGH was the first forestry agent of the United States government and the first Chief of the Division of Forestry in the Department of Agriculture. The Division was the forerunner of the present Forest Service. In a real sense he, rather than Gifford Pinchot, was our first Chief. Pinchot himself called him "perhaps the chief pioneer in forestry in the United States."

Hough was a man with boundless curiosity, enormous energy, much self-confidence, a strong sense of public duty, and extremely wide interests in natural science and mankind. With his strong self-discipline and enthusiasm he became highly knowledgeable in botany, geology, meteorology, climatology, statistics, history, and finally forestry. He did a prodigious job in gathering and compiling existing forestry knowledge—all the more remarkable since by profession and training he was a physician practicing in New York State (having received his M.D. in 1848 from Western Reserve College).

Hough was born in 1822. His father was the first medical doctor in Lewis County, on the western edge of the Adirondack Mountains. Early close association with the unspoiled forests encouraged the younger Hough to make long field trips on foot studying the plants and geology of the countryside. He accumulated a large collection of specimens which he scientifically classified, recorded and published. Leading natural scientists of the time—including Louis Agassiz of Harvard, John S. Newberry of Columbia University, and Spencer F. Baird of the Smithsonian Institution in Washington—were impressed by the thoroughness of his writings and collections, and many became lifelong friends and helpful critics.

Hough's reputation for scientific care and thoroughness led to his appointment to direct the New York State Census in 1854 and again in 1865. In 1867 he supervised the census of the District of Columbia, and in that same year assisted with preparations for the 1870 decennial Census of the United States.

Hough's study of the statistics of these censuses, which revealed drastic declines in lumber production throughout the Northeast in mid-century, caused his increasing alarm for the future of the country's forest resources. He saw that lumbering was migrating westward and national production was rising, but he feared that the timber of these virgin areas would also prove finite. His duties as member of the 1872 New York State commission on a state forest park in the Adirondacks furthered his interest and concern with forest preservation.

By 1873 Dr. Hough was convinced of the need for strong action to protect forests from overexploitation. He prepared and delivered a report and a plea to the American Association for the Advancement of Science at its annual meeting in Portland, Maine, entitled "On the Duty of Governments in the Preservation of Forests."

In his report to the scientists, Hough described the ill effects of deforestation in Mediterranean and Middle Eastern countries where formerly forested and cultivated areas had become wastelands. Hough urged that agricultural and horticultural societies inform landowners and others of the need to preserve forest resources. He advocated establishment of schools of forestry and outlined laws which he believed were needed to protect and regulate forest growth, and recommended measures that states might adopt to encourage better forest use. In conclusion, Hough urged the scientific association "to take measures for bringing to the notice of our several state governments, and (to) Congress with respect to the territories, the subject of protection to the forests, and their cultivation, regulation, and encouragement."

The scientists were impressed and the next day, August 22, 1873, a committee was appointed of nine prominent men, mostly botanists and geologists but also including a horticulturist, a soil scientist, and an anthropologist. The nation's foremost botanist, Asa Gray, compiler of the still authoritative *Gray's*

Manual of Botany, was in the group, as was Professor William Brewer of Yale, first man to deliver lectures on forests at an American college (that same year, 1873). So was George B. Emerson, Harvard botanist and author of a book on trees and shrubs of Massachusetts, and Josiah D. Whitney, California geologist for whom Mt. Whitney, highest peak in the Sierras, is named. They were the most eminent scientists of the day.

The committee was directed to memorialize the United States Congress and the states, emphasizing the critical national need. The committee also requested creation of a federal commission for forestry, to investigate forest conditions.

Hough and Emerson went to Washington the following February to bring the memorial to the attention of Congress. They received much encouragement, but Congressional action proved difficult. They first talked with Joseph Henry, director of the Smithsonian, then several representatives and senators, and Frederick Watts, Commissioner of Agriculture, who got them an audience with President Ulysses Grant. Willis Drummond, a conscientious Commissioner of the General Land Office, supported their proposal and secured the endorsement of his superior, Secretary of the Interior Columbus Delano. Drummond said the AAAS recommendations were "indispensably necessary" to stop destruction of timber and to provide for reforestation, and he drafted a proposed joint resolution for Congress to consider, forwarding it to Grant who sent it to Congress on February 19, 1874.

The draft resolution and the memorial, which asked for a study and report on the extent and distribution of woodlands, the influence of forests upon climate, and on European forestry methods which might be applied here, were referred to the public lands committees of the House and Senate. Emerson returned to Boston, leaving Hough to press for enactment. Hough met frequently with congressmen who showed interest in the proposal and spoke to the House public lands



Photo courtesy of Albert Einhorn, Director, Lewis County Historical Society

Hough home in Lowville, New York was built in 1861

committee. Rep. Mark H. Dunnell of Minnesota became his sturdy ally, and had a bill drafted and introduced in the House of Representatives. The bill provided for appointment by the President and approval by the Senate, of a forestry agent, a man "of approved attainments" who knew statistical methods and was familiar with forestry.

Much progress had been made, but Congress was preoccupied with other matters and the bill died in committee. Secretary Delano had also asked Congress that year without effect for action to stop destruction of timber on public lands. The year 1875 also passed without consideration of the AAAS proposal, although Commissioner Watts, in his 1875 report, noted that "forestry has excited much attention in the United States" due to "rapid deforestation," and he feared "a timber famine at no distant day" unless appropriate actions were taken. Carl Schurz, the next Secretary of the Interior, expressed similar fears in his annual report of 1877; he had hired special agents to halt timber thievery that year.

Meanwhile, Hough did a lot of studying and writing. While in Washington he had spent many hours at the Library of Congress reading everything he could find about forestry, including European methods. In 1875 he presented a

series of lectures on forestry at the Lowell Institute of Boston, which Professor Emerson attended and praised. The topics covered in his lectures included: distribution of forest species; qualities, chemical properties and special products of various species; tree growth and the physiology of timber; timbers in commerce and their supply and demand; planting and management, irrigation; climate and its relation to

forests; destructive agencies and preservative processes; ages of timber and time of cutting; transportation of timber; forest restoration; protection afforded by woodlands; investments and profits in forests; and duties to the present in the management of woodlands.

Through all this, Hough continued to practice medicine.

Hough kept up a correspondence with Congressman Dunnell, determined not to "accept failure as a defeat." His confidence and foresight are shown in this prediction to Dunnell: "I am convinced that this is destined to be one of the great questions of the near future and that those who take active interest in it now, whether in or out of Congress, will deserve and hereafter secure an honorable place in the Annals of our Forestry."

Dunnell again introduced his forestry bill in January 1876. Hough again made the midwinter train journey to Washington in February to testify before the House public lands committee, but their interest appeared slight, although Dunnell was optimistic and confided to Hough that he was sure to get the appointment when the bill was passed. At the end of the session when the bill appeared dead again, Dunnell got the House to transfer the item as a rider to the general appropriations bill, authorizing \$2,000 for a forest study along with funds to

Hough Memorial Forest, established in his honor 30 years ago, is on route 26A, six miles northeast of his home town of Lowville



Photo by Albert Einhorn

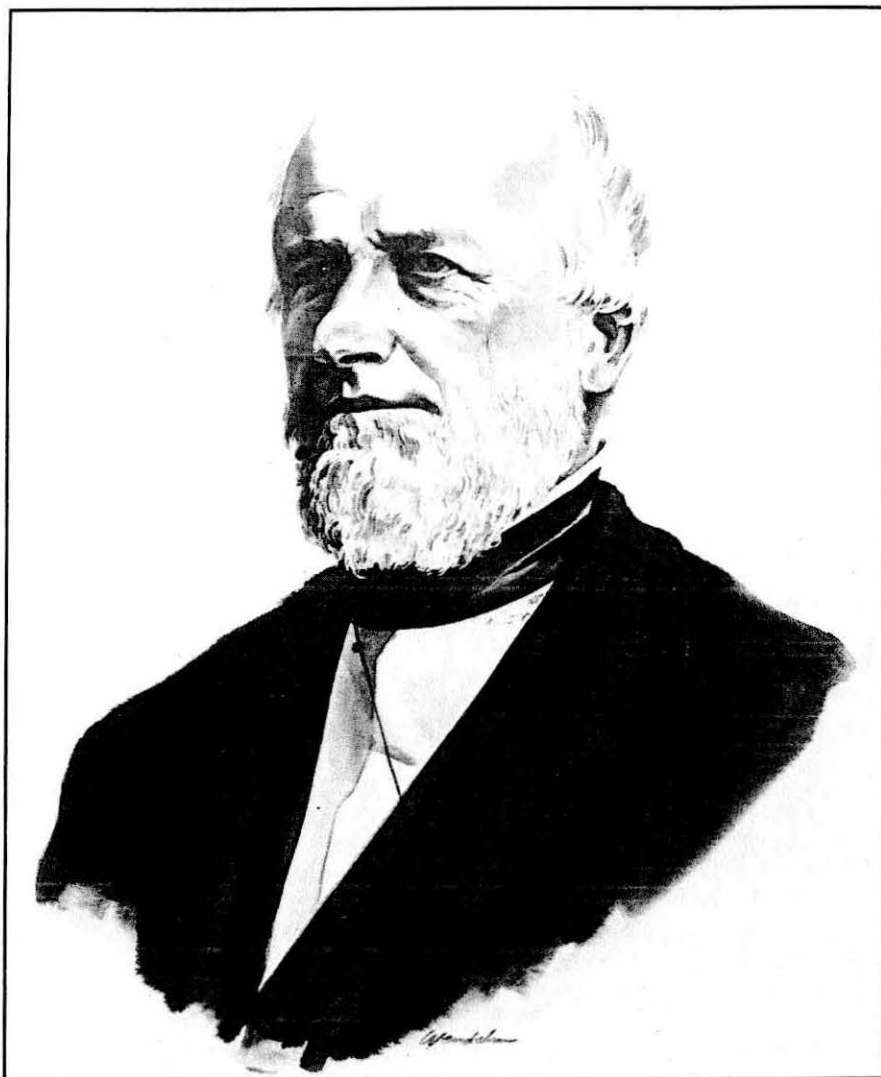
distribute seeds for the Department of Agriculture. The maneuver succeeded and the bill with the forest study intact received final approval by Congress on August 15. It gave the Commissioner of Agriculture the right to make the appointment.

So the forestry agent and his office were placed in the Department, setting a precedent which continues to this day. Commissioner Watts appointed Hough on August 30, gave him a free hand and promised to make sure that the report was published. Hough confided to his private diary on August 23, 1876 that he would "do credit to myself and the country."

Dr. Hough early became active in the new American Forestry Association, which was organized in 1875, and in the American Forestry Congress which was organized in 1882 and merged that year with the American Forestry Association. Almost immediately after being appointed the first forestry official of the United States government, he read his 1873 paper ("On the Duty of Governments in the Preservation of Forests") at the second annual meeting of AFA in September 1876, held at Philadelphia during the Centennial Exhibition of the American Revolution. Hough became treasurer of AFA in January 1880.

By the time of his appointment as forestry agent, he had been gathering material related to forestry for at least five years. During his three visits to Washington he had spent considerable time reading, indexing and taking notes at the Library of Congress. He read nearly everything available on forestry there and at other libraries, in English and French. He compiled a list of sources of data throughout the United States, Canada and Europe. He wrote to bureaus in every state and to lumber companies, manufacturers, dealers, college instructors in botany and forestry, hobbyists, nurserymen, horticulturists, and to government agencies abroad and their embassies in Washington. The forestry data of the 1870 Census were available, prepared by his friend Professor Brewer of Yale. He wrote to many federal land offices and Army posts to secure information about the local forests.

Congress had provided Hough with no salary, no assistants, and no clerical help. He had no money for travel unless he took it out of the



Painting of Rudy Wendelin (U.S.F.S.) based on photo of Franklin B. Hough

\$2,000 appropriation. However, since he was a government official, he could travel free by rail, and he took full advantage of this provision which was part of the land-grant bargain made when railroads were being built in mid-century. During the spring and summer of 1877 he travelled extensively throughout the country on this rapidly developing rail system. His itinerary covered more than 8,000 miles. He visited lumbering operations and mills, wood products industries, tree plantations, universities and colleges, state governors and legislatures and other prominent leaders. He urged encouragement of the practice of forestry through legislation. Michigan, Nebraska and Utah are mentioned in two of his diary entries. He started late in March from his home in northern New York, and returned in July.

During the next five months he assembled his mammoth report

from voluminous notes and correspondence. Congress was amazed at the size of the report, and set a limit of 650 pages, but then generously approved a printing of 25,000 copies, highly unusual in that day for an unfamiliar subject. So the report was divided in two and the first one was printed in 1878. The statistical compilation was printed in 1880.

Volume I includes a general discussion of forests in the United States, and its timber problems and needs; the ineffective legislation which tried to allow use without abuse; the early naval timber reserves; abuses of timber on the public lands; the Timber Culture Acts which tried to encourage tree planting on farms; state efforts to encourage forest planting; suggestions for future management of federal timberlands; advice and experience in sowing and planting here and abroad, including cultural practices;

Remembering Franklin B. Hough

tree planting by railroads; use of wood for railroads, papermaking, charcoal, tanning, resin products, gas, distilled products, and cork; damages from fire, insects and diseases; forests and climate; reforestation experience in Europe; U.S. Census figures and various reports from the states on timber resources of the United States; and a list and discussion of forestry schools in Europe.

Hough's recommendations in this 1878 report for management of federal timberlands showed careful thought—genuine concern tempered with common sense. He suggested adoption of the practice already then in use for some time in Canada—leasing timber on public lands to private operators for cutting, for a fee based on a percentage of the value of the lumber or other wood products removed. Hough regarded this system as a minimum means of (1) conserving public timber, (2) assuring careful use, (3) retaining land in timber for the future, and (4) paying for itself or yielding some net revenue—all at the same time.

Hough noted the need to fix a time limit for the leasing privilege, and to set a size limit on trees to be cut, reserving young trees for future growth. He pointed out that this system would require at the least the employment of agents to prevent depredations and to collect revenues, but that they would not have to be trained foresters, which this country did not have then. If a fee were charged by the acre, however, then an expert check of the forests in advance would be needed, he noted.

Volume II contains 515 pages of statistics on imports, exports and production in Canada and the United States, some going back to early years of the republic. The rest of the data combined recent federal and state legislation, lumber statistics for Illinois, and notes on growth, planting and cultivation of trees, gathered from this country and Europe.

Hough continued to gather new material, and answers to his wide-ranging questionnaires kept dribbling in, so he began the preparation for a third volume.

Meanwhile, in 1881, the Depart-

ment of Agriculture made Hough's office a Division of Forestry following steady pressure by Dunnell. That summer Hough went to Europe to study European forestry and education and to confer with forestry officials and professors there. He completed his third report after his return. In it he amplified considerably his recommendation for American forestry.

Most of Volume III deals with damages to forests worldwide from fire, insects, and human carelessness, together with means being used and suggested for control. The section on fire is very extensive and exhaustive for the time, composing the bulk of the book.

This volume also reviewed the effects of forest use in various countries, the neglect of forests in the public domain in this country, and Canadian experience in controlling forest use.

Hough reiterated his 1878 recommendations for reservation of federal timberlands and the leasing procedure. He also urged establishment of experimental stations for forest culture, principally experimental plantings. For the lush forests of the Pacific Coast States, he suggested federal management using European trained foresters to stop the conspicuous waste already noticeable then. Hough also suggested repurchase of private lands, both timbered and denuded, in certain situations where it would be advantageous, thus anticipating the Weeks Law by many years.

Hough's two reports received a special diploma of honor award in 1882 at an international geophysical congress in Venice. At this congress, a prominent German forester and university professor from Württemberg remarked, "It awakens our surprise that a man not a specialist should have mastered the whole body of American and European forestry literature and legislation."

Hough conceded that in order to get the most from the public forests, skilled men would be needed to manage them, as was being done then in Europe, including forbidding fire and needless injury to the remaining growth.

Hough then asserted that "so long

as forestry remains in its present rude and elementary condition among us, there is more to be gained by teaching its general principles to many than its thorough details to a few."

Our first forestry agent applied this maxim through his public lectures, his official reports, his articles, and his books. In 1881 he wrote *Elements of Forestry*, published in 1882, the first book on practical forestry written in the United States. He also wrote and published a monthly *American Journal of Forestry* for one year.

Hough's writing gained considerable public recognition, and he was widely acclaimed by scientists and reviewers in periodicals. His first "Report" was called by Bernhard E. Fernow, the German forester who had emigrated to the United States shortly before, "by far the best and most useful publication of its kind on forestry in this country."

Hough's 1873 recommendation to the American Association for the Advancement of Science, that the governors and legislatures of the various states be urged to actively support forest conservation so as to assure adequate supplies for future needs, was finally carried out in 1880.

The legislatures were asked to give attention "to the great and increasing importance of providing, by adequate legislation, for the protection of the existing woodlands of the country against needless waste, and for the encouragement of measures tending to the more economical use and the proper maintenance of our timber supply." Suggested were: tax laws and premiums encouraging and protecting trees planted along highways and in private plantations, state-operated plantations under the care of professional foresters, courses in "practical silviculture" at educational institutions, laws to prevent forest fires and to impose penalties against willful and careless setting of fires, laws strengthening the powers of local officers to get assistance, adoption of suppression measures, creation of state commissions of forestry, awarding prizes for best essays and reports on practical forest culture and providing for publication and distribution of them.

The memorials to the states probably had some effect in getting forest commissions started, forestry laws

passed, and forestry lectures underway at state colleges during the 1880s and 1890s.

Hough attended the organizational meeting of the American Forestry Congress in Cincinnati in April 1882. He had been invited to deliver an address, "Forestry of the Future," at the gathering. Hough discussed how overcutting would make timber scarce and drive prices up, and presented a detailed economic justification for a national policy of reforestation.

Another speaker was Bernhard E. Fernow, the German forester who was to become chief of the Division of Forestry in 1886.

Differences with President Ruth-erford Hayes' Commissioner of Agriculture, Dr. George B. Loring of Massachusetts (also a physician), which could not be resolved, clouded Hough's last years with the Division of Forestry. He continued working for the Division even when Nathaniel J. Egleston, a Congregational minister of Williamstown, Massachusetts, replaced him as Chief of Division in 1883.

Hough continued as recording secretary of the Congress in 1883 and Fernow became corresponding secretary early that year. The Division of Forestry was host to a special meeting of the Congress May 7-8, 1884 in Washington, D.C. An administrative staff for managing government timberlands in the West was advocated by Hough, Fernow and some of the Division staff. Hough read a paper he had prepared on "The Proper Value and Management of Government Timber Lands." The Division at this meeting endorsed Hough's proposals made in his third report, and urged the training of foresters at forestry schools, establishment of forest experiment stations in various parts of the country, reorganization of the Division of Forestry, hiring of

competent men to administer government forest lands, protection of the government forests from fire, limitations on cutting, sale of government timber at close to actual value, and surveying of timber on the public forest lands.

The Division suggested that 85 million acres of government timber land be withdrawn from sale to individuals and from entry. A bill was introduced in Congress to accomplish these ends, but was not passed. In this year the Division was authorized to conduct experimental tests with timber, and its fourth "Report on Forestry" was published.

In 1884 Hough took part in a renewed and successful effort to get New York State to establish a forest reserve. At the fourth American Forestry Congress in Saratoga, N.Y., he presented a paper on the subject and described a bill he had drawn up for the purpose, including a provision for an organized system of fire suppression. The state legislature set up a new commission headed by Charles Sargent which gathered new data. Finally it passed a bill drawn up by Fernow, which became law on May 11, 1885, setting up a three-man forest commission. This was just one month before Dr. Hough died at his home in Lowville, N.Y., just short of his 63rd birthday.

America owes a tremendous debt of gratitude to this broadly educated, energetic, dedicated public servant, through whose efforts forestry got its start in this country.

NOTE: The author is indebted to Harold K. Steen, Forest History Society ("The U.S. Forest Service: A History," Chapter 1 (University of Washington Press, 1976); Charles E. Randall (American Forests, May 1961), and Andrew D. Rodgers' biography of B. E. Fernow (Princeton University Press, 1951), for some of the materials included in this article.

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Franklin B. Hough, A Once Forgotten Pioneer of American Forestry
(Talk to Lewis County, New York, Historical Society, Lyons Falls, New York)
May 19, 1977

by

Frank J. Harmon
History Section, Forest Service
U.S. Department of Agriculture

When your Director, Arthur Einhorn, asked me to come to speak to you about Dr. Franklin B. Hough, I was glad to oblige. I had been doing a lot of reading about him, reading his first forestry reports, reading new material brought out in the new book "The U.S. Forest Service: A History" by Harold Steen of the Forest History Society, reading old magazine articles, reading about him in Andrew Rodger's biography of Bernhard E. Fernow. * Mr. Einhorn furnished me with much material--his own article on Dr. Hough's pioneer anthropological work, Dr. Hough's article on the future of forestry, Dr. Detrich Brandis'† obituary and tribute.

What is so striking to any one who goes through this material is the man's wide breadth of interests, his great curiosity, his quick grasp of new subjects, his knowledge of the interrelationships of the various sciences and humanities. And he was not just^c dilettante. Although largely self-trained, he was accepted by ~~so~~ many of the most prominent scientists of his day as an equal and an authority. But, he also had the artist's and poet's sensitive appreciation of the beauty of nature, and the beneficial effects of communion with nature on the mind and body of man.

He was truly the complete man, the well-rounded man, the well-informed generalist of the type of Washington and Jefferson and Franklin, who did not limit himself to compartments and narrow fields. His curiosity, his energy, his dedication to public needs, and the future of his country, his overwhelming compulsion to find out and to write and tell everyone what he had found and

* - a German forester who became Chief U.S. Forester after Hough.
† - the leading German forester of the 19th Century, whom Hough met on his forestry tour of Europe in 1881.

learned. These qualities are so evident to anyone who reads him and about him. And he was able to move others to see what he saw and feel what he felt.

His great achievement was to get the ^{foremost} ~~most prestigious~~ scientists of his day to press his project for a comprehensive nationwide study of forests and lumbering, and to get governments to take measures to assure the management of forests in the public interest to assure necessary timber harvest, but protect the land and assure continuous supplies for later generations. * . This was his mission... And he succeeded magnificently. It was a great personal triumph... He not only clearly saw the need; he composed talks and articles; he spoke in Lowville and Albany and Boston and Baltimore, and he was able to get the use of a powerful forum, the American Association for the Advancement of Science, to which he long belonged, to press it... He got the scientists to support him. Then he went to Washington himself to urge the program endorsed by the scientists on Congress and the President, who was Ulysses Grant. Fortunately there was a conscientious director of the General Land Office at the time, Willis Drummond, and a good Secretary of the Interior, Columbus Delano. He stayed in Washington for months, speaking at hearings, talking to Congressmen, and reading up on forestry in the Library of Congress. He endured the usual disappointments and delays, but persisted and was successful although it took two and a half years. His dedication, energy, and persistence are remarkable.

