a "pedagogical genealogy" of american plant ecologists

One of the most commonly heard descriptions of a young scientist is "he was a student of so-and-so's." Because of the alleged importance of the transfer of information, methodologies, and ideas from doctoral advisers to their advisees, and because of the recent interest in "roots" (both pedagogical and biological), it has seemed appropriate to assemble a "family tree" of some of the major figures in the history of American plant ecology.

A few comments and caveats are in order. The accompanying chart is not intended to be a list of "the most important ecologists"; except for including all plant ecologist ESA Presidents and Eminent Ecologists, I have not made any particular systematic effort to identify and include strictly the individuals who have been most influential in advancing the field of plant ecology. This is particularly true in the post-1950 generation; the individuals who make up the bottom row of the chart were selected mainly as modern representatives of important schools. As a result, some persons who have made relatively minor contributions are included, while others who were more influential were excluded if they did not fit conveniently into the chart. Also, "forest ecologists" sensu stricto (Chapman, Moore, Toumey, Korstian, etc.), palynologists, and paleobotanists have been left out of the chart, partly to reduce the size of the final product but also because these groups form readily identifiable schools which (perhaps regrettably) have historically been somewhat separate from what might be called the "mainstream" of American plant ecology. Finally, no one is included who received the Ph.D. in the last twenty years. For full names, fields, and affiliations, see Table 1.

In the chart itself, a solid line indicates verified direct pedagogical descent at the doctoral level. Whenever possible, this information was confirmed with the individual involved; where this was possible, university records, explicit acknowledgments in the published thesis, or (in a few cases) information provided by relatives or close professional friends were relied on for confirmation. Question marks next to connecting lines indicate inferences which have not been satisfactorily confirmed; most of these are lettered and are explained below. Verified "secondary" influences (i.e., influences by persons other than the doctoral adviser) are indicated by dashed lines, or by footnotes where lines might have led to confusion in the chart. In many cases these "secondary" influences may have been more important than that of the formal adviser, particularly where the adviser was not an ecologist. With a very few exceptions, postdoctoral influences are not indicated in the chart.

Names in parentheses are individuals who are/were not plant ecologists but have been included in the chart for other reasons. In two cases space limitations made it impractical to include non-plant-ecologist advisers with their students: Paul Sears was advised by C. J. Chamberlain, a morphologist (and like Cowles, a student of John M. Coulter), and John Reed was advised by C. F. Korstian, a forest ecologist.

Horizontal lines mark the decades. Each plant ecologist's name appears in the decade when he received his Ph.D., but within decades some license has been taken in preparing the chart to fit things together conveniently. Names of non-plant-ecologist advisers were inserted wherever they would fit.

A set of microbiographies of the plant ecologists in the chart, including thesis title, date, and teaching history, is available from the author on request. Please enclose $1.00 to cover the cost of copying and mailing.

Two final points need to be made. First, pedagogy is obviously only one of the ways in which a scientist influences others in his field; quite clearly, the impact on plant ecology of such seminal figures as S. A. Forbes, C. C. Adams, F. E. Clements, and G. E. Hutchinson is not adequately reflected in a genealogical chart of this type. Second, although it is clear that nearly every student is affected in many ways by the individual who supervises his or her graduate education and dissertation research, it has become clear to the author

Table 1.

Full names and primary academic and/or research institutions of plant ecologists shown in genealogical table.