Then he finally received the appointment--and his job had just begun. He had to do it all almost alone. He wrote hundreds of letters to gather information. He traveled thousands of miles on the new railroads of the time to meet State officials and lumbering men, to make his own inspection of conditions. He was very active in the new forestry organizations of his time, American Forestry Association, and American Forestry Congress, which

finally merged and the Association is still going, bigger and stronger than ever.

I am sure much of this is not new to most of you. You already know much of Dr. Hough or you would not be here tonight, you would not belong to this Society. When Mr. Einhorn asked me to come, I really wondered what I could tell you that you didn't already know. So I told him that I would not give a formal speech. I would give some general remarks, and then ask for questions. I know how boring long speeches can be, and I don't intend to give one. With Mr. Einhorn's help, I will try to answer your questions. We have copies of American Forests magazine which has my article on Dr. Hough, and also reprints of the article which you are welcome to have. This magazine, of course, is the official organ of the American Forestry Association.

When you look the article over, you will see how comprehensive Dr. Hough's official reports were for his time. Although not organized into a science of forestry, they brought together valuable material from all over the world. And his recommendations for public forestry in the United States showed familiarity with the systems in use in Canada, Europe and New Zealand, and his suggestions were excellent and practical for the times. With his help and others, the Federal Government finally did set aside great areas of public forests in the West, and finally acquired many in the East where they had been heavily damaged. ^{These forests} but were helped to recover and now are priceless national assets.

As all of you know, his contributions to forestry and conservation in his own State of New York were great. ~~He was~~ one of the most influential members of the first Adirondack Commission in the 1870s, whose report he himself wrote. And again in 1884, when he ^{for the legislature,} drafted a bill, and lobbied for it, was asked to speak to a legislative committee about the Reserve, and

He had major responsibility for actual establishment of this great reserve, first State forest reserve in the Nation and still by far the largest. It is larger than Yellowstone National Park. As you probably know, Hough Peak in the high Adirondacks was named in his honor. It is over 4,000 feet high and just a few miles east of Mt. Marcy--highest in the State.

Hough's recommendations in his Federal Reports Upon Forestry included many which were later carried out by the Federal Government and the States--including management of the forests, selling of timber under strict regulation, planting of trees, fighting fires, establishing forest experiment stations, establishing forestry schools, and others.

This Centennial of Federal Forestry project which the Forest Service has engaged in has brought back recognition of Hough's great contributions among the present generation of foresters among us, as well as the general conservation-minded public. Unfortunately, he and his work had been largely forgotten by most of our people in the Forest Service, and even by many of his own descendants. We have been able to trace most of his descendants, with the help of a genealogical record left by a granddaughter, Helen Yale Hough, in the Library of Congress, and page of a will of another granddaughter, ^{Marjorie} Hough, provided by Mr. Fred Johnson, State Regional Forester in Lowville. We are also indebted to The New York Division of Forestry in Albany for photographs of the early engraving of Dr. Hough used in the American Forests article, and to your Society for prints of the portrait of Dr. Hough which hangs in Union College in Schenectady.

Dr. Hough inspired one of his sons, Romeyn Hough, to study and write about forestry. Romeyn has two books to his credit, one on American Woods, and one on Trees of North America. Also Hough's granddaughter, Marjorie Hough, carried on much historical work here in Lewis County, as you know

and as Mike Blair described in your recent Journal. One granddaughter is still living, Edith Greer of Portland, Oregon. And Patricia Hough, great-granddaughter, is an associate editor (reporter-researcher) for Fortune magazine.

We in the Forest Service in Washington and in our regional offices all over the country called attention to our Centennial of Federal Forestry which Dr. Hough initiated by bringing about his own appointment 100 years ago. We distributed this one-page summary of which I have brought some copies to show you here. This summary was printed in the Congressional Record of September 15, 1976. It was inserted by Representative Frederick W. Richmond of New York State, a member of the House Agriculture Committee.

Also, we had a symbolic tree-planting ceremony in our Department patio. *I don't know who drew the portrait.*
The former Secretary of Agriculture, Earl Butz; our Chief of the Forest Service, John McGuire; and officials of the National Atmosphere and Space Administration, including astronaut Rusty Schweickert; *also* and men from the White House participated. The tree was a loblolly pine seedling (a species of southern yellow pine), which had been grown from seeds taken to the Moon on the Apollo 14 trip in 1971. Also, our artist, Rudy Wendelin, drew a wash portrait of Dr. Hough, which we distributed copies of widely, including this Museum. The original framed portrait is in our Washington Office and will later be displayed permanently at our Forestry Museum at Asheville, North Carolina. That is where practical field forestry had its start in the United States, under Gifford Pinchot and Carl Schenck. Schenck was a German forester who started the old Biltmore School, *in 1878.* Both men worked as foresters on the old Biltmore Estate of George Vanderbilt, of the famous wealthy railroad family.

There are many interesting sidelights to Dr. Hough's career. He had triumphs and he had setbacks. Unfortunately a new Secretary of Agriculture from

Massachusetts, George Loring, also a physician, did not appreciate Dr. Hough. He was perhaps jealous of him and dealt very unfairly with him, in spite of Hough's three historic reports on forestry, and after Hough had been honored for his work by an international conference in Venice. Loring replaced Hough as Chief of Forestry in 1883 by a friend of Loring, but Hough continued to work for the Division for another year. Hough did become discouraged at this time, and in February 1884 wrote: "I do not see much hope of any thing being done by Congress." *(But 4 years later the Federal Forest Reserve Act was passed.)* He said he relied on "an awakening of popular interest and a diffusion of intelligence among the people, especially the owners of land." He added that "ere long they will begin to learn that dollars can be earned in growing trees as well as grain." However, despite this humiliation, Hough was highly esteemed by his associates and friends and the men he worked with in the forestry associations. And his high place in the ranks of American forestry is unquestioned today. He was aware of the historic position he had taken. Quotes from his personal diaries tell this.

In a letter to a Minnesota Congressman ^{*} who was helping him influence the Congress to get a bill passed to create the forest agent's office, Dr. Hough said (This was after the bill failed to pass the second time.): "I am determined not to accept ^(this) failure as a defeat. I am convinced that this is destined to be one of the great questions of the near future, and that those who take active interest in it now, whether in or out of Congress, will deserve and hereafter secure an honorable place in the Annals of our Forestry." His prediction of course did indeed become true.

The New York State Board of Regents thought so much of his work in the State that they conferred on him an honorary Doctor of Philosophy degree. And at the 50th anniversary of the establishment of the Adirondack Forest

* Mark Durnell

Reserve in 1935, his work was praised and a portrait was commissioned which now hangs in Union College.* No only a mountain but a mineral, Houghite, perpetuates his name. *(It is a variety of hydrate talc, a pearly-white mixture of aluminum and magnesium hydroxides.)*

The best tributes to Dr. Hough were given by others. In 1886, David Murphy, Secretary of the New York State Board of Regents said: "In all things he was the genuine man, the true and honest heart which despises shams, one of the world's workers and not an idler."

Dr. Hough, like Gifford Pinchot and other Forest Service leaders, combined both the esthetic and utilitarian viewpoints of forest lands. This is shown by a portion of a chapter of his autobiography which Hough wrote in April or May of 1885, just before his death. This was printed in your Lewis County Historical Society Journal in December 1976.

In this fragment, Hough referred to the old French Ordinance of Waters and Forests under Louis the 14th in 1669 which greatly restricted the grazing and cutting of woodlands, both private and public.

He said that he preferred to see forests used to make the many products that people need -- lath, boards and shingles for buildings; hoops, staves and heading for tubs and barrels; wood for grinding into paper pulp; stakes and poles for fences and fence posts; wood for railroad ties; tree tops, branches and chips for fuel and charcoal. Like Pinchot, he emphasized that forests could be viewed as a crop, that with good management could be continuous without harm to the land.

However, Hough also pointed out that such forest management does not mean that we cannot also enjoy, in his words, "everything that is beautiful and harmonious in nature. The opening buds of spring, the verdure of summer, the fruits and brilliant foliage of autumn, and even the snowy mantle of winter have their pleasures which none can so thoroughly enjoy as those who live

among them. There is music in the morning dawn and the evening twilight, in the murmuring noonday breeze, and in the sighing of midnight winds through November pines." Hough mentioned that ^{a great deal} ~~which~~, to quote, "is aesthetic and sentimental in groves and woodlands, and much ~~that~~ ^{this} is romantic and poetic in wild wood haunts, cool shaded streams where lovers like to walk, sylvan fountains, singing birds..." He was no doubt recalling the long forest walks of his boyhood in these hills. (When older he would walk 20 ^{more} miles a day in botany or mineral collecting

Thank you for this opportunity to meet with you and talk about this wonderful man. If you have any questions or more information, please give them to me.

Proceedings, 34th Annual
meeting, New York State
Historical Association, vol.
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15(3): 311-325,
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FRANKLIN B. HOUGH

From photograph with the Hough Manuscripts in the New York State Library

FRANKLIN B. HOUGH, A PIONEER IN SCIENTIFIC FORESTRY IN AMERICA¹

EDNA L. JACOBSEN

ONLY a little more than fifty years ago, in 1880, the federal government took what is generally considered its first official recognition of the existence of a forestry problem and duty, when it created a division of forestry in the Department of Agriculture. This step was accomplished largely as the result of a determined effort on the part of a few far-seeing men to find acceptance for their conviction that disastrous consequences would soon result from a continuance of the practice of indiscriminately cutting down trees without making some provision for renewing the supply. So new was the idea in the 1880s that persons who took the matter seriously were dubbed "denudatics" as a new species of maniac. The first chief of the division of forestry was Franklin B. Hough, of Lowville, Lewis county, New York, who attained such preëminence in the field that Gifford Pinchot has called him "perhaps the chief pioneer in forestry in the United States," and a periodical in Germany, the country which has led the world in the work, commented at the time of his death: "The warm interest in scientific forestry which this pioneer excited among people in his own land has since been reflected in increased zeal on this side of the ocean."²

Franklin B. Hough³—scientist, historian, physician, statistician, as well as the "father of American forestry"—was born July 20, 1822, in Martinsburg, Lewis county, New York. His father, a practising physician, was a subscriber and a contributor to the *American Journal of Arts and Sciences*. Young Hough

¹Read before the New York State Historical Association, at Ticonderoga, September 14, 1933. The author is head of the Manuscripts and History Section of the New York State Library, Albany. Here is to be found the Hough collection of manuscripts, including a portion of his autobiography and his diaries, notebooks, memoranda, reports, etc., upon which this paper, condensed from a longer study, is based.

²*Centralblatt für das Gesamte Forstwesen*, October 1885, p. 476. Typed copy of English translation in Hough Mss.

³He was christened Benjamin Franklin, but as he had a cousin of that name he adopted the name Franklin B. when he learned to write. He considered the "B" only an initial, and never spelled it out.

read the issues diligently, and although there was much that he did not understand he discovered that there were vast fields of knowledge to be explored. He set himself therefore to prepare for examinations in Greek, Latin, and algebra preparatory to entering Union College, from which he was graduated in 1843. In 1842 he wrote that his five studies "employ most of my time so that I have not much time to ramble about as I did before after flowers, etc."; but the following year he found more leisure: "As for studies, they do not crowd me much, having little to do but attend lectures, read and botanize." Every other day he attended a lecture in botany by Professor Jonathan Pearson, and he had collected a herbarium of some four or five hundred specimens of which he wrote: "These can do no harm and may do much good, to say nothing of the healthy exercise which it requires. The knowledge of the uses of the different plants which I collect is very valuable."⁴ A course of lectures in physiology stimulated him to a resolve to secure the best medical training this country afforded, and he entertained "a dreamy wish to finish in Paris." But before his dream could be realized, other interests engrossed him so completely that medicine became a minor pursuit although he never wholly lost his identity with the profession.

Besides his interest in botany, Hough's inquiring mind had early turned to the study of the mineralogy and geology of the region in which he lived. Let him tell of his introduction to those fields of science: "Early in the spring of 1837, as the snows were going off, and the fields showed here and there a bare spot I walked out one warm Sunday afternoon and lay down upon a dry sunny bank near where an old cider mill had stood. I noticed several kinds of pebbles of flint, quartz, hornblende, etc., and began to pick up as many kinds as I could find. The search was continued along the walls of fences, from day to day, as the ground became bare, and I presently found a considerable number of species....

⁴Diary, June 27, 1843. Typewritten copy in Hough Mss. His first published work was *A Catalogue of the Indigenous, Naturalized and Filicoid Plants of Lewis County, New York*. Arranged according to the natural method adopted by Professor Torrey in the State Catalogue. Albany, 1846. 35 p. Separately printed from *New York Senate Document No. 71, 1846* (Fifty-ninth annual report of the Regents of the University). Each plant used for medicinal purposes was so designated.

Without having as yet read any book upon geology, reason taught me that these rocks had all been formed by deposit from materials suspended in water.... In following up the streams, I found several kinds of limestones, not then named in science, that abounded with the fossil remains of animals and plants—and as one succeeded the other, there was evidence that great changes had taken place.... Then looking from the hills down the valleys I observed, that while the actual gulfs and channels of the streams had been worn by the present streams, it was evident this erosion had not been going on always... But what had worn out the great valleys?... I was led to attribute the agency to currents of water and fields of floating ice."

With this introduction and with the assistance of the preceptor of Lowville Academy Hough began collecting and exchanging mineral specimens, his efforts in that work being perpetuated by the naming of a new mineral *houghite* in his honor. Only a man of strong physique could have withstood the hardships of his specimen searching trips. Describing the results of a visit to a locality rich in choice minerals he wrote: "My means of transportation were somewhat limited; but buying a yard or two of cotton cloth I made a bundle, and with what I got into my pockets, found myself loaded down with between forty and fifty pounds of treasure with which rather late in the afternoon I started for Carthage.... On the third day I reached home with my burden, walking all the way." Some years later he walked all the way from Cleveland, Ohio, to his home in northern New York, accomplishing the trip in sixteen days.

After graduation from Union College Hough engaged for a short time in teaching in an Ohio academy. This was followed by a course at Cleveland Medical College,⁵ after which he practised medicine for four years—1848 to 1852—in Somerville, St. Lawrence county, New York. However, clinical medicine proved uncongenial to Hough. In fact, he admitted that in choosing Somerville "the mineral localities were taken into consideration, and I had strong hopes of being able to add something to the field of

⁵Free tickets to the lectures were voted him by the faculty as a mark of appreciation for the collection of mineral specimens which he presented to the school when he gave up teaching. They had never been removed from the boxes because the trustees of the academy had failed to provide cases for them.

science from explorations as opportunities offered." Whatever time could be spared from his medical duties was devoted to a study of the history of the region and its climatic condition, and to its botanical and mineralogical exploration.⁶ This resulted in numerous and varied publications, among them his excellent histories of St. Lawrence, Franklin, Jefferson and Lewis counties, and his compilation of meteorological observations kept by New York academies, published by the state in 1855. That year Hough was employed to arrange and index the papers in the office of the Secretary of State, with which he had become familiar in his historical researches, and also to take charge of the state census, which was to be modeled after the 1850 federal census and was to include for the first time agricultural and industrial statistics. This work, and his similar labors in connection with the census of 1865 may seem far afield from the subject of forestry, but according to Hough's own testimony they were a direct cause of the development of his major interest during the last fifteen years of his life: "In comparing and tabulating upon graphic charts the statistics of distribution and amount of lumber product as shown in the census of 1855 and 1865, I had noticed a great falling off in some regions indicating an exhaustion of supplies, and an increase in others showing that new fields had been opened. It did not take much reasoning to reach the inquiry: 'How long will these other supplies last, and what next?'"

He admitted that he knew little about the subject of forestry when he began to talk and write about it, but his work in the various fields of science, together with a "biological mind," equipped him in a rare degree to grapple with the new problem of how to conserve the timber supply in his own state and throughout the country. He had pondered the influences of meteorological

⁶His interest in local history had been aroused when he was only eight years old, by his grandfather's stories and his mother's recollections. He wished to know about every family within his circle of acquaintance—"where from, when and to whom married? If the dates did not agree, who was to blame?" Autobiographical memorandum in Hough Mss. While teaching in Ohio he found no society to his liking, so his leisure aside from the time spent in botanizing was devoted to drawing from old settlers their reminiscences of early days in the locality. "In fact," he relates in his autobiography, "without knowing it I had begun to write up the history of the town, and from the town books to compile the lists of town officers which they afforded and the facts that they recorded."

science upon vegetable and animal life. He had observed the effect of the drying up of swamps on the mortality rate among the St. Regis Indians. In studying the history of his own and neighboring counties he had noted the activities of lumbermen and sawmill operators, of mining and tanning companies, and the effect on settlement. He had witnessed the process by which supposedly worthless denuded lands reverted to the state through the failure of owners to pay taxes, to be sold to railroad companies for five cents an acre. A lover of the woods, he had roamed them from childhood, and had a full appreciation of their value in developing and preserving healthy bodies and tranquil minds. He saw in a science of forestry an application of principles of various branches of science. From natural history it derives the description and classification of trees, and of animal and vegetable life that affect their welfare; geology and mineralogy furnish data on the origin and composition of soils and subsoils, of the rock formations from which they are derived, and their fitness for the growth of particular kinds of trees; mathematics aids in the processes of calculations concerned in forest lands, materials, revenues, etc.; from physics and meteorology can be determined the various questions of atmospheric influence and of climate that may arise and some theories advanced to improve or control these conditions.⁷

He began to correspond with men who were giving attention to the subject in Europe, and to assemble an extensive library—largely works in French and German, for little had been published in English. He was determined to gather and disseminate accurate data which would awaken the public to a realization of the necessity for a definite program to conserve its forest wealth. His convictions that generalizations were permissible only on the basis of objective findings, and his natural aptitude for research and statistics, wearisome to many, furnished assurance that he would make his study as thorough as the means at his command would allow. His definition of forestry gives an idea of the scope of the study as he conceived it: Forestry is "that branch of knowledge that treats of woodlands—their formation, maintenance, and renewal, the influences that may affect their welfare; the methods employed in their management; the removal, preparation, and

⁷Franklin B. Hough, *Elements of Forestry*. Cincinnati, Ohio, 1882. p. 1-2.

use of their products; and the economies that may be gained by skillful operation."⁸ A comparison with a 1920 definition shows a striking agreement: "Forestry means today the science and business of so using forest lands as to form permanent forests, useful to the people of the state and nation."⁹

Hough's serious attention to the subject came when as a result of a memorial of the citizens of New York State presented to the Senate on March 25, 1872, asking for the preservation of forests and game in northern New York by means of a public forest park, an act was passed providing for the appointment of seven commissioners of parks for the state "to inquire into the expediency of providing for vesting in the State the title to the timbered regions lying within the counties of Lewis, Essex, Clinton, Franklin, St. Lawrence, Herkimer, and Hamilton, and converting the same into a public park." Hough was one of the appointees,¹⁰ and to him was assigned the task of investigating the situation and preparing a report. Specifically he was "to collect and report facts in relation to the attempts heretofore made to settle the region covered by the law appointing this commission and the causes of these failures." Most of this was familiar ground to Hough, and his diaries show that with his characteristic energy and thoroughness he worked all through the latter part of 1872 and the spring of 1873 to complete the report, which was submitted to the Senate in May. A statement of facts and statistics concerning the nature and extent of the wild lands owned by the state and by the railroads was followed by a discussion of why these forest areas should be preserved: as a measure of political economy, since forests are a source of wealth to the state; and for social and moral reasons. The state should retain title to the lands because of the danger of fire resulting from barkless timbers left to rot when they had served the tanners' purpose; on account of the need to conserve the water supply for the Erie Canal and for various manufactories; and because of the danger of floods due to excessive evaporation when forests are destroyed. From the standpoint of health the forests should be safeguarded

⁸*Elements of Forestry*, p. 1.

⁹Hugh P. Baker, "Forestry and a forest policy for New York," in *New York Forestry*, v. 7, No. 1, February 1920, p. 24.

¹⁰The other members were Horatio Seymour, chairman; Patrick H. Egan, William B. Taylor, George Raynor, William A. Wheeler and Verplanck Colvin

because of their influence in moderating the temperature and preventing choleric conditions. The citizens of the state were entitled to a recreation ground such as a state forest preserve would guarantee. Mention has already been made of the practice of the state of selling deforested lands to railroads for almost nothing, on the theory that they were of no value to the state.¹¹ This the commission disapproved of, recommending that title to all wild lands should remain in the state until some decision concerning their real value should be made. The commission maintained that the failure of settlements was due to ignorance concerning "the climate, soil, and general capabilities of the region which rendered unwarrantable the expenditures made; but that the lands contained potential wealth which would justify the state's retaining them at least for the present."

The idea that these lands had potential wealth was new in 1873, and the unfortunate use of the word "park" gave rise to the belief that a few rich gentlemen of leisure were trying to gain at state expense a place to indulge their favorite pastime. On March 10 Verplanck Colvin had submitted to the Senate a report on the topographical survey of the Adirondack wilderness, which also maintained the necessity of setting apart that region as a public park, and the two reports were attacked as unsound in their arguments, particularly the one that the water supply was being diminished as a result of lumbering operations. Hough labored with legislators in and out of committees in the hope that some action might be taken, but he met with little success. The exhaustion of the forests in the state and its attendant serious consequences seemed too remote to warrant legislative action. Although the first report was printed and the commission continued for another year, ten years were to elapse before any legislation could be obtained, when, in 1883, the original recommendation of the park commissioners was enacted into a law which forbade further sale of state-owned northern wilderness lands in

¹¹The most notable instance was that of the "Adirondack Companies railroad" which succeeded to the properties of the old Saratoga and Sackett's Harbor railroad organization in 1848. The latter had obtained from the state in 1855 at five cents an acre 250,000 acres in Hamilton and Herkimer counties. In 1856 the company received 30,000 additional acres in Warren and Essex counties at the same rate.

Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren counties.¹²

The data gathered in these early attempts to awaken the State Legislature to the seriousness of the timber supply problem, though failing in their immediate purpose, were later to be used by Hough in persuading Congressmen to forward the cause of forest conservation. For, thoroughly convinced that it was one of the pressing problems of the day, Hough continued his efforts in that field. His early enthusiasm for natural science, his activities in collecting botanical and mineral specimens, fossils, species of fish, reptiles, etc., and his desire to exchange had resulted in a correspondence and personal acquaintance with many of the leading scientists in the country, among whom may be mentioned Louis Agassiz, Benjamin Silliman, Joseph Henry and T. Romeyn Beck.¹³ Beck proposed his name for membership in the American Association for the Advancement of Science, and he attended his first meeting in 1851. At a meeting held at Portland, Maine, in August 1873, he presented a paper on forests and forest culture, in which he set forth his thesis practically as it was to remain. The economic value of timber and the many demands for its use offered one of the strongest arguments for intelligent control of the supply. Records covering half a century permitted the deduction that forests influenced climate, water supply and the distribution of rainfall sufficiently to justify a scientific and practical inquiry into the subject of checking their destruction. He recommended that since the question concerned the whole nation the Association should appoint a committee to memorialize Congress and the several state governments, such memorial to be accompanied by a proposed bill. Hough's recommendation was adopted; he was made a member of the committee and with George B. Emerson of Boston constituted a subcommittee in immediate charge of the work, the actual drafting of the memorial being left to Hough. In its final form it embodied the arguments already mentioned. It suggested the value of studying the methods practised in Europe, especially Italy, Germany, Austria and France, of observing what was being done

¹²Chap. 13, Laws of 1883.

¹³As secretary of the Regents of the University, Beck had corresponded with Hough concerning the latter's furnishing fishes and reptiles from his vicinity for the State Cabinet.

through their schools of forestry and of publishing the findings. Since land ownership in the United States was almost entirely in private hands, there must be a program of popular education to teach the citizens the importance of planting and preserving trees from the standpoints of economic profit and of beauty; in this educational work, agricultural and kindred societies, schools of forestry and wise laws should be considered as means to accomplish the end sought. It closed with the recommendation that Congress as the proper source and power in whatever concerns the whole country undertake to conduct the inquiries. No method of procedure was suggested, that being left for the subcommittee to determine upon consultation with persons in official circles in the national capital.

Hough left Lowville¹⁴ for Washington in January 1874, stopping off in Albany to deliver before the New York State Agricultural Society what he considered the first public address in the state on forestry.¹⁵ On his arrival in Washington he and Emerson held a conference at the Smithsonian Institution with Joseph Henry, Commissioner Watts of the department of agriculture, Dr. George Vasey, botanist in the same department, and several Congressmen, which resulted in the decision to add to the memorial the definite suggestion that a law be passed analogous to the statutes creating the commissions of mining and of fisheries, which would create a commission of forestry. They spent the next few days calling on the Commissioner of the Land Office, the Secretary of the Interior, and on President Grant, with whom the memorial was left. Very shortly Emerson was called home and Hough was left to carry out alone the resolution passed by the Association. Early in February the President transmitted the memorial to both houses of Congress, with his approval, but the suggested bill which was soon introduced found practically no support in a

¹⁴His home since 1860. From 1874 on he seldom spent more than a few weeks at a time in Lowville, although he continued to maintain his home there, to conduct practical experiments in tree cultivation and in maple sugar culture and, in his library—a building separate from his residence—to prosecute his varied literary and editorial labors.

¹⁵President White of Cornell College said after hearing it: "Your paper has forced the matter upon me very strongly—so strongly in fact that I have urged the establishment in connection with our Botanical Garden, of an Arboretum, which we have already begun."

Congress concerned with the currency question and an economy program. Hough was disappointed, but he wrote a friend that he was convinced the preservation of the forests was destined to be one of the great questions of the future and that "those who take an active interest in it now, whether in or out of Congress, will deserve and hereafter secure an honorable place in the Annals of our forestry."¹⁶ He added that he intended to write and lecture on the subject at every opportunity.¹⁷ The same day he wrote Professor Evert Ebermeyer, of the Forest School at Aschaffenberg, Bavaria, whose meteorological observations had given him world fame:¹⁸ "From the facts presented in the report sent herewith it is evident that the preservation and reproduction of our forests is the great question of the future, and the time is near at hand when we must begin to study its practical relations with earnestness. But because the danger is not immediately pressing, and apparent to the reason rather than the senses, too many of our public men look upon the exhaustion of our timber supplies as a calamity that may not come in their day and therefore it is to them of little account."

When the Forty-fourth Congress met in January 1876 Congressman Mark Dunnell of Minnesota, who remained throughout Hough's loyal spokesman, lost no time in introducing a bill similar to the forestry bill which had failed in 1874, and Hough was in Washington ready to explain his views to the committee on public lands to which it was referred. He felt that they regarded the bill with indifference; nevertheless its vital portion was inserted as an amendment to the general appropriation bill then pending, whereby \$2000 was to be withdrawn from the appropriation for the purchase of seeds for distribution to finance the beginnings of an investigation along the lines mapped out by Hough. It directed the Commissioner of Agriculture "to ap-

¹⁶Letter to Mark Dunnell, May 11, 1874. Hough Mss.

¹⁷He did deliver a series of lectures at Lowell Institute, Boston, in 1874-75, and later at Peabody Institute in Baltimore.

¹⁸Professor Ebermeyer had undertaken in 1868 a scientific study of the relationship between forests and the frequency of rainfall through the establishment of observation stations in various countries in Europe, and he had already enlisted the aid of Hough in setting up such stations in the United States, in order that the most controversial argument in favor of forest preservation might be substantiated by adequate data.

point some man of approved attainments, and practically well acquainted with the methods of statistical inquiry" to undertake the study and present it in the form of a special report to Congress. The date of passage of this amendment, August 15, 1876, is an important milestone in the history of American forestry, and marks the first concrete result of Hough's 1873 address before the Association for the Advancement of Science.

Hough as the logical man received the appointment. He had already in mind the form the report should take, and had much material in hand, but he immediately began to gather additional information by circularizing nurserymen, tanners and manufacturers of tanning extract, superintendents of railroads and others engaged in constructing or supplying such roads; owners and managers of furnaces, forges, and other establishments using charcoal as fuel; botanists, entomologists and other observers in natural history. He made a two months' tour of the West to gain at first-hand statistics and facts concerning the forest situation in the prairie and mountain states. He called on leading lumbermen, railroad commissioners and land commissioners, as well as the foremost natural scientists. Railroad magnates often presented him with passes—most welcome in view of his limited budget. Literature in the form of statistical and other reports was generously given him. His route carried him as far west as Salt Lake City, where he visited Brigham Young's famous plantation of locust trees. He looked into salt factories and sawmills, talked with foresters employed by railroad companies, and with editors of lumbering periodicals.

The enormous mass of data thus assembled formed the basis of his First Report, which was submitted to Congress early in 1878. Hough had no assistance in its preparation except the services of a translator for the German literature he had accumulated.¹⁹ He estimated it would cover 1100 printed pages, and an enumeration of the chapter headings will indicate the range of his investigations: account of distribution of forests throughout the United States; methods of preserving and increasing these forests; method of planting out forests; wood as a material for paper making; manufacture of charcoal and its uses, with wood-gas, for illumination and other purposes; consumption of wood by rail-

¹⁹He read French fluently.

roads, the respective consumption for fuel and for cross-ties; comparative value of different kinds of wood for heating purposes; resinous products of our forest, and the European method of preserving resinous trees; tanning materials found in the United States; the results of forest fires and their occurrence and prevention; insect ravages of forests, diseases, and other destroying agencies; importance of trees to agriculture; manner in which forests in Europe are managed; forestry schools in Europe; influence of forests on climate.

The committee on printing to which it was finally referred objected to the expense of 100,000 copies of such a voluminous report, so that Hough and the friends of forestry in Congress had to be content with 25,000 copies, the contents cut to 650 pages and the statistical matter omitted entirely.²⁰ But a beginning had been made, and Hough's appointment was continued for another year to enable him to prepare information on the importation and exportation of timber and other forest products. Here was opportunity for Hough the statistician to indulge freely in a favorite occupation. From early morning until midnight he copied figures chiefly from the annual reports of the Secretary of the Treasury on commerce and navigation, and arranged them in tables. Not until 1880, however, a year after it was submitted, did Congress consider printing this Second Report, when in a form revised to include statistics for 1879, only 1900 copies were allowed.²¹ This seemed almost to defeat Hough's purpose, for he felt that only by a wide distribution of the facts about the forest situation could public opinion be moulded to support any practical program for scientific forest management, recommendations for which were to form the bulk of his Third Report. This met with even less favor, and was published in 1882 only as a House document,²² with no separates for special distribution.

However, modest appropriations were generally forthcoming from Congress to enable Hough to prosecute further studies, including an allowance of \$1000 to finance a tour of Europe particularly to inspect the forestry schools. But before the trip was

²⁰Hough received \$2,000 for it on January 14, 1879.

²¹The First and Second reports were awarded diplomas at the International Forestry Congress at Venice in 1882.

²²House Misc. Doc. No. 38, 47 Cong. 1 sess.

made Hough's status had changed. In May 1880, on the introduction of an amendment to the agricultural appropriation bill for \$5000 to enable the Commissioner of Agriculture to continue an investigation and report upon the subject of forestry, a discussion ensued as to the legality of such a provision. Dunnell rose to its defense, and his argument finally prevailed, that even though no appropriation had been made by the preceding Congress, the amendment was simply continuing an existing law and had been recommended by the Commissioner of Agriculture and by a special report sent to Congress by the President. By the passage of this amendment on May 19, 1880, Congress made the service of forestry researches of indefinite duration to be prosecuted as a regular branch of inquiry until terminated by law. It was on this basis that a division of forestry was created in the Department of Agriculture. Hough had long believed that there should be a distinct division and he had prepared a concise statement of the objects of a commission of forestry if and when one should be established. He received a new commission as chief of it and was assigned an office in the department. The federal government had now definitely assumed the responsibility which the American Association for the Advancement of Science had urged upon it, and the committee of 1873, of which Hough had continued to be a member, was discharged at its own request.

Hough's diaries give a delightful account of his European trip from July through November 1881. Schools of forestry and experimental stations were his first concern, but his observations included other points of interest, and not the least of his pleasures was that of meeting personally many of the men of science whom he knew by reputation and with some of whom he had corresponded. He noted particularly the schools at Edinburgh, Copenhagen, Evois in Finland (where he had sent several years before seeds of various American trees), St. Petersburg and Madrid. It is unfortunate that no record remains of his inspection tour of Germany, where the scientific study of forestry had made such great strides. He saw the results of Scott's tree planting at Melrose Abbey and Abbotsford. The peatbogs of Denmark interested him particularly because of the evidence they afforded of the changes in kinds of timber growth from earliest times when men began to cut down trees. In Bordeaux he made fruitful inquiries

into the charcoal and resin industries. He left each country loaded, as he recorded, "with kindness and with documents."

On his return to Washington he discovered that the new Commissioner of Agriculture who had assumed office just previous to his departure had reorganized the work of the forestry division, so that Hough was no longer chief but only one of several agents. Conferences seemed to result in no understanding. Hough's special report on forestry in Great Britain was rejected; his third regular report we have already seen was printed only as a House document—due, as Hough thought, to the Commissioner's influence with the printing committee. Hough attributed the difficulty to jealousy, but he continued in the division, completing his special report on his European travels and preparing four sections for the 1884 division report.

Hough wrote articles on forestry for encyclopedias, educational and trade journals, and addressed state legislatures, public health associations, charcoal iron workers' associations, as well as agricultural and village improvement societies. In October 1882 he launched the *American Journal of Forestry*, the first periodical in the United States devoted entirely to the subject. Hough did all the editorial work, read the proof, circularized prospective subscribers, besides contributing articles and editorial comments and reviewing books. Three or four solid articles by men prominent in the field made up the bulk of each number, with a "Miscellany," or editorial section, and a "Bibliography" completing it. It ran through twelve numbers, when owing to lack of sufficient patronage it had to be abandoned. During the year 1882 he also prepared his *Elements of Forestry*, which was the first attempt to present in the English language and in one volume the subject of forestry in the comprehensive sense defined in it. The same year he took a prominent part in the organization meeting of the American Forestry Congress at Cincinnati, instigated by comments made in that city in 1881 by Richard Baron von Steuben, a relative of General Steuben of American Revolutionary fame, who was then superintendent of the Prussian Crown lands. Hough was made president of the section on the uses of forests, and was placed on two of the five committees: to report upon forest experimental stations, and to memorialize state legislatures on the establishment of state forestry commissions.

Hough's last services, as his first, in the interest of forestry were devoted to his native state, and he lived just long enough to see New York establish the first state forestry commission with administrative power. This was done in accordance with the Forest Commission Act of May 15, 1885, which was a modified form of an elaborate bill framed by Hough during the last few months of his life.²³ It created the Adirondack and Catskill preserves and provided for a commission vested with power to further the growth of trees in them as well as to protect them against destruction by ruthless cutting and by fire. With the inauguration of this administrative forest commission the beginning was laid for vigorous state action, which has culminated in the elaborate program now entrusted to the Conservation Department with its various divisions manned by scientifically trained specialists in the many different fields which have been developed. A few weeks after the passage of the law, June 11, 1885, Hough died of pneumonia at the age of sixty-three.— *38 days short*

It is a far cry from the appointment in 1876 of "some man of approved attainments" to prosecute investigations and inquiries in the field of forestry, at a compensation of \$2,000, to the enactment by Congress in 1928 of the McNary-McSweeney Act providing for a ten-year program of fundamental forest research by five different government bureaus, with authorization of an annual expenditure of \$3,625,000. Time has proved that Hough and his associates in the American Association for the Advancement of Science were not sentimental visionaries, but men of vision ahead of their time in their realization of the great value of forests to a country and the need for their perpetuation through scientific management. Hough had been a pioneer in making the public conscious that there was a forestry problem in the United States. His work was primarily educational. With the passage of a law on March 3, 1891 the federal government may be said to have initiated the second, or practical, phase of the problem when it authorized the President to set up a national forest preserve wherein the principles of scientific management were to be applied.

²³This bill, together with a lengthy appendix and Hough's address on "The duty of the Legislature with reference to woodlands," was published as Senate Document No. 40, 108 sess., 1885.

The Evolution of the Conservation Movement, 1850-1920

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ON THE DUTY OF GOVERNMENTS IN THE PRESERVATION OF FORESTS.
BY FRANKLIN B. HOUGH, of Lowville, N.Y.

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The presence of stately ruins in solitary deserts, is conclusive proof that great climatic changes have taken place within the period of human history in many eastern countries, once highly cultivated and densely peopled, but now arid wastes.

Although the records of geology teach that great vicissitudes of climate, from the torrid and humid conditions of the coal period, to those of extreme cold which produced the glaciers of the drift, may have in turn occurred in the same region, we have no reason to believe that any material changes have been brought about, by astronomical or other natural causes, within the historic period. We cannot account for the changes that have occurred since these sunburnt and sterile plains, where these traces of man's first civilization are found, were clothed with a luxuriant vegetation, except by ascribing them to the improvement acts of man, in destroying the trees and plants which once clothed the surface, and sheltered it from the sun and the winds. As this shelter was removed the desert approached, gaining new power as its area increased, until it crept over vast regions once populous and fertile, and left only the ruins of former magnificence.

In more temperate climates the effect is less striking, yet it is sufficiently apparent everywhere and throughout our whole country, but especially in the hilly and once wooded regions of the eastern and northern states. In these portions of our union the failure of springs and wells, the drying up of brooks which once supplied ample hydraulic power through the summer, and the increasing difficulties of procuring water to supply canals for navigation, and wholesome water for cities, are becoming every day something more than a subject of casual remark. It is destined to become a theme of careful scientific and practical inquiry, to ascertain how these growing evils may be checked, and whether the lost {Begin handwritten} Salem, 1874. {End handwritten} {Begin stamped text} LIBRARY OF CONGRESS CITY OF WASHINGTON {End stamped text}

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advantages may be regained. We regard the ocean itself as the source whence the moisture, precipitated in rains, is mainly derived. Its area changes not; the exposure to solar heat is uniform (unless, as some suppose, the spots on the sun's disk may have an appreciable influence); and, except as varied within fixed limits by the inclination of the earth's axis in its revolution around the sun, there are no astronomical or other causes that should sensibly change the annual amount of general evaporation from the surface of the ocean from year to year or from age to age. The vapors raised from the sea are distributed by the winds over the land, and descend as rains where mountains ranges, forests and other causes favor condensation. It is probable that the Gulf of Mexico furnishes more vapor for rain within the United States than the Atlantic Ocean, its influence being felt throughout and beyond the great basin of the Mississippi and its tributaries.

In a work which I recently prepared for the Regents of the University of the state of New York, I was able to collect, from all sources and for various periods, in some stations for almost half a century, about two thousand years of rainfall records within the state of New York; and in a volume published within the last year by the Smithsonian Institution, there is a much more extended series for the whole country. These extensive series are not enough to determine, with any claim to accuracy, the secular changes, if any, that may be going on, in the amount of precipitation of rain and snow. Although they reveal great irregularities in a series of years at any given locality, they do not justify us in supposing that, in the general average of periods, the amount is sensibly increasing or diminishing, although they do show, in some cases, greater tendencies to drought for a series of years together, and often a more unequal distribution of rain throughout the year.

This growing tendency to floods and droughts, can be directly ascribed to the clearing up of woodlands, by which the rains quickly find their way into the streams, often swelling them into destructive floods, instead of sinking into the earth to reappear as springs. Aside from the direct effects of shelter and shade afforded by trees, the evaporation of raindrops that fall upon the leaves, and the chemical action of the leaves themselves, have a marked influence upon the humidity and temperature of the air beneath and around them. The contrast in a very dry season, {Begin handwritten} SD381
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between an open and sunburnt pasture, and one interspersed with clumps of trees, must have been noticed by every careful observer, and the actual relative profits of farms entirely without trees, and those liberally shaded (everything else being equal), will show, at least in grazing districts, the advantage of the latter in the value of their annual products. The fact that furniture, in houses too much shaded, will would, is a familiar and suggestive instance of the humid influence of trees, and the aggregate results of woodland shade may well explain the fullness of streams and springs in the forest, which dry up disappear when it is removed.

The economical value of timber, and our absolute dependence {Begin handwritten} {End handwritten} upon it for innumerable uses in manufacturers and the arts, the rapidly increasing demand for it in railroad construction and the positive necessity for its use in the affairs of common life, even were its use as fuel largely supplanted by the introduction of mineral coal, are too obvious for suggestion. It is this necessity, rather than considerations of climate or of water supply, that has led in several countries of Europe to systems of management and regulation of national forests, as a measure of governmental policy and public economy. Such systems have been devised to a greater or less extent, in Russia, Turkey, Austria, Germany, Italy, France, Denmark and Sweden; and more recently in British India. The extent of state forests in France, is about 3,130,000 acres; to which may be added 5,335,000 acres belonging to communes, corporation, hospitals, and other public establishments, making the whole extent of forest under the management of the forest administration, 8,465,000 acres, or about 13,226 square miles. They are distributed widely over the country, a large proportion being in the departments of the east. Legislation in France having in view the preservation of forests, chiefly dates from the ordinance of 1669, which fixed a certain time for the cutting of forests belonging to the state. A clause was inserted by the statesman Colbert, "that in all the forests of the state, oaks should not be felled unless ripe, that is, unable to prosper another thirty years." The present French Forest Code was established in 1827. It intrusts the care of public forests to the Ministry of Finance, under a Director General, assisted by two administration; one charged with the management of forests, and the sale of their products, and the other with the police of the forests, and the enforcement of forest laws. In the departments there are

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thirty-two Conservators, each in charge of one or more departments, according to the extent of forests in each. The immediate supervision is intrusted to Inspectors, who are assisted by sub-inspectors and Gardes Gnaux, who live near, and personally superintend the work of the forests guards. The latter live in the forests, and acts as police over a certain range. They personally observe the operations, and report all infractions of the laws. No timber is cut till marked, and most of the saw-mills are owned by the government, and rented to the wood-merchants. The system has been extended to Algeria, where several rainy days have been added to July and August, by forest culture.

These details might be extended, but they would not have practical application with us, because our states, as a general rule, own no large forests, and we have no strong central organizations or means of enforcing the stringent regulations which make their system a success. The title to the lands in our older states (where the evils resulting from the loss of forests are liable to be first and most severely felt) has already passed into the hands of individuals, and from the theory of our system of government, the power that must regulate and remedy these evils must begin with the people, and not emanate from a central source. With us, there are no great estates, entailed upon future generations, to keep together, and promising a reasonable hope of reward to the family for a heavy investment in their improvement. Nor is there even a reasonable prospect that the landed estate of a wealthy citizen will pass unimpaired and undivided beyond one generation of his descendants. It should also be remembered that, from the peculiar nature of forest culture, one generation must plant for another to "reap," as the age of a full-grown tree in some species much exceeds that of a human life. The investment for land, planting and protection, must be carried with interest into another century, and for the benefit of a generation unborn.

These considerations present a problem difficult, it may be, of solution, but I have confidence in the ability of our American people to work out a practical system, adapted to our social organization, and our general theory of laws. We must begin at the centre of power, and that centre is the circumference. We must make the people themselves familiar with the facts and the necessities of the case. It must come to be understood that a tree or a forest, planted, is an investment of capital, increasing annually

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in value as it grows, like money at interest, and worth at any time what it has cost-including the expense of planting, and the interest which this money would have earned at the given date. The great masses of our rural population and land owners, should be inspired with correct ideas as to the importance of planting and preserving trees, and taught the profits that may be derived from planting waste spots with timber, where nothing else would grow to advantage. They should learn the increased value of farms which have the roadsides lined with avenues of trees, and should understand the worth of the shelter which belts of timber afford to fields, and the general increase of wealth and beauty which the country would realize from the united and well-directed efforts of the owners of land in thus enriching and beautifying their estates.

In this great work of popular education, agricultural societies and kindred associations may do much, by promoting a spirit of emulation, and offering premiums for the most effectual results. In a recent premium list of the Highland and Agricultural Society of Scotland, I notice fourteen prizes offered, amounting to one hundred sovereigns, in medals and coin, for approved reports upon the subject of tree culture in its various relations. They have also established a system of examinations, by competent professors of their universities, at which young men may appear and receive certificates of attainment, according to degree, which can scarcely fail to find for them profitable employment by the owners of forest estates. They afford a strong incentive to high ambition, and a conspicuous opportunity for those who seek distinction in a lucrative and honorable employment.

The necessities of European governments have led to the establishment of Schools of Forestry for instruction in the sciences that find application in the growth, preservation and removal of timber, in which an eminently practical system of education is adopted, and the precepts of the class-room directly applied in the operations of the forest. About a dozen such schools exist in Belgium, Denmark, France, Germany and Switzerland. The necessity for special education in this department is sure to arise in our own country, in which perhaps fewer persons will find a special profession in forestry, but a greater number will feel the want of practical instruction in the principles upon which success depends.

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Our educators would act wisely in taking this into consideration, in devising plans for new institutions, or revising plans of existing ones, and perhaps some far seeing and enlightened benefactor, of sufficient means, may find in this direction the opportunity of rendering his name familiar in the annals of fame, by establishing a school of forestry, in its most comprehensive sense, for the systematic training of educators and practical engineers, in this inviting field of enterprise, and fully adapted to our American wants and ideas upon this subject.

However much the public way favor, there will still arise the need of laws to regulate, promote and protect the growth of wood; as we find laws necessary in the management of roads and bridges, or of any other great object of public utility. Let us consider some of the measures which a State might adopt for the promotion of this end, without interfering with personal rights, or stepping beyond the line which limits its duty in protecting the rights of its citizens.

1. By withholding from sale such wild and broken lands as might be returned from time to time for non-payment of taxes, when found chiefly or only valuable from the growth of timber, and by establishing laws for its protection, and for realizing to the state or to the county, whatever profits there might arise from the thinning out of timber, so as to preserve the tract as a forest. In this connection I would remark, that a more effectual vigilance would probably be secured, if the benefits belonged to the local administration of the place, as party jealousies and private interests would tend to keep officials under close surveillance, where a state officer, residing at a distance, and not personally known in the locality, would often find his authority ignored, and the public interests in his charge invaded. There should, however, be required an annual report to a state officer, clothed with ample power to enforce a rigid compliance with the laws upon the subject of forests.
2. By exempting from taxation for a limited time, and by offering bounties, for lands planted and enclosed for the growth of forest trees.
3. By offering bounties to counties, towns and individuals, for the greatest number of trees planted in a year, and made to live through the second season.
4. By requiring railroad, turnpike and other road companies,

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where valid reasons to the contrary do not exist, to plant the sides of their roads with trees, or empowering town authorities, in case of neglect, to do this at their expense.

5. By imposing a tree-tax, payable in the planting of trees, or a fixed sum for each tree, to be expended only in planting trees. In cities and villages this commutation might be applied under local officers to the improvement of parks or other objects of public utility and ornament.

6. By protecting trees on the way-side, and in public places, as well as on private grounds, from wanton destruction, by adequate penalties, sufficient to restore the loss and pay the injury.

7. By requiring the elements of science applicable to forest culture to be taught in the public schools, and by encouraging it in academies and colleges. This, in the higher grades of schools, would embrace the most approved methods of cultivation, the influences of soil and climate, and the various mathematical, mechanical, physiological and chemical principles involved in the subject. Special schools under national or state patronage might ultimately be founded.

Congress has recently taken action tending to encourage the planting of forests in the territories, where most needed, but might do much more in promoting this great measure of public utility. A few of the states have also done something intended to advance the same object, but without uniformity, and as yet with but very limited result.

With respect to the failure of water supply for hydraulic power, navigation, or city use, until woodland shade can be restored to the sources, we must depend upon reservoirs, to retain the surplus floods of winter for summer wants. There are few streams or rivers in the country, where these might not be made to advantage, and in some cases greatly to the improvement of the natural capacity of these streams as they were first known. In the construction and maintenance of these reservoirs for navigable canals or for cities, they should obviously be under the same control as these works themselves, of which they are the essential part. But where needed for hydraulic power only, they could best be intrusted to the management of those who have an interest in them, and government should only provide, by general laws, for the organization and regulation of companies with the corporate powers necessary for their object. As in other cases where pecuniary

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values are involved, the vote or power of each owner should be in just proportion to his interest, with the right of appointing a proxy to represent it when desired. Under suitable regulations of law, such associations could scarcely be perverted from their proper object.

There may be cases in which a state would be justified in making reservoirs to improve the hydraulic power of rivers, thus securing solidity of construction, and amplitude of size; and often such improvements might be made before any capital had been invested along the line, or where its amount was too feeble to warrant the expenditure; but the expense should ultimately be taxed upon the interests concerned, and the management should be given up to these interests, as soon as it can safely be done.

In the state of New York, measures have been begun for the preservation of forests, which I may briefly notice. An extensive region north of the Mohawk river and west of Lake Champlain, embracing over two million of acres of land, the Adirondack Mountains, and the sources of the Hudson and other rivers, lies an unbroken wilderness. More than a hundred years have passed since settlements were formed on its southern and eastern border, and more than seventy since it has been entirely surrounded by a belt of improvement embracing some of the best farming lands of the state. Although a scheme of speculation was far advanced before the close of the colonial period, for the settlement of this region, and great sums have since been wasted by capitalists in attempting to develop its agricultural resources, these efforts have uniformly resulted in failure; and, excepting in a few favored spots, the region is still as wild and picturesque as when it was known only as the hunting ground of the native Indian. This uniform failure may be justly ascribed to the scanty sterile soil which covers the surface where the surface is not the naked rock, and to the cold and forbidding character of the climate, due to great elevation and the influences of mountain ranges. Corn and the cultivated fruits would seldom ripen, from the frosts that may happen at any time in the summer, and only hay, oats and potatoes can be grown to advantage where the soil and exposure favors. Yet it is for the most part covered with timber, often of the finest quality, and it is supposed to abound in magnetic iron ores, of which mines are wrought with great profit near the eastern border.

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Some twenty years ago, some railroad speculators secured from the state a grant of a quarter of a million of acres, at five cents an acre, yet failed to build the road, or to confer the advantages promised; and since this period almost the whole of the lands in this region have passed into the hands of lumbermen and tanners, leaving at present only about forty thousand acres in the seven counties wholly or partly included in the wilderness. Most of these lands have been repeatedly returned and sold for the non-payment of taxes, and if no more tax sales are held, a large portion will doubtless in a very few years again revert to the state. Through this wilderness lines of navigation extend through lakes and along rivers with slight portages, entirely across, from the Moose and Beaver rivers on the west, to the Saranac and Racket rivers of the northeast. For many years it has been the favorite haunt of parties of sportsmen and those seeking relaxation from the cares of business, by a few weeks residence in summer, among the wild picturesque scenery and healthful climate of this region. Hotels for summer residence have been built upon the banks of lakes in various places in the interior, and many guides find employment in conducting parties along these rivers and lakes. and in furnishing the supplies and assistance they may need, Roads and telegraphs have been constructed to navigable points in the interior, and every year adds to the number of visitors to this great solitude of woods and waters.

In 1872, the Legislature of New York passed an act creating a Commission of State Parks, and appointing certain persons therein named to examine and report upon the expediency of vesting in the state, the title to the wild and timbered regions lying within Lewis, Essex, Clinton, Franklin, St. Lawrence, Herkimer and Hamilton counties, and to recommend such measures as might be deemed proper, relative thereto. The Commission was to continue two years, and there is a probability that it will be made permanent. Already, at its suggestion, the sale of lands for non-payment of taxes has been ordered to be discontinued, and thus the first step taken towards the accomplishment of its object. The commission will recommend no enclosed grounds, no salaried keepers, and no attempt whatever at ornamentation. There should be stringent laws and adequate penalties against spoliation of timber, or destruction from careless fires; and means of access from various places on lines of thoroughfare should be provided

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and maintained. In some cases short canals, with locks for passing boats, might save the labor of a difficult portage, but beyond these there is scarcely more needed for the present.

There are, however, important questions involving the supply of water for the state canals; the preservation or restoration of hydraulic power on the rivers; and possibly the future supply of New York City, and the cities and towns along the Hudson with pure water, by an ample aqueduct, from the crystal fountains of the Hudson, which may be properly considered; and a fit opportunity is given for presenting in its strongest light, the importance of protecting forests, and of promoting the growth of trees, on account of their influence upon climate, and upon the general welfare of the state.

These questions are not limited to a particular state, but interest the Nation generally; and I would venture to suggest that this Association might properly take measures for bringing to the notice of our several State Governments, and Congress with respect to the territories, the subject of protection to forests, and their cultivation, regulation and encouragement; and that it appoint a special committee to memorialize these several legislative bodies upon this subject, and to urge its importance.

A measure of public utility thus commended to their notice by this Association, would doubtless receive respectful attention. Its reasons would be brought up for discussion, and the probabilities of the future, drawn the history of the past, might be presented before the public in their true light. Such a memorial should embrace the draft of a bill, as the form of a law, which should be carefully considered in its various aspects of public interests and private rights, and as best adapted to secure the benefits desired.

[Handwritten at top of page: Hough, Helen]

**Descendants of
Franklin B. Hough**

Dr. Franklin B. Hough, of Lowville, New York,
Traced his ancestry back to William Hough, who
Came to New England from England in 1640.

His son, Elida C. Hough, took William Hough
And tried to trace all his descendants.

His manuscript was bound, and now belongs to
his grandson, Robert Laurence Hough,
1 Old Connecticut Path, Framingham, Massachusetts.

Philip Hough, the sone of E.C. Hough, typed a
copy of the manuscript, which copy now belongs to
Barbara Anne (Mrs. Robert B. Miller)
2221 Conte Drive, Midlothian, Va.

Died
1973

(A carbon copy which has been bound now belongs
To Helen Y. Hough, daughter of E.C. Hough,
2227 - 20th St., N.W., Washington, D.C>

Helen Hough has tried to trace this genealogy
Of the descendants of F.B. Hough

Dr. Franklin Hough was the first Commissioner
of Forestry in the U.S. (among many other activi-
vities).

A good account of F.B. Hough was published
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October 1969

Hough, Helen

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*Died
1973*

DESCENDANTS OF
FRANKLIN B. HOUGH

CS 71
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1969

1.

⁷ Dr. Franklin B. Hough - (⁶ Horatio Gates - Thomas - ⁵

⁴ Daniel - James - Samuel - William ² ¹)

b. July 20, 1822 in Martinsburgh, N.Y.

d. June 11, 1885 in Lowville, N.Y.

m. 1st July 9, 1845 Maria Sarah Eggleston

dau of A. and P. Clark of Champion, N.Y.

b.

d. June 2, 1848

2d. May 16, 1849 Mariah Ellen Kilham

dau of Hemon & Mariah (Doten) Kilham

b. in Turin, N.Y. May 31, 1829

d. Oct. 21, 1910 at Lowville, N.Y.

History of F.B.H. can be found elsewhere.

1st wife - children

Lora Maria b. Oct. 18, 1846

d. Unknown

2d wife - children

Mary Ellen b. Sept. 12, 1850. d. Jy, 26, 1885

Franklin Horatio b. Aug. 18, 1854.

d. Dec. 7, 1923

Romeyn Beck b. Mar. 30, 1857. d. Sept. 2, 1924

Minnie Martha b. Jan. 20, 1860,

d. June 29, 1922

Elida Crofoot b. Feb. 7, 1863, d. Dec. 9, 1926

b. Lowville, N.Y. d. Falls Church,
Va.

A. Lincoln b. Dec. 28, 1865, d. Dec. 25, 1919

at Falls Church, Va.

Jessie Mariah) b. May 15, 1872, d. Jan. 6, 1873

Jennie Mariah) b. May 15, 1872. d. Jan. 26, 1873

3.

⁸ ⁷ ⁶
Lora Maria (Dr. Franklin B.- Dr. H.G.

b. Oct. 18, 1846 at Champion, N.Y.

d.

m. Mar. 15, 1875 Benjamin W. Bailey at
Lowville, N.Y.

b. July 1, 1846. d. Sept. 15, 1899

Franklin Asa b. Dec. 19, 1875 d. 1878

Howard Arthur b. My. 26, 1877. d. Dec 6, 1878

Eva Experience b. Je. 29, 1878. d.

m. Feb. 2, 1903, John Halpin

Edith Maria b. Oct. 16, 1879. d.

m. Feb. 2, 1903, Frederick Lennon

⁸ ⁷ ⁶
Mary Ellen (Dr. Franklin B.- Dr. H.G.)

b. Se. 12, 1850 at Somerville, N.Y.

d. July 26, 1885 at Lowville, N.Y.

m. Oct. 27, 1875 Cyrus Simeon

Crofoot. d. May 14, 1881, Cleveland, O.

He graduated Cornell, 1872. With Cleveland
"Leader".

No children.

8 7 6
Franklin Horatio (Dr. Franklin B.-Dr. H.G.)

b. Aug. 18, 1854 at Turin, N.Y.
d. Dec. 7, 1923 at Washington, D.C.
m. Sept. 17, 1890 Emily Kempbell Winans
at Washington, D.C. d. 1911
Graduated at Union College 1877 in law.
Practiced Patent Law in Washington, D.C.

Clarence b. Oct. 19, 1891. d. Oct. 30, 1891

Eleanor Margaret b. Nov. 6, 1892
d. Dec. 13, 1969 Bangalore India

Jeannette Winans b. July 9, 1895
d. 1952, Washington, D.C.
m. Paul Shailer
divorced

8 7 6
Romeyn Beck (Dr. Franklin B.-Dr. H.G.)

b. Mar. 30, 1857 at Albany, N.Y.
d. Sept. 2, 1924 at Lowville, N.Y.
m. Jan. 19, 1892 Anna Maria Galloway
daughter of George F. & Celia Lucretia
(Adams) Galloway, b. Dec. 3, 1865 in
Martinsburgh, N.Y. d.
Graduated at Cornell, A.B. in 1881.
- Author and publisher of "American Woods",
- "Handbook of the Trees of North America",
etc. Resided in Lowville, N.Y.

Gertrude Helen b. Feb. 19, 1893
d. May 26, 1945

Romeyn Beck, Jr., b. Mar. 14, 1895, d. _____

Marjorie Galloway b. Oct. 3, 1896 d. about 1970
(last of family to live in the homestead in Lowville) -

Winifred Doten b. Apr. 11, 1898. d. May 29,
1963

* Edith Dora b. Nov. 7, 1899
(Greer)

*Living 1971. Portland, Ore.

5.

⁸
Elida Crofoot (Dr. Franklin B.-Dr.⁷ H.G.)⁶

b. Feb. 7, 1863 at Lowville, N.Y.
d. Dec. 9, 1926 at East Falls Church, Va.
m. 1st, Aug. 20, 1889 Pamela Curtis Rice
daughter of Yale & Helen Maria (Curtis)
Rice. She was b. Aug. 20, 1868 at Cro-
ghan, N.Y. d. Nov. 27, 1915 at Falls
Church, Va.

m. 2nd, Aug. 7, 1917 Louie Josephine
English. d. 1948 at Washington, D.C.
Graduated at Cornell, A.B., 1885. Ex-
aminer U.S. Patent Office, 1888-1926.
Residence at Falls Church, Va.

Laurence Cooper b. Dec. 5, 1891 at Falls
Church, Va. d. at Savannah, Ga.
Jan. 13, 1937

Philip Rice b. Nov. 14, 1893 at Falls Church,
Va., d. Dec. 22, 1953 at Richmond, Va.

Helen Yale b. Dec. 25, 1897 at Falls Church,
Not married. Died 1973, Wash. D.C. Va.

⁸
A. Lincoln (Dr. Franklin B.-Dr.⁷ H.G.)⁶
b. Dec. 28, 1865 at Lowville, N.Y.
d. Dec. 25, 1919 at Falls Church, Va.
m. 1st, Apr. 5, 1889 Elizabeth Ashley, of
D.C. daughter of James Ayres & Anna
(Scriven) Ashley. d. 1911

m. 2d. Nov. 20, 1915 Fannie Arabella
Davenport, daughter of James & _____
Davenport, late Commissioner of Pen-
sions. d. Feb. 3, 1966.

Ex - 1887 Cornell U. Patent Lawyer of
Washington, D.C.

No children.

6.

⁹
Laurence Cooper ⁸ (Elida C.-Dr. F.B.-⁷

b. Dec. 5, 1891 at East Falls Church, Va.

d. Jan. 13, 1937 at Savannah, Ga.

m. Oct. 7, 1922 Jenaie Pontl of Phila-
delphia, Pa.

Graduated Cornell U. 1914, C.E. A Hy-
draulic Engineer. 2nd Lieut., Battery 1,
51st Coast Artillery, Railway Mounts.
Service in France, 1917 - 18.

No children ⁸

Philip Rice ⁷ (Elida C. -Dr. F.B.-Dr.H.G.)⁶

b. Nov. 14, 1893 at East Falls Church, Va.

d. Dec. 22, 1953 at Richmond, Va.

m. June 20, 1931 Nina Blanche Cain,
daughter of Robert & Ida (Wilson)
Cain, of Petroleum, W. Va. b. Feb-
ruary 16, 1896. Graduated N.Y.

- State Col. of Forestry, B.S. 1917.

1st Lieut. Co. G, 48th U.S. Inf. & Co. A.

90th Inf. 1917-1918.

- Supt. Geo. Washington's Birthplace
Nat'l. Monument, 1932 - 1953.

Barbara Anne b. Sept. 21, 1933 at Washing-
ton, D.C.

Robert Laurence b. May 15, 1935, at Wash-
ington, D.C.

Gertrude Helen ⁹ ⁸ ⁷ ⁶ ⁵ ⁴ ³
(~~Elida C.~~-~~Dr. F.B.~~-~~Dr. H.G.~~-~~Thos. Carl-Jas-~~
~~Sam'l - m~~)

² ¹
b. Feb. 19, 1893 at Lowville, N.Y.

d. May 26, 1945

m. Oct. 27, 1917 Lloyd Dean Somers. *-Living 1977*

Graduated Rochester U. 1914

¹⁰

Doris Gertrude b. Sept. 7, 1918

d. June 11, 1921

¹⁰

Marjorie Virginia b. Aug. 27, 1919

Carol Elizabeth ⁶ b. & d. May 18, 1921

Dorothy b. May 11, 1925

Robert Hough b. June 27, 1929

Romeyn Beck, Jr. ⁹ ⁸ ⁷ ⁶ ⁵ ⁴ ³
-RB-FB-HG-Thos-Danl-Jas-
²
Saml-Wm)

b. Mar. 14, 1895 at Lowville, N.Y.

d. Dec.

m. June 23, 1919 Kathleen Juliette Miller
at Ballenger, Texas

Romeyn Beck, Jr., Cornell ex. 1919, Harvard Business Administration, distinguished graduate 1930 P World War I. 1st Lieut. of Infantry and Air Corps. Graduate of Army War College 1937 as Major U.S.A.C.

* Dorothy Patricia b. Oct. 18, 1920 at
Coblenz, Germany

Kathleen Juliette b. Sept. 13, 1924
d. Mar. 16, 1961 at Rangoon, Burma.

Romeyn Beck III b. Mar. 14, 1926
d. Aug. 1943

Winifred Doten ⁹ ⁸ ⁷ ⁶ ⁵ ⁴
(RB-FB-HG-Thos.-Dan'l-
James-Sam'l-Wm)
² ¹

b. Apr. 11, 1898 at Lowville, N.Y.

d. May 29, 1963

m. June 12, 1918 Harry H. Wisner of
Rochester, N.Y.

sports and

* Uses name Patricia. Single. An Associate Editor of Fortune magazine.

325 Central Park West, New York, N.Y. 10025

Elizabeth b. Dec. 25, 1919

John Sloane (adopted) b. June 15, 1928

⁹
Edith Dora (⁸RB-⁷PB-⁶RG-⁵Thos-⁴Dan-³l-Jas-
²Sam-¹l-m)

b. Nov. 7, 1899 at Lowville, N.Y.
d.

m. Dec. 26, 1923 Leonard King Greer of
Portland, Ore.
d. Aug. 27, 1965

living 1977
Portland, Ore.

William Francis, b. Apr. 13, 1926

Leonard Hough b. Aug. 20, 1930

Janet Ann (adopted) b. Nov. 8, 1940 in
Rochester, N.Y.

¹⁰
Marjorie Virginia (¹⁰Somers-¹Wm)
^{Gertrude}

b. Aug. 27, 1919

d.

m. Ernest Kleinberg, Nov. 1943
divorced 1957.

Kathy b. June 6, 1945

Robert F. b. July 25, 1956

10 Gertrude 1
Dorothy (Somers - Wm)

b. May 11, 1925

d.

m. Robert L. Barrus, (Univ. Rochester)
 Nov. 8, 1946-

Romola b. Oct. 20, 1947

Barbara b. Feb. 26, 1951

Gilbert b. June 11, 1958

10 10 1
Robert Hough (Somers-Wm)

b. June 27, 1929

d.

m. Florence Baker Nov. 22, 1950

Steven Hough b. Mar. 30, 1954

Bruce David b. Jan. 18, 1956

10 9 1
 (RBJK - Wm)
Kathleen Juliette, Hough (H'Too)

b. Sept 13, 1924

Syracuse University Library School

d. Mar. 16, 1961, Rangoon, Burma

m. Tin H'Too of Rangoon, Burma

Mark Sterling-b. Sept. 1954

10.

10 (Philip-4) (-Wm.1)

Barbara Anne Hough (Miller)

b. Sept. 21, 1933 at Washington, D.C.

d.

m. Robert Braxton Miller, Oct. 23, 1954

Robert Braxton Miller, Jr.

b. Sept. 30, 1960, Fredericksburg, Va.

10 (Philip-4) (-Wm.1-)

Robert Laurence Hough

b. May 15, 1935 at Washington, D.C.

d.

m. Joann Helen Schmidt, June 7, 1958

b. Spearville, Kan. Oct. 20, 1935

Philip Joseph

b. Aug. 23, 1958, Denver Colorado

Patricia Anne

b. Feb. 26, 1961, Marblehead, Mass.

Kathleen Louise

b. Oct. 17, 1962, Marblehead, Mass.

Deborah Lee

b. Dec. 15, 1963, Marblehead, Mass.

10

Elizabeth (Wisner)

b. Dec. 25, 1919

m. Edward Bell

d. 1961

1. James

b. Mar. 22, 1942

m. Jan. 28, 1966

d.

2. Barbara

b. Jan. 23, 1945

m.

d.

3. Michael

b. July 25, 1951

John Sloane (Wisner) (adopted)

b. June 15, 1928

m. Virginia Mills Palmer, June 12, 1948

b. Aug. 13, 1929

1. Susan Hough Wisner

b. June 10, 1949

m.

2. Ellen Jane Wisner

b. Dec. 11, 1951

m.

3. Joanne Mills Wisner

b. Feb. 28, 1960

m.

4. Janet Palmer Wisner

b. Sept. 11, 1966

* ⁹ ⁸ ⁷ ⁶ ⁵ ⁴ ³
Edith Dora KB-FB-HG-Thomas-Dan'l-James
² ¹
 Sam'l - William

b. Nov. 7, 1899, Lowville, N.Y.

d.

m. Dec. 26, 1923 Leonard King Greer
 of Portland, Ore. d. Aug. 27, 1965

1. William Francis

b. April 13, 1926

m. Mary L. Avery of Oklahoma City, Okla.
 on July 12, 1945

1. Wm. F. Jr. - b. June 25, 1948

2. David Leonard - b. Sept. 19, _____

3. Nancy Kathleen - b. Dec. 20, 1957

4. Deborah Phoebe - b. June 19, 1960

2. Leonard Hough

b. Aug. 20, 1930

m. Sally Terril, Portland, Ore.,
 on June 13, 1953

1. Carolyn Deborah b. May 13, 1957

2. Elizabeth Ann b. Nov. 1959

d. Jan. 1960

3. Leonard H. Jr. b. Oct. 1, 1961

Janet Ann (adopted daughter)

b. Nov. 8, 1940 - Rochester, N.Y.

m. June 30, 1961 to David R. Givler

1. David R. Jr. b. Jan. 8, 1963

2. Michael Leonard b. April 3, 1966

3. Lori Shannon - b. Aug. 3, 1968 at
 Elk Grove Village, Ill.

* Living in Portland, Ore. 1977.

3660 SW Sholl's Ferry Rd. 97221

F. Harmon, 12-3-80
(Longer version)

Biographical Sketch of Franklin B. Hough (For Forest History Society)
(1822-1885)

Franklin B. Hough was a rural upstate New York physician with very broad interests in natural sciences and forest conservation who became the first forest agent of the United States Government in 1876, largely through his own efforts. Gathering data from wide reading, and through numerous mail requests and extensive travels in this country, Canada, and abroad, he compiled three voluminous reports for Congress, and most of a fourth, which were published between 1878 and 1884. They included his recommendations for (1) a strong Federal forest policy for reserving and managing public lands by using a leasing procedure to control timber harvesting similar to one in Canada, (2) for forest experiment stations and tree plantings, and (3) a vigorous effort to educate the general public on the need for forest protection and management.

Dr. Hough had become aware of serious forest depletion while directing the New York State censuses of 1854 and 1865. He used the 1873 annual meeting of the American Association for the Advancement of Science (AAAS) in Portland, Maine, to start pressure for action. There he delivered a historic lecture, "On the Duty of Governments in the Preservation of Forests," in which he urged the society to memorialize Congress and the States on the need to protect, cultivate, encourage, and regulate forest growth and use. A committee of nine prominent scientists was appointed the next day to carry out the request, and they decided to ask Congress to create a Federal commission to investigate and report on forest conditions. The report would include data on woodlands and wood products,

suggest measures to assure wood supplies for the future, examine influence of forests on climate, and provide data on forestry practices in Europe.

George B. Emerson, Harvard botanist and author, one of the committee members, went with Hough to Washington early in 1874 to present the request. Although they met with President Grant, the director of the Smithsonian Institution, the Commissioner of Agriculture, the Commissioner of the General Land Office, the Secretary of the Interior, and several representatives and senators who were all supportive, getting action from Congress proved difficult. However, they found a strong ally in Rep. Mark H. Dunnell of Minnesota, and finally at the end of the 1876 session Dunnell got a rider attached to the general appropriations bill to authorize \$2,000 for the study by the Department of Agriculture. As Dunnell promised, Hough was appointed forest agent to conduct the study. He had been reading, writing, and speaking on forestry for the past five years.

Dr. Hough became Chief of the Division of Forestry when it was created in 1881 and spent that summer in Europe gathering information about forestry practices and speaking with prominent forestry leaders there. That year he wrote the first book on practical forestry in the United States, Elements of Forestry, which was published in 1882. For a year, 1882-83, he also wrote and published a monthly American Journal of Forestry. In 1882 he was awarded a special diploma of honor by an international geophysical congress in Vienna, in recognition of his tireless work to promote forestry. He took a prominent part in the young American Forestry Association, of which he became treasurer in 1880 and

later recording secretary, and in its merger with the American Forestry Congress in 1882 at Montreal. His 1873 recommendation that the governors and legislatures of the various States be urged to actively promote conservation and economical use of forests, ^{public} and private, by proper laws, including state forestry commissions and college forestry courses, was carried out by AAAS in memoranda to all States in 1880.

Hough was very active in getting the Adirondack Forest Reserve established by New York State, as was B. E. Fernow, the German forester who was also active in the American Forestry Association and who became Chief of Hough's Division of Forestry in 1886. Fernow called Hough's first report "by far the best and most useful publication of its kind on forestry in this country," and Gifford Pinchot, who succeeded Fernow in 1898, called Hough "perhaps the chief pioneer in forestry in the United States." Dr. Dietrich Brandis, leading German forester of his day, gave him high praise in an obituary published in Indian Forester magazine for October 1885.

Despite all these accomplishments and tributes, however, Hough was removed as Chief of the Division of Forestry in 1883 by an appointee of President Garfield, George B. Loring of Massachusetts, who was also a physician. Loring seems to have been turned against Hough by men in Hough's office when Hough was abroad in 1881, and perhaps was also jealous of his growing reputation. At any rate, Loring treated him with disdain upon his return and refused thereafter to listen to Hough's plans for the Division and constantly undermined him. Finally Loring appointed another Massachusetts man, Nathaniel H. Egleston, a Congregational minister also

interested in forest conservation, to replace Hough. Hough, although discouraged, remained on the Division staff until shortly before his death in June 1885, just one month after the Adirondack reserve was at last established.

References: Harold K. Steen, The U.S. Forest Service, a History, Seattle, Wash.: University of Washington press, 1976, pp. 9-20; Rodgers, Andrew D. III, Bernhard Eduard Fernow, A Study of North American Forestry, Princeton, N.J.: Princeton University Press, 1951, pp. 35-65, 77, 85 and 86; Henry Clepper, Leaders of American Conservation, New York: Ronald Press, 1971, pp. 172-73; Edna L. Jacobsen, "Franklin B. Hough, a Pioneer in Scientific Forestry in America," New York History, 15; 3 (July 1934), New York State Library, Albany, pp. 317-21; Charles E. Randall, "Hough: Man of Approved Attainments," American Forests, 67: 5 (May 1961), pp. 10, 11, 41, 42, 44; Henry Clepper, "Chiefs of the Forest Service: Franklin B. Hough, First Federal Agent," Journal of Forestry, 59: 11 (November 1961), pp. 795-96; Frank J. Harmon, "Remembering Franklin B. Hough," American Forests, 83: 1 (January 1977), pp. 34-37, 52, 54; "Franklin B. Hough, a Tribute," American Forests, 28: 7, p. 431; Dr. Dietrich Brandis, "The Late Franklin B. Hough," Indian Forester, 11: 10 (October 1885), p. 429 et seq.; Dictionary of American Biography, 1933; Who's Who in American History (Historical Volume), (1607-1896).

Briefly...

Tree Planting Honors Hough

The Cooperative Extension Service of Lewis County and the Lowville Historical Society planted a 10-foot sugar maple Wednesday in commemoration of Franklin B. Hough and the beginnings of forest management in New York state.

The tree, purchased by the New York State Forest Practice Board, was planted in the Lowville Village Park.

The tree commemorates the signing in 1885 of legislation approving the hiring of the first forest rangers and establishment of the forest preserves.

Dr. Hough, a Martinsburg native and physician with broad scientific interests, urged the legislation. He was the first chief of the federal Division of Forestry in the federal Department of Agriculture.

He compiled three pioneering reports on forest management and was a member of the New York State Board which recommended establishment of the Adirondack forest preserve, the nation's first preserve.

Hough Fan Shares His Passion With History Buffs

By John Golden
Times Staff Writer

LOWVILLE — A retired Maryland forester who has devoted years and money to studying the career of Dr. Franklin B. Hough shared his passion with other history buffs Wednesday night in this village where the 19th century "Renaissance man" lived and wrote.

Harry W. Dengler, a 74-year-old Utica native transplanted to Hyattsville, Md., has pored through and collected diaries, letters and published works of Dr. Hough, who was born in Martinsburg in 1822 and later lived in a red brick home on Collins Street which is now a national historic landmark. His studies have led him to conclude, "Franklin B. Hough in my estimation is the one New Yorker who was never elected to office who has done more good for many many years to come to the State of New York ... Without a large amount of money, the contribution of this man is amazing."

Dr. Hough, a graduate of Lowville Academy, where Mr. Dengler spoke Wednesday night, published his first work in 1846 at about the age of 24. It was, said Mr. Dengler, a history of plants in Lewis County and emphasized their medicinal uses. It is one of the few works of his that this Hough scholar has yet to track down.

From 1846 until his death from pneumonia in 1885, Dr. Hough would write on subjects as

diverse as genealogy, local history (including histories of Jefferson and Lewis counties), Indian affairs (including a listing of Indian names for trees), statistics, state constitutions and laws, "Washingtonia" (he collected and published eulogies and obituaries printed on the occasion of George Washington's death), and forestry.

He was a man with a passion for details otherwise largely ignored — and for publishing them. He compiled a 442-page book of obituaries gleaned from newspapers over a 40-year period, listing the dead in alphabetical order. He compiled a book listing all elected officials in New York dating back to colonial times, and included the vote tallies for each election. For the edification of his fellow Americans in 1858, he published a 183-page book listing states' proclamations of Thanksgiving Day, the new American holiday.

Dr. Hough wrote 78 books in all, according to Mr. Dengler, in addition to numerous pamphlets, short addresses and more than 1,000 newspaper articles. The Library of Congress lists his major works only on a 53-page computer printout. He abandoned his longhand manuscripts long enough to join in the activities of 38 historical and scientific societies.

Dr. Hough is said to have worked at three desks in three different rooms in his Collins Street home, leaving one project for another while he awaited either inspiration or in-

formation requested from sources across the country and the world. Mr. Dengler said Dr. Hough's writing habits illustrated Oliver Wendell Holmes' saying: "The woodsman who stops often to sharpen his ax chops more wood."

During the Civil War, he served as a medical officer and surgeon with the 97th Regiment of New York Volunteers — the "Conkling Rifles." In one book he vividly described the Battle of Antietam and listed the names of every wounded Union and Confederate soldier he had treated, and why the treatment was needed.

Mr. Dengler said Dr. Hough also developed a new system of reporting battle casualties that was adopted by the U.S. Army and later by the Russian Army.

During the Civil War period, he also had a minor role in the execution of John Brown, the abolitionist who led the failed raid on the federal arsenal in Harper's Ferry, Va., in 1859. Mr. Dengler quoted Dr. Hough: "We examined John Brown tonight and found him fit to stand court-martial."

It is for his accomplishments and writings in the field of forestry that Dr. Hough is especially remembered this year during the state's centennial anniversary of forestry and the forest preserve system.

Mr. Dengler said Dr. Hough's interest in forestry stemmed from his administration of

the New York State census in 1855 and 1865, when he noted a disturbing decline in forest products. He further found that forests throughout the Northeast were being over-harvested and began writing on the subject. "He had no idea of forestry until this came about," said Mr. Dengler.

After gaining the help of President Ulysses S. Grant in bringing the problem to the attention of Congress, Dr. Hough in 1874 was appointed the first U.S. forestry agent in the Department of Agriculture.

Starting in the late 1870s, Dr. Hough published a three-volume Report on Forestry, which he wrote alone while receiving an annual salary of \$2,000. In 1882, he published "Elements of Forestry," in which he noted the decline of spruce trees well in advance of the acid rain problem.

At Hough's death in 1885 the state legislature was debating the creation the state's Forest Preserve system. "Had Hough not died that year, the whole course of forestry in New York State probably would have changed," Mr. Dengler said. "He did not go for the concept of a park" in the Adirondack wilderness. "He thought preserving it was OK, but the forest should be managed for multiple-purpose use, to provide jobs and to provide water and timber and so forth."

"With the little money that he had, he blazed the way, he broke the branches off the trees to show us the way to go on."

① "Trips" not trees.

② "Hits" not pages.

9/19/85
10/22/85

Historical Data about Dr. Franklin B. Hough not included in American Forests magazine article, January 1977.

(Thomas Cobb of the New York State Office of Parks and Recreation, Albany, was planning to write an article on Dr. Hough for American Forests magazine, in 1976)

Hough received a Ph. D. degree (honorary) from the State Board of Regents; date not obtained. (Source: ~~Arthur~~ Einhorn, Director, Lewis Co., N.Y., Hist. Soc.) The Hough Mansion was built in 1860-61. It is in Italianate style, brick with cupola, and wide central hallway. Pediment in iron. It is now occupied by a dentist, John Miller. (Purchased from Marjorie Hough, a granddaughter of Dr. ~~Hough~~ Hough). It is on the National Historic Register. Dr. Miller owns 25 to 30 of Hough's writings. Hough wrote four county histories; Jefferson County, St. Lawrence Co., ~~Franklin~~ Franklin Co., and Lewis County, between 1865 and 1880.

A ceremony celebrating the 50th anniversary of the establishment of the Adirondack Forest Reserve in 1885, was held in 1935. A portrait of Dr. Hough was painted at that time in honor of his work on the original Adirondack Commission, and the portrait is still hanging in Union College, Schenectady, N.Y.

Hough's son, Romeyn B. Hough Sr., wrote several books on forestry:

1. 14 volumes with thin wood specimens, "American Woods".
2. Handbook of the Trees of the Eastern States and Canada." (northeastern) (Essex County) just E. of Mt. Marcy on a ridge

A mountain in the Adirondacks was named in his honor, Hough Peak, ~~between~~ between Mt. Dix and South Dix Mtn. 4404 ft. Headwaters of S. Fork Bouquet River, and east inlet to Elk Lake. There was a cave on Hough's father's farm near Martinsburg, N.Y., which was used as as a stop on the underground slave railway during the Civil War.

Hough's father ~~w~~ invented a breathing device for underwater exploration about 1820.

(He was a physician also) Lewis Co. Museum has a copy. and published a booklet on it

Hough was an army physician during the Civil War.

He wrote a book on military medicine, ~~a history~~ *translated from the French*

A mineral was named after him: Houghite.

He wrote a history of the U.S. Civil War campaigns of Gen. McClellan and Pope.
Details of his conflict with Loring, Commissioner of Agriculture.

His active participation in the first Canadian-American Forestry Congress in Montreal in the early 1880s.

Dr. Detrich Brandis' obituary and tribute to Dr. Hough. Hough had met him in Europe, on his forestry trip.

Brandis cites from a letter from Hough's family which states that it was their belief that his overwork preparing the bill and justifications for the Adirondack Forest Preserve for the New York Legislature during the winter of 1884-5 was probably the cause of his death in June 1885.

The Hough Memorial Forest (it is pictured) (Sign gives details; no text was necessary)

Summary Fact Sheet on Centennial of American Forestry, August 30, 1976

Franklin Benjamin Hough, a physician of New York State with very broad scientific interest, was the first forestry agent of the United States Government, and the first Chief of the Division of Forestry in the Department of Agriculture, forerunner of the present Forest Service. He was appointed on August 30, 1876.

Gifford Pinchot, who was the first Chief of the Forest Service, called Hough, "perhaps the chief pioneer in forestry in the United States."

Hough did a prodigious job in gathering and compiling singlehandedly existing forestry knowledge. It was through his efforts that the office was first established. He himself had stimulated the prestigious American Association for the Advancement of Science to formally petition Congress and the President to set up the forestry office three years earlier.

Hough compiled three pioneer reports on forest conditions, practices and marketing in this country and abroad, for which he was highly praised by the leading scientists of his time. He was among the first to urge Congress to take control of timber harvesting on the public domain, through a leasing system safeguarded by inspection agents, as was already then being done in Canada. He urged establishment of forestry schools, experiment stations, and tree nurseries in various parts of the country. He also suggested that the States retain and manage forest lands which had reverted for nonpayment of taxes, which many States later did.

Hough was a member of the original commission to recommend creation of the Adirondack State Forest Reserve in New York, first State forest reserve in the Nation.

After the Civil War, the Nation's forests were suffering from rapidly increasing reckless exploitation, often followed by severely destructive fires. Through his experience as director of the New York State Census, and personal observation in the Adirondacks close to his home, Hough became alarmed over the extensive damage to the forests, and felt it his duty to alert the people to this threat to their future timber supplies and the beauty of the natural landscape.

Besides his call to the Nation's scientists and his reports as forestry agent, Hough was very active in the leadership of the new American Forestry Association and the American Forestry Congress; also as writer and publisher of the American Journal of Forestry and writer of the first comprehensive book on forestry published in the United States, called "The Elements of Forestry."

Hough's efforts were instrumental in leading to the Act of 1891 which provided for setting aside the first Federal forest reserves by Presidential proclamation. The reserves came under Forest Service management in 1905 and were renamed National Forests in 1907. They now total 187 million acres in size. For more than 70 years, these forestlands have been managed for the use and enjoyment of the American people. At this time, 100 years after his warning was heeded by the Congress, the President and the Nation, we pause to honor this wise and far-seeing, conscientious public servant.

Descendants of ~~Franklin B. Hough~~ -- to Receive 8x10 Matte Print of
New Wash Portrait Drawing by Rudy Wendelin ~~_____~~

(With Personal Letter)

(Press story + news photos were also sent to starred names)

I. Second Generation -- Grand-Children:

- ✓1. * Mrs. Edith Hough Greer (oldest living descendant) (76) (daughter of Romeyn B. Hough Sr.)
3660 S.W. Sholls Ferry Road, Portland, Oregon 97221 (Beaverton)
- ✓2. * Mrs. Nina Cain Hough (widow of Philip R. Hough, ^{son of Elida,} grandson of Franklin Hough)
^(81 years old)
C/O Robert L. Hough, 1 Old Connecticut Path, Framingham, Mass. 01701
3. Mr. Lloyd D. Somers (widower of Gertrude H. Hough, granddaughter of Franklin Hough)
²⁷ Lafayette Parkway, Rochester, N.Y. 14625

II. Third Generation -- Great-Grand-Children:

- Romeyn Hough Jr. ✓1. * Miss D. Patricia Hough, 325 Central Park West, New York, N.Y. 10025 (1920)
- Philip R. Hough ✓2. [Mr. Robert L. Hough, 1 Old Connecticut Path, Framingham, Mass. 01701 (1935)
^{Son of Elida Hough} (1933)
- ✓3. [Mrs. Barbara Ann Hough Miller -- 2221 Conte Drive, Midlothian, Virginia 2311
^{- 804-794-8421}
- Edith Hough ✓4. [Mr. Leonard Hough Greer -- 3660 S.W. Sholls Ferry Road, Portland, Oregon 9722
^{Daughter of Romeyn B. Hough, Sr.} (Same address as Mrs. Edith Greer, above) (1930)
- ✓5. [Mr. William F. Greer -- 811 Locust Lane East, West Chester, Penna. 19380. (1926
18236)
- Winifred Hough ✓6. [Mr. John S. Wisner -- Edenderry Drive, Northville, Mich. 48167 (1928)
^(Father was Harry Wisner, Rochester, N.Y., sports announcer) (adopted)
- ✓7. [Mrs. Elizabeth Wisner Bell -- Coral Springs, Florida 33065 P.O. Box 8758
- ✓8. [Mrs. Dorothy Somers Barrus -- Camp Celo, Burnsville, N.C. 28714 (1925)
^(Yancey County)
- Gertrude Hough ✓9. [Mrs. Marjorie Somers Kleinberg -- 1765 Vistillas Road, Altadena, Calif. 91001
^{Daughter of Romeyn B. Hough} (Los Angeles County)
- ✓10. [Mr. Robert Hough Somers -- 63 Oakvale Avenue, Berkeley, Calif. 94705 (1929)
- Edith Hough ✓11. [Janet Greer Givler -- C/O Mrs. Edith Hough Greer (see above) (adopted)
- Fourth Generation ✓12. Mark S. H. H'too ^{21 yrs. old. Medical student} -- C/O Patricia Hough (See above) (Great-Great-Grandson)
- ✓13. Wm. F. Greer Jr. -- 2882 N.W. Thurman St., Portland, Oregon 97210 (Ditto) (1948)
^{28 yrs. old. Attorney}

✓ Rudolph Wendelin (artist) -- 4516 - 7th Street, N., Arlington, Va. 22203

1. Mr. Arthur Einhorn, Director-Curator, Lewis County Historical Society,
P.O. Box 303, Lyons Falls, N.Y. 13368.
- ✓ Mr. Richard Smith, Editor, Journal and Republican, State St., Lowville, N.Y. 13367
- ✓ 2. Mr. James Corsaro, Geneological Section, New York State Office of State
History, State Education Dept., Washington Avenue, Albany, N.Y. 12210.
- ✓ Mr. Fred L. Johnson, Regional Forester, Box 31, Lowville, N.Y. 13367.
- ✓ 3. New York State Historical Association, ~~Washington~~ Box 391, Cooperstown, N.Y.
13326. M.W. Thomas Jr., Director.
- ✓ Mr. J.O. Preston, Director, Division of Lands and Forests, New York State Dept. of
Environmental Conservation, 50 Wolf Rd., Albany, N.Y. 12233.
- ✓ 4. Library of Congress -- Division of Prints and Photographs (Jerry Kearns)
Washington, D.C. 20240.

- * Later-5. American Forests Magazine
Livingston Lansing, Editor, Boonville Herald, Schuyler St., Boonville, N.Y. 13369.
- * Later-6. Forest History Society - Box 1581, Santa Cruz, Calif. 95061.
- * Later-7. Each Region, Station and Area (19)
- * Later-8. Journal of Forestry - Society of American Foresters. Norbert San
- ✓ 9. Mona Dearborn, Catalog of American Portraits, National Portrait Gallery,
8th and F Streets. N.W. Washington. D.C. 20560

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First Federal Forestry Agent in the United States
(1876-1883)

Elements of Forestry -- by F.B. Hough. Robt Clarke & Co, 1882. 381 pp. Cincinnati.

- ✓ * Franklin B. Hough, a Pioneer in Scientific Forestry in America -- by Edna L. Jacobsen, New York History magazine, Vol. 15, No. 3 (July 1934), pp. 311-325.
- "Remembering Franklin B. Hough," by Frank J. Harmon, American Forests (34-37, 52-54), January 1977, Vol. 83, No. 1.
- Dr. Franklin B. Hough 1822-1885: New York Awakens to Forestry -- Iowa State Journal of Science, Vol. 34, No. 4 (May 15, 1960).
- ✓ * Hough: Man of Approved Attainments -- by Charles Edgar Randall. American Forests magazine, Vol. 67, No. 5 (May 1961).
- ✓ * Franklin B. Hough, A Tribute -- American Forests magazine, July 1922.
- Dictionary of American Biography, 1933.
- The National Cyclopedia, Vol. 13, page 340.
- ✓ Descendants of Franklin B. Hough -- by Helen Y. Hough. Washington, D.C. 1969. (Library of Congress No.: CS 71, .H837, 1969).
- ✓ * "The History of Forestry in America" -- by W. N. Sparhawk, in 1949 Yearbook of Agriculture, pp. 704-705.
- ✓ * Reports Upon Forestry. 4 volumes, published in 1877, 1880, 1882 and 1884. (First three compiled by F. B. Hough. (U.S. Government Printing Office.))
- ✓ * "On the Duty of Governments in the Preservation of Forests" -- Speech by Dr. Franklin B. Hough, delivered to the 1873 annual meeting of the American Association for the Advancement of Science, Portland, Maine. (Proceedings 1873)
- A collection of Hough's public and private papers is in the manuscript and history section of the New York State Library in Albany, New York. It includes numerous letters and diaries.
- "The Forestry of the Future" -- Speech given by F. B. Hough at the 1882 convention of the American Forestry Congress in Cincinnati, Ohio. (Part One). (In American Journal of Forestry, Vol. 1 (October 1882), pp. 15-26.
- ✓ * "Forestry in Agriculture: An Accident of History" -- Chapter 1 in Dr. Harold K. Steen's A History of the United States Forest Service, published by Forest History Society and University of Washington Press, Seattle, 1976.
- ✓ * "A Notable Anniversary" -- by Henry Clepper, American Forestry Association, in Science, publication of the American Association for the Advancement of Science, August 24, 1973, Vol. 181, p. 703.
- ✓ * Bernhard Eduard Fernow: A Story of North American Forestry -- by Andrew D. Rodgers. Princeton University Press, 1951, pp. 36-38.

Also see Commissioners of Agriculture, Annual Reports, 1875-1883.

- ✓ * Memorial from the American Association for the Advancement of Science upon the Cultivation of Timber and the Preservation of Forests. In Report No. 259, 43 Congr. 1, March 17, 1874.

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A Bibliography of the Writings of Franklin Benjamin Hough, Ph.D., M.D., by John H. Hickcox, Washington, D.C. (99th Annual Report, Regents, Univ. of State of N.Y., 1886.) (PP. 321-347). Library of Congress No. 1-182-B-4. 1975. (Planned but not completed).

✓* Report of the Committee Appointed to Memorialize Congress and State Legislatures Regarding the Cultivation of Timber and the Preservation of Forests. -- American Association for the Advancement of Science, Proceedings, 1878. Vol. 27, pp. 29-40, 1879.

? * Progress of Forestry Investigation in the U.S. Dept. of Agriculture, 1880. 672 pp., illustrated, indexed. GPO, 1881.

The American Journal of Forestry. Monthly magazine edited by F.B. Hough, Oct. 1882-Sept. 1883. Robert Clarke & Co., Cincinnati, Ohio.

On the Importance of Giving Timely Attention to the Growth of Woodlands for the Supply of Charcoal for Metallurgical Uses. Paper read to the U.S. Assn. of Charcoal Iron Workers, Harrisburg, Pa., Oct. 21, 1880.

Familiar Talk About Trees -- by F.B. Hough. Talk delivered to the New Hampshire Board of Agriculture, Concord, N.H., June 13, 1883. The Republican Press, Concord. 12 pp.

✓* The Proper Value and Management of Government Timber Lands. The Distribution of North American Forest Trees. Papers read by F.B. Hough at the U.S. Department of Agriculture, May 7-8, 1884. USDA Miscell. Special Report No. 5, Washington, D.C. 47 pp. 1884.

Hough prepared a series of forestry lectures in 1874, which he delivered from time to time.

✓* The Forestry of the Future - a lecture delivered by Hough at the April 1882 organizational meeting of the American Forestry Congress, and published in Hough's new monthly magazine, "American Journal of Forestry", Vol. 1, No. 2, November 1882, pp. 59-63. (Part II.)

✓* The Late Franklin B. Hough -- tribute by Dr. Dietrich Brandis, Germany's master forester, in the Indian Forester, Vol. 11, October 1885, p. 429.

* The Duty of the State of New York with Respect to the Management of Its Waste Lands and the Encouragement of Forestry -- by F.B. Hough. Talk delivered at the 4th American Forestry Congress at Saratoga, N.Y., September 1884.

(Hough wrote 78 papers and books on a wide variety of subjects during his lifetime)

* There is an Autobiography written by Hough in manuscript form (unpublished) in the New York State Library in Albany, N.Y.

The numerous papers of George B. Emerson, close friend of Hough, include many letters from Hough, in the Massachusetts Historical Society in Boston. The Society appears to make access difficult, from the experience of Harold K. Steen of the Forest History Society.

Franklin B. Hough's son, Romeyn Hough, published a bulky 10-volume series on Wood Identification containing actual wood samples, including hinges in the binding. A copy is at the Northeastern Forest Experiment Station and at the Forest History Society in Santa Cruz, Calif., and Duke University. Also Patricia Hough, Robert Hough and Barbara Hough Miller. Also see "Time & the American Forest"

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Frank Harmon - History Section 11/23/85

Dorothy Patricia Hough, great grand-daughter of Mr. Franklin B. Hough, had a grave-side service at the family plot in Lowville, N. Y., Nov. 8, 1985. About 25 of her old friends were present. She was a very private person and her life had a number of family tragedies which she kept very much to herself. Her last days were spent in a semi-coma and -regretfully- she was unaware of my five, 72-slide/talks (1¼ - 1½ hr.) on her very illustrious grandfather and great grandfather - all in New York.

I understand she leaves a size-able estate. The bulk of which plus some papers, books and diaries is to go to the historical society - but at present this should be kept very confidential, please!

I have offered to give my slide-talk to the District Chapter of S.A.F., the American Forestry Association and the Associates of the National Agriculture Library. There is some possibility that the AFA & the Associates may join up together sometime. If so, I'll surely let you know. I've a neighbor that is a good amateur with a video tape and may get him to do so before I get "shed" of "all my materials on Hough".

Thanks for all your interest and help on the Houghs. It was very expensive and time-consuming but in the long run worth it.

Best wishes!

Cordially,
Harry Wm. Dengler
Retired, Md. Extension Forester

A Summary of the Contents of the Reports of Dr. Franklin B. Hough
Upon Forestry, Made from 1876 to 1884 as Forest Agent for
the U.S. Department of Agriculture

Volume I - Compiled in 1876-1877 and printed by Government Printing Office
in 1878. 650 pages. Indexed. With Tables, Graphs and Sketches.
No photographs. No Table of Contents. Sections not numbered.

Major Sections:

1. Preface - Letter of transmittal from Secretary of Agriculture
William G. LeDuc to President Rutherford B. Hayes. (pp 3
2. Introduction - General Remarks by Author. (pp. 7-9)
3. Timber on the Public Lands - (Including the early naval timber
reserves set aside and purchased; legislation; practices;
attempts to correct abuses. The Timber Culture Acts. (pp 9-26
4. The Nature of Property in Timber Lands (p 26-27)
5. Comparison of Forest Vegetation of the Coasts of North America
with Asia, and the Lake Superior Region to Alpine Central
Europe (p 27-28)
6. General Distribution of the Forests in the United States (p 28-29)
7. Sowing and Planting - (Including various advice and experience
here and abroad; transplanting, pruning, trimming, thinning,
coppice harvesting). (pp. 30-1120
8. Use of Wood by Railroads, and Tree Planting by Railroads (pp 112-1
9. Wood in Paper-Making, Charcoal, Tanning, Resin Products, Gas,
Distilled Products, Cork. (pp 122-154)
10. Forests as a Shelter for Game (p 154-155)
11. Damages from Fire, Insects and Disease (pp 155-193)
12. Suggestions for the Future Management of Timber on the Lands
Belonging to the General Government (pp 193-196)
13. Encouragement of Forest Planting by Our State Governments (pp 197-
14. Connection Between Forests and Climate (pp 221-336) 2
(Including effects on streams)
15. Reboisement (Reforestation of eroded mountain areas) (pp 336-383)
(France, Switzerland, Italy)
16. Timber Resources of the United States (pp 384-612).
Various reports from the States, and Census figures.
17. Schools of Forestry (Europe). (pp 612-632).
18. Index (pp 613-650)

Summary of Contents of VOLUME II of Franklin B. Hough's Report
Upon Forestry, Gathered During 1878 and 1879 as the
Forest Agent for the U-S- Department of Agriculture
Published 1880 by Government Printing Office

Report Upon Forestry, 1878-1879, Volume II

618 pages. Indexed. Table of Contents in detail (pp. V-XVI).
Most of the volume consists of statistical tables of timber re-
sources of the United States and Canada, and imports and exports
of timber products, some going back many years to Colonial times.

Major Sections:

Timber Culture Act of 1878
New Regulations for Use of Timber on the Public Lands
(pp 1-19)
Recent Legislation in the States and Territories (pp 20-34)
Notes on Planting and Growing of Trees in various States;
Lumber trade data from Illinois (pp 34-65)
Miscellaneous Notes on Growth and Cultivation of Trees from
the U-S- and Europe (pp 65-101)
Statistical Data on Exportation and Importation of Forest
Products, United States, Since 1789, from Secretary of
the Treasury (pp 103-438)
Timber Resources and Timber Trade of Canada (pp 439-605)
Twelve Graphs Showing Trends in Exports of Wood Products, U-S-A.
(14 unnumbered pages)

(Counting unnumbered pages for graphs at end, and Roman
numeral pages in beginning, and blank pages, total pages
in this book are 650, same as the first volume, the
maximum specified by Congress)

(The material in this volume is that mentioned in Secretary
LeDuc's letter of transmittal in Volume I. Publication
was held up at that time due to the page limitation im-
posed by Congress.)

The Committee of the Adirondack Research Center at Union College,
Schenectady, N.Y.,~~ad~~ and the Adirondack Mounta in~~s~~ Club will cosponsor
a Centennial of the Adirondack~~ad~~ Forest ~~RZxZxx~~ Preserve on Satuday,
April 27, 1985.

A Notable Anniversary

One hundred years ago this week—on 22 August 1873, to be exact—the American Association for the Advancement of Science took an historic action that led to the establishment of forestry policy as a function of the federal government.

At the 22nd AAAS annual meeting, held that year in Portland, Maine, Franklin Benjamin Hough of Lowville, New York, delivered an address titled "On the duty of governments in the preservation of forests."* A doctor of medicine, Hough was also an historian, a naturalist, and a statistician. While director of the United States census of 1870, he was impressed and concerned by widespread forest devastation caused by logging and fires throughout the East, the Great Lake states, and then starting in the South.

After the Civil War, a few observant citizens, alarmed at the rapid destruction of the virgin timber and fearing an eventual wood shortage, warned state legislatures and Congress of the need for forest protection, but without effect. Most government officials ignored the threat of timber scarcity and discounted the possible depletion of this valuable natural resource, which, indeed, many people believed to be inexhaustible. Thus, when Hough submitted the problem of forest preservation to the AAAS meeting, he was appealing to the scientists as the only organized citizens' group having sufficient influence to inspire public attention. Hough decided that the scientific community would have to initiate action for forest conservation, if it was to be done at all. In his paper, he emphasized the relationship of woodland to soil stabilization, to maintenance of streamflow, and, of course, to wood production for domestic and industrial use. He urged the AAAS to alert federal and state governments to the need for forest protection.

At his suggestion, the AAAS appointed a committee "to memorialize Congress and the several State Legislatures upon the importance of promoting the cultivation of timber and the preservation of forests, and to recommend proper legislation for securing these objects."† Nine scientists served on this committee; Hough was chairman. The others were William Henry Brewer of Yale; George B. Emerson of Boston, educator and author of a book on trees; Asa Gray, the nation's leading botanist; Eugene W. Hilgard, soil scientist, of the University of Michigan; Lewis Henry Morgan, anthropologist, of New York, later to become president of the AAAS; John Strong Newberry, botanist and geologist, and Charles Whittlesly, a horticulturist, both of Ohio; and Josiah Dwight Whitney, a geologist of California.

The committee's memorial was delivered to President U. S. Grant, who, on 19 February 1874, transmitted it to Congress with a special message of approval. There the proposition languished for 2 years. Finally, on 15 August 1876, Congress enacted legislation appropriating \$2000 for the appointment to the Department of Agriculture of a man to investigate forest conditions. Hough was selected on 30 August and thus became the federal government's first forestry agent. From his appointment evolved the present Forest Service, with its nationwide network of forest and range experiment stations and forestry and wood science laboratories, its thousands of professional and scientific personnel, and its 187 million acres of national forests managed in the public interest.

On this centennial anniversary, it is appropriate to recall the extraordinary influence of Hough's paper, presented as a private citizen before a small assemblage of scientists. Historically, it is appropriate also to acknowledge the energizing role of the AAAS in starting forestry work on a national scale in the United States government.—HENRY CLEPPER, *American Forestry Association, 1319 18th Street, NW, Washington, D.C. 20036.*

* *Proceedings of the AAAS Twenty-Second Meeting, held at Portland, Maine, August 1873* (AAAS, Salem, Mass., 1874), part II, section B, "Natural History," p. 1. † *Ibid.*, p. 429.

(Frank J. Harmon, History Section, AM, FS, WO, Oct. 23, 1978)

At the 489th regular meeting of the Service Committee of the Washington Office of the Forest Service on October 16, 1912 (Page 6):

". . . Mr. Sudworth. . . stated. . . that he had this morning met a son of the late Franklin B. Hough, who told him that 35 years ago today his father had delivered the first address which led to the first Congressional appropriation for forest protection and probably was the beginning of the present Forest Service work. . ."

HOUGH

Man of

Approved Attainments

By **CHARLES EDGAR RANDALL**

Information Officer
Forest Service, USDA
(Retired in mid-1960s)

IT was a whopping big job that Congress set up 85 years ago for the U.S. Government's first forestry official.

He should "prosecute investigations and inquiries," Congress said, "with the view of ascertaining:

"The annual amount of consumption, importation, and exportation of timber and other forest products;
"The probable supply for future wants;

"The means best adapted to their preservation and renewal;

"The influence of forests upon climate; and,

"The measures that have been successfully applied in foreign countries, or that may be deemed applicable in this country, for the preservation and restoration or planting of forests."

He should prepare a report on these matters, to be transmitted to Congress. And he should do all this within one year.

To take on this huge assignment, Congress called for "some man of approved attainments, who is particularly well acquainted with methods of statistical inquiry, and who has evinced an intimate acquaintance with questions relating to the national wants in regard to timber."

Such a "man of approved attainments" was at hand. He was Dr. Franklin Benjamin Hough. It had been largely through Dr. Hough's efforts, indeed, that Congress had authorized this first governmental venture in the field of forestry. He was a charter member of The American Forestry Association and served as treasurer under Founder John A. Warder.

Dr. Hough was a man of wide interests and varied experience. He had been trained in the medical profession, and served as a surgeon in the Civil War. He had achieved prominence in several fields—as a

botanist, a mineralogist, a statistician, and compiler of history. And his was one of the earliest and strongest voices raised during the nineteenth century for the preservation, protection, and restoration of America's forests. He has been called the "Father of American Forestry."

The way to get yourself appointed on a committee, of course, is to make a motion that a committee be appointed. This, in effect, is what Dr. Hough had done. In 1873 at a meeting of the American Association for the Advancement of Science, in Portland, Maine, he had presented a paper on "The Duty of Government in the Preservation of Forests."

As he addressed the scientists, Dr. Hough painted a word picture of "sunburnt and sterile plains" where traces of man's first civilization are found, areas in the Old World that were once highly cultivated and densely populated, but now were

Sec. 4. The Treasurer — The Treasurer shall have the custody of the funds of the Association, shall perform such other duties in connection with the finances of the Association as the Board of Directors may require, and shall present to the Board of Directors, at their first meeting each fiscal year a statement showing the receipts and disbursements of the Association for the preceding fiscal year and its assets and liabilities. The annual financial report for any fiscal year shall be presented to the members at such time within the following year and in such manner as shall be determined by the Board of Directors.

Checks shall require the signature of two officers or agents of the Association. All officers and agents having such power to sign shall be designated from time to time by the Board of Directors and shall be bonded.

Sec. 5. The Secretary — The Secretary shall keep the minutes of all meetings of the Association and of the Board of Directors, shall have the custody of the seal of the Association, shall keep a list of the members with their addresses, shall notify members of the Association and of the Board of Directors of the time and place of all meetings, and shall perform such other duties the Executive Vice-President may require.

ARTICLE VIII—The Chief Forester

The Board of Directors may appoint a Chief Forester who shall be a man of recognized attainments and high standing in forestry matters and shall perform such duties as shall from time to time be assigned to him by the Executive Vice-President.

ARTICLE IX—Official Publication

The official publication of the Association shall be its magazine *AMERICAN FORESTS*. The magazine shall serve as one of the media of the Association for the dissemination of information regarding forestry and related fields of conservation, and shall provide a forum for

the discussion of subjects pertinent to these fields. The directors may change the name of the magazine if in their judgment such action will serve better to carry out the objects of the Association.

ARTICLE X—Meetings

Sec. 1. The annual meeting of the members of the Association for the consideration of such matters as may be considered by the entire Association shall be held in Washington, D. C., or at any other place, on such day and hour as the Board of Directors shall determine.

Sec. 2. Special meetings of the members of the Association may be called at any time by the Board of Directors.

Sec. 3. Notice of the annual meeting, and of any special meeting, shall be published in the magazine of the Association at least three weeks before the date fixed for the meeting.

Sec. 4. The presence of fifty members of the Association shall constitute a quorum.

ARTICLE XI—Local Representatives and Affiliated Organizations

Sec. 1. The Board of Directors may designate such representatives of the Association in various regions of the United States and under such conditions as to compensation or payment of traveling expense as it shall deem wise and desirable in furtherance of the objects of the Association. The local representatives so designated shall perform their duties under the direction of the Executive Vice-President of the Association as the Board of Directors may determine.

Sec. 2. The Board of Directors may, when in their judgment the objects of the Association can more effectively be carried out, approve under conditions to be prescribed by them, the organization of state or regional chapters of the Association; and they may by resolution recognize and designate as organizations affiliated with The American Forestry Association such state forestry associations

or other organizations active in or desirous of promoting the conservation of forests and other natural resources, which, in the judgment of the Board, in view of their character, membership, and purposes, make affiliations desirable in furtherance of the common objects of the Association and of the organizations desirous of affiliation. In carrying out the objects of this section, the Board of Directors may prescribe the conditions of affiliation[s] and may fix the price at which the Association's magazine will be furnished to affiliated members.

ARTICLE XII—Amendments

These By-Laws may be amended by the Board of Directors at any regular or special meeting provided notice of the proposed amendments shall be given to all directors in writing at least thirty days before the date of such meeting. These By-Laws may also be amended by the members in the following manner: Any amendment proposed in writing over the signatures of fifty or more members, shall be submitted to the members with the next succeeding election ballot and shall be adopted if it receives the affirmative vote by mail of a majority of the members voting thereon. All amendments shall be published in the magazine within ninety days after adoption.



The members of The American Forestry Association have adopted a *Program for American Forestry* which recognizes three immediate goals for a national policy in forestry:

1. To meet the essentials of forest protection.
2. To improve the national timber crop in volume and quality to meet all needs.
3. To obtain the maximum of economic and social services from our forests.



Hough—Man of Approved Attainments

(From page 11)

tive, and judicial expenses of the government for the fiscal year 1877.

Mr. Dunnell's original bill had called for appointment by the President of a Commissioner of Forestry, similar to the Commissioner of Fisheries, as Dr. Hough and his memorial committee had recommended. But the amendment attached to the appropriation bill merely made available \$2,000 for a study of the forest situation in the United States by an agent appointed by the Commissioner of Agriculture. In the act approved August 15, 1876, the forestry amendment was tagged onto a section appropriating funds for the purchase and distribution of seeds.

This action by Congress, though inconspicuously buried in a lengthy appropriation bill, was a major event in the forest history of the United States. It was the first step toward the formation of a forest policy by the federal government. It paved the way for later legislative milestones in the development of a fed-

eral forestry program. By its authority a forestry agency came into being that would eventually grow into a great organization with far-flung activities.

Dr. Hough received his appointment from Frederick Watts, then Commissioner of Agriculture, on August 30, 1876. The federal government's first work in forestry was under way.

Franklin Benjamin Hough (the family pronounced it "Huff") was christened Benjamin Franklin, but during his boyhood the two given names were reversed. He was born on July 22, 1822, in Martinsburg, Lewis County, New York. His father, Dr. Horatio G. Hough, was the first physician to settle in the county.

Young Franklin, a studious lad, attended Lowville Academy, and later the Black River Institute at Watertown, N.Y. When he entered Union College in 1840, he was given advanced standing. He was graduated

in 1843. Then he taught for a year in the academy at Champion, N.Y. The next year he was hired as principal of Gustavus Academy in Ohio. In 1846, he decided on a medical career, and entered Western Reserve Medical College. Two years later he received his M.D.

Returning to New York State, Dr. Hough began the practice of medicine in Somerville. But his interests and activities ranged far beyond administering pills to patients. In the same year that he settled in Somerville, he published "A Catalogue of Indigenous, Naturalized, and Filicoid Plants of Lewis County." From boyhood up, he had been eagerly interested in science, especially in botany and geology. Now, probably to the detriment of his medical practice, he took time to make frequent journeys afield to study rocks and plants and to collect specimens. His outdoor journeys, often covering twenty miles or more in a day, helped him to develop a robust

physique. Over the years, he amassed large botanical and geological collections. He is credited with discovering a mineral known as houghite. The numerous articles he wrote on his observations eventually led to strong personal friendships with Spencer F. Baird of the Smithsonian Institution, Louis Agassiz of Harvard, John S. Newberry of Columbia, and other leading scientists of the day.

Dr. Hough also developed a strong interest in historical research. He collected local historical data ("History of St. Lawrence and Franklin Counties, New York" (1853); he edited numerous documents of the Revolution and the French and Indian Wars, and published several works on historical subjects, including "Washingtoniana, or Memorials of the Death of George Washington" (1865), and "American Biographical Notes" (1875). Altogether, Dr. Hough's publications during his lifetime numbered more than eighty. They included books, articles, and bulletins not only on history, geology, botany, and forestry, but also on meteorology, climatology, education, law, and civil records.

The year before he entered medical college, Hough married Maria S. Eggleston of Champion, N.Y. She died in 1848, leaving an infant daughter. The next year he married another New York girl, Mariah E. Kilham of Turin, N.Y. They lived long and happily together, and had eight children.

In 1854, Dr. Hough was chosen to direct the New York state census. He carried on this work in Albany while continuing as a practicing physician. When the Civil War began, Dr. Hough became an inspector with the U.S. Sanitary Commission. In 1862, he enlisted as regimental surgeon with the 97th New York Volunteers, and served with his regiment in the Maryland and Virginia campaigns. During the war period he translated a French work, Lucien Bauden's "Guerre de Crimée," which was published as "On Military and Camp Hospitals" (1862). He also wrote a "History of Duryc's Brigade" (1864).

After the war Dr. Hough settled in Lowville, N. Y. and continued his writing on scientific and historical subjects. He was again appointed superintendent of the census in New York in 1865; and he was called to supervise the District of Columbia census in 1867. Then, when work on the United States Census of 1876 began, Dr. Hough

was selected as its superintendent.

It was these studies that brought the depletion of forest resources to Dr. Hough's attention. He noted that big drops in timber production had occurred in certain localities in a single ten-year period. In his own state of New York, the value of lumber produced had declined from better than \$13,000,000 in 1849 to less than \$10,000,000 in 1859, even while the total national production was climbing rapidly. Local exhaustion of timber and continuing migration of the lumber industry to new territory was apparent in the shifting figures.

Now, in the nation's capital, Dr. Hough was ready to go after the whole picture, to assemble facts and figures that would move the national Congress and the states to do something for the "cultivation, regulation, and encouragement" of the forests. Following his appointment by the Commissioner of Agriculture, he took up his duties immediately. He already had his plan of work, calling for the following research:

"1) An inquiry as to the rate of consumption of timber in the United States, expressed in quantities, values, and area of land required for this supply, and the probable duration of our resources at the present rate of use and waste.

"2) As to the conservative measures that should be adopted to provide against future wants, including forest culture in all its scientific and practical relations.

"3) As to the making of systematic observations to determine with scientific precision the influence of forests upon climate, etc., and especially upon temperature, evaporation, rainfall, electrical conditions, surface drainage, etc.

"4) As to methods practiced in Europe, in relation to the planting and management of forests, including their special schools of forestry, etc., with statistical details and results."

Similar studies in more recent times have required the efforts of large staffs of workers over periods of several years. Yet Dr. Hough proposed to undertake all this in one year as a one-man operation. He was certainly not prompted by any hope of financial gain; the \$2,000 appropriated by Congress would scarcely pay for stenographic help.

During the year, Dr. Hough circulated state officials and federal land offices. From manufacturers using wood would be obtained information about the kinds and grades

needed, the source of supply, and other pertinent questions. He engaged in extensive correspondence with European forestry officials. He also found time to travel some 8,000 miles over the country visiting lumber districts, inspecting tree plantations, calling on state officials. He visited the governors of many of the states to learn their ideas about forestry, and to urge them to put the need for forestry measures before their legislatures. Some of these visits bore fruit; in a number of state legislatures, the forest question was taken up.

In a little more than a year after he took office, Dr. Hough was ready with his "Report upon Forestry." Signing himself "very respectfully, your obedient servant," he presented it to William G. LeDuc, who, with the 1877 change of administration, had succeeded Frederick Watts as Commissioner of Agriculture.

"The author of this report," said Commissioner LeDuc in his letter of transmittal, "has compiled, with wonderful industry and apparent accuracy, statistics of the most valuable character, embracing statements of the exportation of every class of forest products from each part of the United States to each foreign country from the organization of our government to the present time, and has summarized these tables by coasts and grand divisions, and in this particular the report may be regarded as entirely exhaustive. . . . Besides the chapters which deal with statistical and strictly scientific facts, the author has a wealth of matter, historical and instructive, which will be of interest not only to every agriculturist and land owner, but also to every thoughtful person whose views of life and its duties are not bounded by the narrow limits of his own existence, or whose national pride and patriotism hope for a prosperous future for his country."

Successful forestry, Commissioner LeDuc declared, "In its very nature, necessitates an entire change in our careless methods and shifting, changeable habits, and compels us to do whatever is done thoroughly well, and to persevere in the well-doing; to select men fitted by nature for the occupation of foresters, and to secure them a life estate or a good-behavior estate in these occupations. . . . The growth of trees . . . requires a steadiness and constancy of purpose, application, and culture which has not yet received any prominent illustration in our unsteady politics and legislation."

not in the census records

also
LeDuc
&
Jefferson
Cox.

? and some ?

The report was transmitted to Congress by President Rutherford B. Hayes on December 13, 1877. Congress had not been overly generous in making the initial appropriation for Dr. Hough's work; further restrictions by the House Committee on Printing limited the size of the report to one volume of 650 pages. Publication of the statistical material was deferred. Nevertheless when the report was published the next year, Congress ordered a printing of 25,000 copies for distribution—an unusually big printing for such a large volume.

Dr. Hough's appointment was continued and Congress upped his appropriation to \$6,000. He immediately began work on his second report. It was completed in 1878. This time, Congress made no provision for its printing during the regular session. An appropriation voted during an extra session was vetoed by the President. Finally funds were made available, and the report came out late in 1880.

In 1881, Dr. Hough's tiny forestry agency in the Department of Agriculture was made a Division of Forestry. Dr. Hough received a new commission and a larger appropriation. Now at last he was a Commissioner of Forestry.

During this year, Dr. Hough went to Europe. There he studied the systems of forestry practiced in Germany, and looked into forestry education in the continental countries. His findings were published in his

third and last report, submitted to Congress in 1882.

The three reports aroused wide interest throughout the United States. They were reviewed and highly commended in scores of periodicals, and widely read by the public. Dr. Hough's reports, together with his two books, "Forestry in the United States" (1875) and "Elements of Forestry" (1881), were the standard references and the only comprehensive works on American forestry available for a number of years. Their influence was far-reaching.

Dr. Hough's reports also received much favorable attention abroad. They were awarded a diploma of honor at an international geographical congress in Venice. A prominent German university professor and officer of the Württemberg forest service remarked: "It awakens our surprise that a man not a specialist should have so mastered the whole body of American and European forestry literature and legislation."

In 1882, Dr. Hough started the *American Journal of Forestry*, the first technical forestry periodical in this country. Lack of subscribers, however, forced its discontinuance within a year.

In 1883, during the administration of President Chester A. Arthur, Nathaniel H. Egleston was appointed chief of the Division of Forestry. Dr. Hough remained with the Division, however, to assist in the

preparation of a fourth volume of official forestry reports. In March, 1885, he drafted a bill for the New York state legislature which created a state forestry commission. This proved to be his last important work. He died on June 11, 1885.

Dr. Hough's work was the starting point from which the present forestry structure in the United States has grown. The Division of Forestry which Dr. Hough had established was given permanent statutory rank in 1886. In 1891, Congress authorized the establishment of forest reserves, and the development of our national forest system began. In 1901, the Division of Forestry became the Bureau of Forestry. In 1905, the present Forest Service in the Department of Agriculture came into being—today a 10,000-man agency that administers more than 180 million acres of public forests, conducts research in every part of the country, and carries on large-scale cooperative programs with the states. Paralleling the growth of federal forestry work has been the development of forestry programs by state agencies, and in recent years a remarkable advance in private forestry.

All this great progress in American forestry over the past three-quarters of a century has been built largely on the foundation that Dr. Hough laid. A mighty oak has grown from a tiny acorn—the one-man forestry job started by Franklin Benjamin Hough.

** This was the statistical summary of the 1st report. Congress delayed publication.*

Backwoodsmen I Have Known

(From page 5)

an abandoned trapper's cabin to ride out the storm. It was the biggest, coldest, and heaviest snow storm I had ever been in. Before morning the little 8- x 10-foot log shack was snowed in almost level with the bark roof. There were seven of us and just enough room on the dirt floor for our bed rolls and a big mud and stick fireplace. We had the carcasses of two deer our hunters had provided hanging on a scaffold just outside the doorway. Just before nightfall of the second day, Jim Hawks and his two hounds blew in. The little shack was the only one known to be in that section of the mountains and he and his dogs had come for miles for its shelter. Jim was a ruddy-faced, blond, blue-eyed young fellow with a two-weeks' beard, in his late twenties, of medium height but long of leg. He looked much more like a Carolina mountaineer than he did any Californian I had

ever seen. Lions were plentiful in the reservation and a great menace to the Indians' cattle. The state paid a bounty of twenty dollars per scalp and Hawks was doing right well in a business way.

He seemed to enjoy his way of life as much as any man I ever saw. He would get a squaw in the valley to cook him up several pones of dough-god bread and with a little salt, a box of matches, and a pocketful of cartridges would take to the mountains for a week or ten days at a time, sleeping wherever night caught him, and using the hounds in lieu of a blanket. The dogs were big, blue-ticked hounds which, when wet, as might be expected, smelled like the devil. It must be said that Jim was no rose either, wet or dry.

We crowded up and gave Hawks the space nearest the door and tried our best to keep the hounds outside in the snow but, since there was no

way to close the doorway, as soon as everybody was asleep, the wet and shivering hounds would sneak in and curl up on our chests, moving from one man to another as circumstances required. On the fifth night the storm cleared up and the moon came out. Hawks, who slept with one eye open, discovered a lion on our cabin roof, reaching out for one of the deer carcasses. Hawks fired his rifle at once and hit the lion but inflicted no fatal wound. The lion dropped into the doorway and rolled in on top of us—and pandemonium reigned. The howling dogs, Hawks, and the lion were on top of us, all over the cabin floor. Jim was afraid to shoot again for fear of hitting one of his dogs, so he joined in the fracas with his hunting knife. After a time, he managed to reach a vital spot in the lion and brought the struggle to an end. I don't know that I remember any oc-

*no record of this book.
planned but not written.*

From Albert Einhorn, Director
Lewis County Historical Society
Lyons Falls, N. Y. 13368
May 26, 1977

NEW YORK HISTORY



Fort Niagara, 1759-1763 - - - - - Wilfred B. Kerr

The Council of Appointment - - - - - Hugh M. Flick

Silas Wright - - - - - Harry F. Landon

✓ Franklin B. Hough - - - - - Edna L. Jacobsen

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Annual Meeting—Chautauqua, August 22-25

See President's Announcement, page 249

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FRANKLIN B. HOUGH

From photograph with the Hough Manuscripts in the New York State Library

FRANKLIN B. HOUGH, A PIONEER IN SCIENTIFIC FORESTRY IN AMERICA¹

EDNA L. JACOBSEN

ONLY a little more than fifty years ago, in 1880, the federal government took what is generally considered its first official recognition of the existence of a forestry problem and duty, when it created a division of forestry in the Department of Agriculture. This step was accomplished largely as the result of a determined effort on the part of a few far-seeing men to find acceptance for their conviction that disastrous consequences would soon result from a continuance of the practice of indiscriminately cutting down trees without making some provision for renewing the supply. So new was the idea in the 1880s that persons who took the matter seriously were dubbed "denudatics" as a new species of maniac. The first chief of the division of forestry was Franklin B. Hough, of Lowville, Lewis county, New York, who attained such preëminence in the field that Gifford Pinchot has called him "perhaps the chief pioneer in forestry in the United States," and a periodical in Germany, the country which has led the world in the work, commented at the time of his death: "The warm interest in scientific forestry which this pioneer excited among people in his own land has since been reflected in increased zeal on this side of the ocean."²

Franklin B. Hough³—scientist, historian, physician, statistician, as well as the "father of American forestry"—was born July 20, 1822, in Martinsburg, Lewis county, New York. His father, a practising physician, was a subscriber and a contributor to the *American Journal of Arts and Sciences*. Young Hough

¹Read before the New York State Historical Association, at Ticonderoga, September 14, 1933. The author is head of the Manuscripts and History Section of the New York State Library, Albany. Here is to be found the Hough collection of manuscripts, including a portion of his autobiography and his diaries, notebooks, memoranda, reports, etc., upon which this paper, condensed from a longer study, is based.

²*Centralblatt für das Gesamte Forstwesen*, October 1885, p. 476. Typed copy of English translation in Hough Mss.

³He was christened Benjamin Franklin, but as he had a cousin of that name he adopted the name Franklin B. when he learned to write. He considered the "B" only an initial, and never spelled it out.

read the issues diligently, and although there was much that he did not understand he discovered that there were vast fields of knowledge to be explored. He set himself therefore to prepare for examinations in Greek, Latin, and algebra preparatory to entering Union College, from which he was graduated in 1843. In 1842 he wrote that his five studies "employ most of my time so that I have not much time to ramble about as I did before after flowers, etc."; but the following year he found more leisure: "As for studies, they do not crowd me much, having little to do but attend lectures, read and botanize." Every other day he attended a lecture in botany by Professor Jonathan Pearson, and he had collected a herbarium of some four or five hundred specimens of which he wrote: "These can do no harm and may do much good, to say nothing of the healthy exercise which it requires. The knowledge of the uses of the different plants which I collect is very valuable."⁴ A course of lectures in physiology stimulated him to a resolve to secure the best medical training this country afforded, and he entertained "a dreamy wish to finish in Paris." But before his dream could be realized, other interests engrossed him so completely that medicine became a minor pursuit although he never wholly lost his identity with the profession.

Besides his interest in botany, Hough's inquiring mind had early turned to the study of the mineralogy and geology of the region in which he lived. Let him tell of his introduction to those fields of science: "Early in the spring of 1837, as the snows were going off, and the fields showed here and there a bare spot I walked out one warm Sunday afternoon and lay down upon a dry sunny bank near where an old cider mill had stood. I noticed several kinds of pebbles of flint, quartz, hornblende, etc., and began to pick up as many kinds as I could find. The search was continued along the walls of fences, from day to day, as the ground became bare, and I presently found a considerable number of species....

⁴Diary, June 27, 1843. Typewritten copy in Hough Mss. His first published work was *A Catalogue of the Indigenous, Naturalized and Filicoid Plants of Lewis County, New York*. Arranged according to the natural method adopted by Professor Torrey in the State Catalogue. Albany, 1846. 35 p. Separately printed from *New York Senate Document No. 71, 1846* (Fifty-ninth annual report of the Regents of the University). Each plant used for medicinal purposes was so designated.

Without having as yet read any book upon geology, reason taught me that these rocks had all been formed by deposit from materials suspended in water.... In following up the streams, I found several kinds of limestones, not then named in science, that abounded with the fossil remains of animals and plants—and as one succeeded the other, there was evidence that great changes had taken place.... Then looking from the hills down the valleys I observed, that while the actual gulfs and channels of the streams had been worn by the present streams, it was evident this erosion had not been going on always... But what had worn out the great valleys?... I was led to attribute the agency to currents of water and fields of floating ice."

With this introduction and with the assistance of the preceptor of Lowville Academy Hough began collecting and exchanging mineral specimens, his efforts in that work being perpetuated by the naming of a new mineral *houghite* in his honor. Only a man of strong physique could have withstood the hardships of his specimen searching trips. Describing the results of a visit to a locality rich in choice minerals he wrote: "My means of transportation were somewhat limited; but buying a yard or two of cotton cloth I made a bundle, and with what I got into my pockets, found myself loaded down with between forty and fifty pounds of treasure with which rather late in the afternoon I started for Carthage.... On the third day I reached home with my burden, walking all the way." Some years later he walked all the way from Cleveland, Ohio, to his home in northern New York, accomplishing the trip in sixteen days.

After graduation from Union College Hough engaged for a short time in teaching in an Ohio academy. This was followed by a course at Cleveland Medical College,⁵ after which he practised medicine for four years—1848 to 1852—in Somerville, St. Lawrence county, New York. However, clinical medicine proved uncongenial to Hough. In fact, he admitted that in choosing Somerville "the mineral localities were taken into consideration, and I had strong hopes of being able to add something to the field of

⁵Free tickets to the lectures were voted him by the faculty as a mark of appreciation for the collection of mineral specimens which he presented to the school when he gave up teaching. They had never been removed from the boxes because the trustees of the academy had failed to provide cases for them.

science from explorations as opportunities offered." Whatever time could be spared from his medical duties was devoted to a study of the history of the region and its climatic condition, and to its botanical and mineralogical exploration.⁶ This resulted in numerous and varied publications, among them his excellent histories of St. Lawrence, Franklin, Jefferson and Lewis counties, and his compilation of meteorological observations kept by New York academies, published by the state in 1855. That year Hough was employed to arrange and index the papers in the office of the Secretary of State, with which he had become familiar in his historical researches, and also to take charge of the state census, which was to be modeled after the 1850 federal census and was to include for the first time agricultural and industrial statistics. This work, and his similar labors in connection with the census of 1865 may seem far afield from the subject of forestry, but according to Hough's own testimony they were a direct cause of the development of his major interest during the last fifteen years of his life: "In comparing and tabulating upon graphic charts the statistics of distribution and amount of lumber product as shown in the census of 1855 and 1865, I had noticed a great falling off in some regions indicating an exhaustion of supplies, and an increase in others showing that new fields had been opened. It did not take much reasoning to reach the inquiry: 'How long will these other supplies last, and what next?'"

He admitted that he knew little about the subject of forestry when he began to talk and write about it, but his work in the various fields of science, together with a "biological mind," equipped him in a rare degree to grapple with the new problem of how to conserve the timber supply in his own state and throughout the country. He had pondered the influences of meteorological

⁶His interest in local history had been aroused when he was only eight years old, by his grandfather's stories and his mother's recollections. He wished to know about every family within his circle of acquaintance—"where from, when and to whom married? If the dates did not agree, who was to blame?" Autobiographical memorandum in Hough Mss. While teaching in Ohio he found no society to his liking, so his leisure aside from the time spent in botanizing was devoted to drawing from old settlers their reminiscences of early days in the locality. "In fact," he relates in his autobiography, "without knowing it I had begun to write up the history of the town, and from the town books to compile the lists of town officers which they afforded and the facts that they recorded."

science upon vegetable and animal life. He had observed the effect of the drying up of swamps on the mortality rate among the St. Regis Indians. In studying the history of his own and neighboring counties he had noted the activities of lumbermen and sawmill operators, of mining and tanning companies, and the effect on settlement. He had witnessed the process by which supposedly worthless denuded lands reverted to the state through the failure of owners to pay taxes, to be sold to railroad companies for five cents an acre. A lover of the woods, he had roamed them from childhood, and had a full appreciation of their value in developing and preserving healthy bodies and tranquil minds. He saw in a science of forestry an application of principles of various branches of science. From natural history it derives the description and classification of trees, and of animal and vegetable life that affect their welfare; geology and mineralogy furnish data on the origin and composition of soils and subsoils, of the rock formations from which they are derived, and their fitness for the growth of particular kinds of trees; mathematics aids in the processes of calculations concerned in forest lands, materials, revenues, etc.; from physics and meteorology can be determined the various questions of atmospheric influence and of climate that may arise and some theories advanced to improve or control these conditions.⁷

He began to correspond with men who were giving attention to the subject in Europe, and to assemble an extensive library—largely works in French and German, for little had been published in English. He was determined to gather and disseminate accurate data which would awaken the public to a realization of the necessity for a definite program to conserve its forest wealth. His convictions that generalizations were permissible only on the basis of objective findings, and his natural aptitude for research and statistics, wearisome to many, furnished assurance that he would make his study as thorough as the means at his command would allow. His definition of forestry gives an idea of the scope of the study as he conceived it: Forestry is "that branch of knowledge that treats of woodlands—their formation, maintenance, and renewal, the influences that may affect their welfare; the methods employed in their management; the removal, preparation, and

⁷Franklin B. Hough, *Elements of Forestry*. Cincinnati, Ohio, 1882. p. 1-2.

Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Saratoga, St. Lawrence and Warren counties.¹²

The data gathered in these early attempts to awaken the State Legislature to the seriousness of the timber supply problem, though failing in their immediate purpose, were later to be used by Hough in persuading Congressmen to forward the cause of forest conservation. For, thoroughly convinced that it was one of the pressing problems of the day, Hough continued his efforts in that field. His early enthusiasm for natural science, his activities in collecting botanical and mineral specimens, fossils, species of fish, reptiles, etc., and his desire to exchange had resulted in a correspondence and personal acquaintance with many of the leading scientists in the country, among whom may be mentioned Louis Agassiz, Benjamin Silliman, Joseph Henry and T. Romeyn Beck.¹³ Beck proposed his name for membership in the American Association for the Advancement of Science, and he attended his first meeting in 1851. At a meeting held at Portland, Maine, in August 1873, he presented a paper on forests and forest culture, in which he set forth his thesis practically as it was to remain. The economic value of timber and the many demands for its use offered one of the strongest arguments for intelligent control of the supply. Records covering half a century permitted the deduction that forests influenced climate, water supply and the distribution of rainfall sufficiently to justify a scientific and practical inquiry into the subject of checking their destruction. He recommended that since the question concerned the whole nation the Association should appoint a committee to memorialize Congress and the several state governments, such memorial to be accompanied by a proposed bill. Hough's recommendation was adopted; he was made a member of the committee and with George B. Emerson of Boston constituted a subcommittee in immediate charge of the work, the actual drafting of the memorial being left to Hough. In its final form it embodied the arguments already mentioned. It suggested the value of studying the methods practised in Europe, especially Italy, Germany, Austria and France, of observing what was being done

¹²Chap. 13, Laws of 1883.

¹³As secretary of the Regents of the University, Beck had corresponded with Hough concerning the latter's furnishing fishes and reptiles from his vicinity for the State Cabinet.

through their schools of forestry and of publishing the findings. Since land ownership in the United States was almost entirely in private hands, there must be a program of popular education to teach the citizens the importance of planting and preserving trees from the standpoints of economic profit and of beauty; in this educational work, agricultural and kindred societies, schools of forestry and wise laws should be considered as means to accomplish the end sought. It closed with the recommendation that Congress as the proper source and power in whatever concerns the whole country undertake to conduct the inquiries. No method of procedure was suggested, that being left for the subcommittee to determine upon consultation with persons in official circles in the national capital.

Hough left Lowville¹⁴ for Washington in January 1874, stopping off in Albany to deliver before the New York State Agricultural Society what he considered the first public address in the state on forestry.¹⁵ On his arrival in Washington he and Emerson held a conference at the Smithsonian Institution with Joseph Henry, Commissioner Watts of the department of agriculture, Dr. George Vasey, botanist in the same department, and several Congressmen, which resulted in the decision to add to the memorial the definite suggestion that a law be passed analogous to the statutes creating the commissions of mining and of fisheries, which would create a commission of forestry. They spent the next few days calling on the Commissioner of the Land Office, the Secretary of the Interior, and on President Grant, with whom the memorial was left. Very shortly Emerson was called home and Hough was left to carry out alone the resolution passed by the Association. Early in February the President transmitted the memorial to both houses of Congress, with his approval, but the suggested bill which was soon introduced found practically no support in a

¹⁴His home since 1860. From 1874 on he seldom spent more than a few weeks at a time in Lowville, although he continued to maintain his home there, to conduct practical experiments in tree cultivation and in maple sugar culture and, in his library—a building separate from his residence—to prosecute his varied literary and editorial labors.

¹⁵President White of Cornell College said after hearing it: "Your paper has forced the matter upon me very strongly—so strongly in fact that I have urged the establishment in connection with our Botanical Garden, of an Arboretum, which we have already begun."

roads, the respective consumption for fuel and for cross-ties; comparative value of different kinds of wood for heating purposes; resinous products of our forest, and the European method of preserving resinous trees; tanning materials found in the United States; the results of forest fires and their occurrence and prevention; insect ravages of forests, diseases, and other destroying agencies; importance of trees to agriculture; manner in which forests in Europe are managed; forestry schools in Europe; influence of forests on climate.

The committee on printing to which it was finally referred objected to the expense of 100,000 copies of such a voluminous report, so that Hough and the friends of forestry in Congress had to be content with 25,000 copies, the contents cut to 650 pages and the statistical matter omitted entirely.²⁰ But a beginning had been made, and Hough's appointment was continued for another year to enable him to prepare information on the importation and exportation of timber and other forest products. Here was opportunity for Hough the statistician to indulge freely in a favorite occupation. From early morning until midnight he copied figures chiefly from the annual reports of the Secretary of the Treasury on commerce and navigation, and arranged them in tables. Not until 1880, however, a year after it was submitted, did Congress consider printing this Second Report, when in a form revised to include statistics for 1879, only 1900 copies were allowed.²¹ This seemed almost to defeat Hough's purpose, for he felt that only by a wide distribution of the facts about the forest situation could public opinion be moulded to support any practical program for scientific forest management, recommendations for which were to form the bulk of his Third Report. This met with even less favor, and was published in 1882 only as a House document,²² with no separates for special distribution.

However, modest appropriations were generally forthcoming from Congress to enable Hough to prosecute further studies, including an allowance of \$1000 to finance a tour of Europe particularly to inspect the forestry schools. But before the trip was

²⁰Hough received \$2,000 for it on January 14, 1879.

²¹The First and Second reports were awarded diplomas at the International Forestry Congress at Venice in 1882.

²²House Misc. Doc. No. 38, 47 Cong. 1 sess.

made Hough's status had changed. In May 1880, on the introduction of an amendment to the agricultural appropriation bill for \$5000 to enable the Commissioner of Agriculture to continue an investigation and report upon the subject of forestry, a discussion ensued as to the legality of such a provision. Dunnell rose to its defense, and his argument finally prevailed, that even though no appropriation had been made by the preceding Congress, the amendment was simply continuing an existing law and had been recommended by the Commissioner of Agriculture and by a special report sent to Congress by the President. By the passage of this amendment on May 19, 1880, Congress made the service of forestry researches of indefinite duration to be prosecuted as a regular branch of inquiry until terminated by law. It was on this basis that a division of forestry was created in the Department of Agriculture. Hough had long believed that there should be a distinct division and he had prepared a concise statement of the objects of a commission of forestry if and when one should be established. He received a new commission as chief of it and was assigned an office in the department. The federal government had now definitely assumed the responsibility which the American Association for the Advancement of Science had urged upon it, and the committee of 1873, of which Hough had continued to be a member, was discharged at its own request.

Hough's diaries give a delightful account of his European trip from July through November 1881. Schools of forestry and experimental stations were his first concern, but his observations included other points of interest, and not the least of his pleasures was that of meeting personally many of the men of science whom he knew by reputation and with some of whom he had corresponded. He noted particularly the schools at Edinburgh, Copenhagen, Ebois in Finland (where he had sent several years before seeds of various American trees), St. Petersburg and Madrid. It is unfortunate that no record remains of his inspection tour of Germany, where the scientific study of forestry had made such great strides. He saw the results of Scott's tree planting at Melrose Abbey and Abbotsford. The peatbogs of Denmark interested him particularly because of the evidence they afforded of the changes in kinds of timber growth from earliest times when men began to cut down trees. In Bordeaux he made fruitful inquiries

into the charcoal and resin industries. He left each country loaded, as he recorded, "with kindness and with documents."

On his return to Washington he discovered that the new Commissioner of Agriculture who had assumed office just previous to his departure had reorganized the work of the forestry division, so that Hough was no longer chief but only one of several agents. Conferences seemed to result in no understanding. Hough's special report on forestry in Great Britain was rejected; his third regular report we have already seen was printed only as a House document—due, as Hough thought, to the Commissioner's influence with the printing committee. Hough attributed the difficulty to jealousy, but he continued in the division, completing his special report on his European travels and preparing four sections for the 1884 division report.

Hough wrote articles on forestry for encyclopedias, educational and trade journals, and addressed state legislatures, public health associations, charcoal iron workers' associations, as well as agricultural and village improvement societies. In October 1882 he launched the *American Journal of Forestry*, the first periodical in the United States devoted entirely to the subject. Hough did all the editorial work, read the proof, circularized prospective subscribers, besides contributing articles and editorial comments and reviewing books. Three or four solid articles by men prominent in the field made up the bulk of each number, with a "Miscellany," or editorial section, and a "Bibliography" completing it. It ran through twelve numbers, when owing to lack of sufficient patronage it had to be abandoned. During the year 1882 he also prepared his *Elements of Forestry*, which was the first attempt to present in the English language and in one volume the subject of forestry in the comprehensive sense defined in it. The same year he took a prominent part in the organization meeting of the American Forestry Congress at Cincinnati, instigated by comments made in that city in 1881 by Richard Baron von Steuben, a relative of General Steuben of American Revolutionary fame, who was then superintendent of the Prussian Crown lands. Hough was made president of the section on the uses of forests, and was placed on two of the five committees: to report upon forest experimental stations, and to memorialize state legislatures on the establishment of state forestry commissions.

Hough's last services, as his first, in the interest of forestry were devoted to his native state, and he lived just long enough to see New York establish the first state forestry commission with administrative power. This was done in accordance with the Forest Commission Act of May 15, 1885, which was a modified form of an elaborate bill framed by Hough during the last few months of his life.²² It created the Adirondack and Catskill preserves and provided for a commission vested with power to further the growth of trees in them as well as to protect them against destruction by ruthless cutting and by fire. With the inauguration of this administrative forest commission the beginning was laid for vigorous state action, which has culminated in the elaborate program now entrusted to the Conservation Department with its various divisions manned by scientifically trained specialists in the many different fields which have been developed. A few weeks after the passage of the law, June 11, 1885, Hough died of pneumonia at the age of sixty-three.

It is a far cry from the appointment in 1876 of "some man of approved attainments" to prosecute investigations and inquiries in the field of forestry, at a compensation of \$2,000, to the enactment by Congress in 1928 of the McNary-McSweeney Act providing for a ten-year program of fundamental forest research by five different government bureaus, with authorization of an annual expenditure of \$3,625,000. Time has proved that Hough and his associates in the American Association for the Advancement of Science were not sentimental visionaries, but men of vision ahead of their time in their realization of the great value of forests to a country and the need for their perpetuation through scientific management. Hough had been a pioneer in making the public conscious that there was a forestry problem in the United States. His work was primarily educational. With the passage of a law on March 3, 1891 the federal government may be said to have initiated the second, or practical, phase of the problem when it authorized the President to set up a national forest preserve wherein the principles of scientific management were to be applied.

²²This bill, together with a lengthy appendix and Hough's address on "The duty of the Legislature with reference to woodlands," was published as Senate Document No. 40, 108 sess., 1885.

Franklin B. Hough, A Once Forgotten Pioneer of American Forestry
(Talk to Lewis County, New York, Historical Society, Lyons Falls, New York)
May 19, 1977

by

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When your Director, Arthur Einhorn, asked me to come to speak to you about Dr. Franklin B. Hough, I was glad to oblige. I had been doing a lot of reading about him, reading his first forestry reports, reading new material brought out in the new book "The U.S. Forest Service: A History" by Harold Steen of the Forest History Society, reading old magazine articles, reading about him in Andrew Rodger's biography of Bernhard E. Fernow. ^{*} Mr. Einhorn furnished me with much material--his own article on Dr. Hough's pioneer anthropological work, Dr. Hough's article on the future of forestry, Dr. Detrich Brandis' [†] obituary and tribute.

What is so striking to any one who goes through this material is the man's wide breadth of interests, his great curiosity, his quick grasp of new subjects, his knowledge of the interrelationships of the various sciences and humanities. And he was not just ^a dilettante. Although largely self-trained, he was accepted by ~~so~~ many of the most prominent scientists of his day as an equal and an authority. But, he also had the artist's and poet's sensitive appreciation of the beauty of nature, and the beneficial effects of communion with nature on the mind and body of man.

He was truly the complete man, the well-rounded man, the well-informed generalist of the type of Washington and Jefferson and Franklin, who did not limit himself to compartments and narrow fields. His curiosity, his energy, his dedication to public needs, and the future of his country, his overwhelming compulsion to find out and to write and tell everyone what he had found and

* - a German forester who became Chief U.S. Forester after Hough.
† - the leading German forester of the 19th Century, whom Hough met on his forestry tour of Europe in 1881.

learned. These qualities are so evident to anyone who reads him and about him. And he was able to move others to see what he saw and feel what he felt.

His great achievement was to get the ^{foremost} ~~most prestigious~~ scientists of his day to press his project for a comprehensive nationwide study of forests and lumbering, and to get governments to take measures to assure the management of forests in the public interest to assure necessary timber harvest, but protect the land and assure continuous supplies for later generations. * * This was his mission... And he succeeded magnificently. It was a great personal triumph... He not only clearly saw the need; he composed talks and articles; he spoke in Lowville and Albany and Boston and Baltimore, and he was able to get the use of a powerful forum, the American Association for the Advancement of Science, to which he long belonged, to press it. He got the scientists to support him. Then he went to Washington himself to urge the program endorsed by the scientists on Congress and the President, who was Ulysses Grant. Fortunately there was a conscientious director of the General Land Office at the time, Willis Drummond, and a good Secretary of the Interior, Columbus Delano. He stayed in Washington for months, speaking at hearings, talking to Congressmen, and reading up on forestry in the Library of Congress. He endured the usual disappointments and delays, but persisted and was successful although it took two and a half years. His dedication, energy, and persistence are remarkable.

Then he finally received the appointment--and his job had just begun. He had to do it all almost alone. He wrote hundreds of letters to gather information. He traveled thousands of miles on the new railroads of the time to meet State officials and lumbering men, to make his own inspection of conditions. He was very active in the new forestry organizations of his time, American Forestry Association, and American Forestry Congress, which

finally merged and the Association is still going, bigger and stronger than ever. . .

I am sure much of this is not new to most of you. You already know much of Dr. Hough or you would not be here tonight, you would not belong to this Society. When Mr. Einhorn asked me to come, I really wondered what I could tell you that you didn't already know. So I told him that I would not give a formal speech. I would give some general remarks, and then ask for questions. I know how boring long speeches can be, and I don't intend to give one. With Mr. Einhorn's help, I will try to answer your questions. We have copies of American Forests magazine which has my article on Dr. Hough, and also reprints of the article which you are welcome to have. This magazine, of course, is the official organ of the American Forestry Association.

When you look the article over, you will see how comprehensive Dr. Hough's official reports were for his time. Although not organized into a science of forestry, they brought together valuable material from all over the world. And his recommendations for public forestry in the United States showed familiarity with the systems in use in Canada, Europe and New Zealand, and his suggestions were excellent and practical for the times. With his help and others, the Federal Government finally did set aside great areas of public forests in the West, and finally acquired many in the East where they had been heavily damaged. ^{These forests} but were helped to recover and now are priceless national assets.

As all of you know, his contributions to forestry and conservation in his own State of New York were great. ~~He was~~ one of the most influential members of the first Adirondack Commission in the 1870s, whose report he himself wrote. And again in 1884, when he ^{for the legislature,} drafted a bill, and lobbied for it, was asked to speak to a legislative committee about the Reserve, and

He had major responsibility for actual establishment of this great reserve, first State forest reserve in the Nation and still by far the largest. It is larger than Yellowstone National Park. As you probably know, Hough Peak in the high Adirondacks was named in his honor. It is over 4,000 feet high and just a few miles east of Mt. Marcy--highest in the State.

Hough's recommendations in his Federal Reports Upon Forestry included many which were later carried out by the Federal Government and the States--including management of the forests, selling of timber under strict regulation, planting of trees, fighting fires, establishing forest experiment stations, establishing forestry schools, and others.

This Centennial of Federal Forestry project which the Forest Service has engaged in has brought back recognition of Hough's great contributions among the present generation of foresters among us, as well as the general conservation-minded public. Unfortunately, he and his work had been largely forgotten by most of our people in the Forest Service, and even by many of his own descendants. We have been able to trace most of his descendants, with the help of a genealogical record left by a granddaughter, Helen Yale Hough, in the Library of Congress, and page of a will of another granddaughter, Marjorie Hough, provided by Mr. Fred Johnson, State Regional Forester in Lowville. We are also indebted to The New York Division of Forestry in Albany for photographs of the early engraving of Dr. Hough used in the American Forests article, and to your Society for prints of the portrait of Dr. Hough which hangs in Union College in Schenectady.

Dr. Hough inspired one of his sons, Romeyn Hough, to study and write about forestry. Romeyn has two books to his credit, one on American Woods, and one on Trees of North America. Also Hough's granddaughter, Marjorie Hough, carried on much historical work here in Lewis County, as you know

and as Mike Blair described in your recent Journal. One granddaughter is still living, Edith Greer of Portland, Oregon. And Patricia Hough, great-granddaughter, is an associate editor (reporter-researcher) for Fortune magazine.

We in the Forest Service in Washington and in our regional offices all over the country called attention to our Centennial of Federal Forestry which Dr. Hough initiated by bringing about his own appointment 100 years ago. We distributed this one-page summary of which I have brought some copies to show you here. This summary was printed in the Congressional Record of September 15, 1976. It was inserted by Representative Frederick W. Richmond of New York State, a member of the House Agriculture Committee.

Also, we had a symbolic tree-planting ceremony in our Department patio. *I have brought along some photos.*
The former Secretary of Agriculture, Earl Butz; our Chief of the Forest Service, John McGuire; and officials of the National Atmosphere and Space Administration, including astronaut Rusty Schweickert; ^{also} and men from the White House, participated. The tree was a loblolly pine seedling (a species of southern yellow pine), which had been grown from seeds taken to the Moon on the Apollo 14 trip in 1971. Also, our artist, Rudy Wendelin, drew a wash portrait of Dr. Hough, which we distributed copies of widely, including this Museum. The original framed portrait is in our Washington Office and will later be displayed permanently at our Forestry Museum at Asheville, North Carolina. That is where practical field forestry had its start in the United States, under Gifford Pinchot and Carl Schenck. Schenck was a German forester who started the old Biltmore School ^{in 1873.} Both men worked as foresters on the old Biltmore Estate of George Vanderbilt, of the famous wealthy railroad family.

There are many interesting sidelights to Dr. Hough's career. He had triumphs and he had setbacks. Unfortunately a new Secretary of Agriculture from

Massachusetts, George Loring, also a physician, did not appreciate Dr. Hough. He was perhaps jealous of him and dealt very unfairly with him, in spite of Hough's three historic reports on forestry, and after Hough had been honored for his work by an international conference in Venice. Loring replaced Hough as Chief of Forestry in 1883 by a friend of Loring, but Hough continued to work for the Division for another year. Hough did become discouraged at this time, and in February 1884 wrote: "I do not see much hope of any thing being done by Congress." *(But 4 years later the Federal Forest Reserve Act was passed.)* He said he relied on "an awakening of popular interest and a diffusion of intelligence among the people, especially the owners of land." He added that "ere long they will begin to learn that dollars can be earned in growing trees as well as grain." However, despite this humiliation, Hough was highly esteemed by his associates and friends and the men he worked with in the forestry associations. And his high place in the ranks of American forestry is unquestioned today. He was aware of the historic position he had taken. Quotes from his personal diaries tell this.

In a letter to a Minnesota Congressman who was helping him influence the Congress to get a bill passed to create the forest agent's office, Dr. Hough said (This was after the bill failed to pass the second time.): "I am determined not to accept ^(this) failure as a defeat. I am convinced that this is destined to be one of the great questions of the near future, and that those who take active interest in it now, whether in or out of Congress, will deserve and hereafter secure an honorable place in the Annals of our Forestry." His prediction of course did indeed become true.

The New York State Board of Regents thought so much of his work in the State that they conferred on him an honorary Doctor of Philosophy degree. And at the 50th anniversary of the establishment of the Adirondack Forest

Reserve in 1935, his work was praised and a portrait was commissioned which now hangs in Union College. No only a mountain but a mineral, Houghsite, perpetuates his name. *(It is a variety of hydrocalcite, a pearly-white mixture of aluminum and magnesium hydroxides.)*

The best tributes to Dr. Hough were given by others. In 1886, David Murphy, Secretary of the New York State Board of Regents said: "In all things he was the genuine man, the true and honest heart which despises shams, one of the world's workers and not an idler."

Dr. Hough, like Gifford Pinchot and other Forest Service leaders, combined both the esthetic and utilitarian viewpoints of forest lands. This is shown by a portion of a chapter of his autobiography which Hough wrote in April or May of 1885, just before his death. This was printed in your Lewis County Historical Society Journal in December 1976.

In this fragment, Hough referred to the old French Ordinance of Waters and Forests under Louis the 14th in 1669 which greatly restricted the grazing and cutting of woodlands, both private and public.

He said that he preferred to see forests used to make the many products that people need -- lath, boards and shingles for buildings; hoops, staves and heading for tubs and barrels; wood for grinding into paper pulp; stakes and poles for fences and fence posts; wood for railroad ties; tree tops, branches and chips for fuel and charcoal. Like Pinchot, he emphasized that forests could be viewed as a crop, that with good management could be continuous without harm to the land.

However, Hough also pointed out that such forest management does not mean that we cannot also enjoy, in his words, "everything that is beautiful and harmonious in nature. The opening buds of spring, the verdure of summer, the fruits and brilliant foliage of autumn, and even the snowy mantle of winter have their pleasures which none can so thoroughly enjoy as those who live

among them. There is music in the morning dawn and the evening twilight, in the murmuring noonday breeze, and in the sighing of midnight winds through November pines." Hough mentioned that ^{a great deal} ~~which~~, to quote, "is aesthetic and sentimental in groves and woodlands, and much ~~that~~ is romantic and poetic in wild wood haunts, cool shaded streams where lovers like to walk, sylvan fountains, singing birds..." He was no doubt recalling the long forest walks of his boyhood in these hills.

Thank you for this opportunity to meet with you and talk about this wonderful man. If you have any questions or more information, please give them to me.

Notes on Ancestors of Dr. Franklin B. Hough of Lowville, N.Y., first forestry agent of the Federal Government, 1876-1885.

(Taken from two stencil publications by Granville W. Hough of Fullerton, Calif., in Library of Congress, June 1977: (1) U.S. Family Distribution, 1619-1880, Hough and Huff, Oct. 1971, 77 pp., Copyright by Granville W. Hough. (2) Hough and Huff Families of the United States, 1620-1820, Northeastern States, Vol. 2, 152 pp., Copyright 1974 by Granville W. Hough.) L-C Ref. Nos.: CS71, .H837, 1971 and 1972b vol. 2. (Granville Hough's full address is: 1026 N. Richman Ave., Fullerton, Calif. 92635.)

The Hough families came from the following countries to the United States: Canada, Ireland, England, Germany, Norway, and Austria. They and their descendants (according to Granville Hough, 1971) pronounced their name as corresponding to the following sounds: huff, how, hoe, hoaf, hoak, hoff, high, and huft.

The Huff families came from England, Germany, Norway, Russia, Canada, and Holland. Many adopted the spelling Huff as a simplification of more complex or less popular forms, such as Hougham, Houghtaling, Houghland, Hufstadler. Hoff is another variation, and there are some 20 other various spellings. Some English Hough families who preferred the Huff pronunciation changed the spelling to Huff.

Dr. Franklin B. Hough's ancestor was William Hough, who was a carpenter from Cheshire in the west of England, who came to Boston in the Massachusetts Colony in 1640 with the party of Rev. Richard Blinman. William Hough married Sarah Caulkins in 1645. They have probably more descendants than any other of the Hough immigrants. He was the third recorded Hough to come to America, and the second to New England; the other went to Virginia. The William Hough family stayed in New England for several generations. (The direct male line is: William, Samuel, James, Daniel, Thomas, Horatio Gates, and Franklin B.)

William Hough lived first in Gloucester, Mass., then moved to Saybrook, Conn., then to New London, Conn. He was born in 1619 in Westchester, Cheshire, England, and died in 1683 in New London, Conn. His first son, Samuel, was born in Saybrook in 1652 and died in 1714 and is the ancestor of Franklin B. Hough. Samuel was married first in 1679 and again in 1685, this time to Mary Bates. Tracing only the direct line to Franklin B. Hough, the descendants are as follows;

James Hough, son of Samuel and Mary, was born in 1688 and was married in 1711 and again in 1718, and died in 1740. His son Daniel, by his second wife, Sarah Mitchell, was born in 1721 and died in 1768. Daniel married in 1741 and again in 1743. His son Thomas, by his second wife, Violet Benton, was born in 1749 or 1750, married Rebecca Ives in 1772, and died in 1815. Thomas was the grandfather of Dr. Franklin B. Hough. Thomas lived in Southwick, Mass., and served in the Massachusetts militia during the Revolutionary War. His second child was Horatio Gates Hough, born 1778. Horatio G. Hough married Martha Pitcher (Year - ?) probably in the vicinity of Southwick, Mass., and they moved to a farm near Martinsburg, Lewis County, in north-central New York State, just west of the Adirondack Mountains and east of Lake Ontario. When Martinsburg became a town in 1814 he was one of the first town commissioners. He was the first medical doctor in Lewis County. Asahel Hough, the town inspector in 1814, was a distant cousin.

Franklin B. Hough (first named Benjamin Franklin Hough), was born in 1822 on the farm near Martinsburg, Lewis County, N.Y. (See the geneology compiled by Miss Helen Yale Hough in 1969.) Franklin Hough was the son of Horatio Gates Hough and Martha Pitcher Hough. Franklin B. Hough died June 11, 1885 at his home in Lowville, N.Y.

F. B. Hough

1680

OCT 29 1982

Mrs. Robert L. Grimes
P.O. Box 404
Cottage Grove, Oregon 97424

Dear Mrs. Grimes:

We are pleased to furnish you with information about Dr. Franklin B. Hough, an early advocate of forestry in the United States who became the first Chief of the Division of Forestry in the Department of Agriculture. The Division was the predecessor agency of the Forest Service.

Information about Dr. Hough's forestry work and his publications, including the 1882 talk, "Forestry of the Future," which you mentioned, is contained in the enclosed Summary Fact Sheet; in the enclosed article, "Remembering Franklin B. Hough" by Frank Harmon from the January 1977 issue of American Forests magazine; and in the enclosed two-page Bibliography of Dr. Hough's writings. Information on Dr. Hough's family history is contained in the one-page Notes on the Ancestors of Franklin B. Hough, also enclosed, and in Helen Yale Hough's typed pamphlet, "Descendants of Franklin B. Hough," which is listed in the Bibliography aforementioned.

As the Notes indicate, two lists of Hough family descendants have been compiled by Granville W. Hough of Fullerton, California. The Library of Congress has copies of the Granville Hough and Helen Hough lists, which could be copied for you for a fee. Write to the Library of Congress, Washington, DC. 20540, for information on how to order.

The most extensive holding of the papers of Franklin B. Hough is in the Manuscripts and History Library, New York State Library, State Education Department, Albany, N.Y. 12234, care of James Cosaro, Senior Librarian. The Lewis County Historical Society, Gould-Hough Museum and Library, Box 306, Lyons Falls, N.Y., 13368, also holds a collection of Hough materials. Arthur Einhorn is Director.

It is clear from data you gave over the phone to Frank Harmon of our History Section, on October 25, that the branch of the Hough family from which you are descended is not the same one from which Dr. Hough is descended, but they may have a common American ancestor. You will note that Dr. Hough was born in 1822 in New York State, after his father moved from Massachusetts, while you say your great-great-grandmother, Mariah Hough Harper, was born around 1800 in Pennsylvania.

Mrs. Robert L. Grimes

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Until a year or two ago, a granddaughter of Dr. Hough was living in Beaverton, Oreg. She was Mrs. Edith Hough Greer, but has since died. Her son, Leonard Hough Greer, is still living in the home, at 3660 S.W. Sholls Ferry Road, Portland, Oreg. 97221. They had much material on Dr. Hough. You may wish to contact them.

Sincerely,

Charles P. Teague, Jr.
CHARLES P. TEAGUE, Jr.
Director of Administrative Management

cc: CRO

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