John M. Aikman (Iowa State)
Fred W. Albertson (Ft. Hayes [KS] St. Coll.)
W. Clark Ashby (Southern Illinois Univ.)
Stanley Auerbach (Oak Ridge Nat'l Laboratory)
W. Dwight Billings (Duke)
Lawrence C. Bliss (Illinois, Alberta, Washington)
F. Herbert Bormann (Yale)
E. Lucy Braun (Cincinnati)
Murray F. Buell (Rutgers)
Stanley A. Cain (Tennessee, Michigan)
John E. Cantlon (Michigan State)
Frederic E. Clements (Nebraska, Minnesota, Carnegie Inst. Wash.)
Arthur W. Cooper (N.C. State)
William S. Cooper (Minnesota)
Grant Cottam (Wisconsin)
Walter P. Cottam (Utah)
Henry C. Cowles (Chicago)
John T. Curtis (Wisconsin)
Rexford Daubenmire (Washington State)
Frank E. Egler (Aton Forest)
George D. Fuller (Chicago)
Frank C. Gates (Kansas State)
Henry A. Gleason (Michigan, N.Y. Bot. Gard.)
Frank B. Golley (Georgia)
Robert F. Griggs (George Washington Univ.)
Herbert C. Hanson (Catholic Univ.)
Roland M. Harper (Alabama Geol. Survey)
John W. Harshberger (Pennsylvania)
Robert R. Humphrey (Soil Cons. Serv., Arizona)
Arthur Kruckeberg (Washington)
Alton A. Lindsay (Purdue)
Burton E. Livingston (Johns Hopkins)
W. B. McDougall (Illinois, Nat'l Park Service)
Robert P. McIntosh (Notre Dame)
Conway MacMillan (Minnesota)
Calvin McMillan (Texas)
Herbert L. Mason (California [Berkeley])
C. H. Muller (U.C. Santa Barbara)
George E. Nichols (Yale)
William A. Niering (Connecticut Coll.)
Charles E. Olmsted (Chicago)
Jerry S. Olson (Tennessee)
Henry J. Oosting (Duke)
William T. Penfound (Oklahoma)
Robert B. Platt (Emory)
Francis Ramaley (Colorado)
John F. Reed (several schools)
Elroy Rice (Oklahoma)
Homer C. Sampson (Ohio State)
Paul B. Sears (several schools)
Royal E. Shanks (Tennessee)
Homer L. Shantz (U.S. Dept. of Agriculture, Arizona)
Aaron J. Sharp (Tennessee)
Forrest Shreve (Carnegie Inst.)
Forest Stearns (Univ. of Wisconsin, Milwaukee)
Edgar N. Transeau (Ohio State)
Arthur G. Vestal (Illinois)
John E. Weaver (Nebraska)
Edgar T. Wherry (Pennsylvania)
Robert H. Whittaker (Cornell)
John N. Wolfe (Ohio State, U.S. Atomic Energy Comm.)
George M. Woodwell (Brookhaven Nat'l Lab., Marine Biol. Lab.)

Others in chart, with primary fields

C. R. Barnes (plant physiology)
H. M. Benedict (plant physiology)
Charles E. Bessey (plant geography and taxonomy)
Glenn W. Blaydes (plant anatomy and morphology)
J. Harlen Bretz (geology)
Nathaniel L. Britton (plant taxonomy)
T. J. Burrill (botany and bacteriology)
Frederic K. Butters (plant geography and taxonomy)
T. C. Chamberlin (geology)
Ralph W. Chaney (geology, paleobotany)
C. M. Child (insect morphology and physiology)
John M. Coulter (plant taxonomy and morphology)
William M. Crocker (plant physiology)
Benjamin M. Duggar (plant physiology and pathology)
Arthur Eames (plant anatomy and morphology)
Alexander W. Evans (bryology)
Stephen A. Forbes (entomology, ichthyology, and limnology)
Don W. Hayne (small mammals and biometrics)
Willis L. Jepson (plant taxonomy and geography)
Duncan S. Johnson (embryology and plant development)
S. Charles Kendeigh (avian ecology)
Paul J. Kramer (plant physiology)
Raymond W. Lindeman (limnology)
Elbert L. Little (dendrology)
Francis C. Newcombe (plant physiology)
Eugene P. Odum (general ecology)
Orlando Park (animal ecology)
Roscoe Pound (law)
Victor E. Shelford (animal ecology)
Lewis H. Tiffany (phycology)

Notes:
A) Victor E. Shelford received his Ph.D. at the University of Chicago in 1907, with a dissertation on tiger beetle development (probably supervised by C. M. Child, although the published version does not acknowledge this). In several later works he thanks both Cowles and Child for their help and inspiration in his early ecological work.
B) Herbert C. Hanson thanked both Weaver and R. J. Poole, a taxonomist, in the published version of his dissertation. Thus while it is obvious that Weaver was Hanson's ecological mentor, it is not clear who was his actual adviser. Hanson may also have been influenced by F. E. Clements, who was teaching at Minnesota while Hanson was an undergraduate there.

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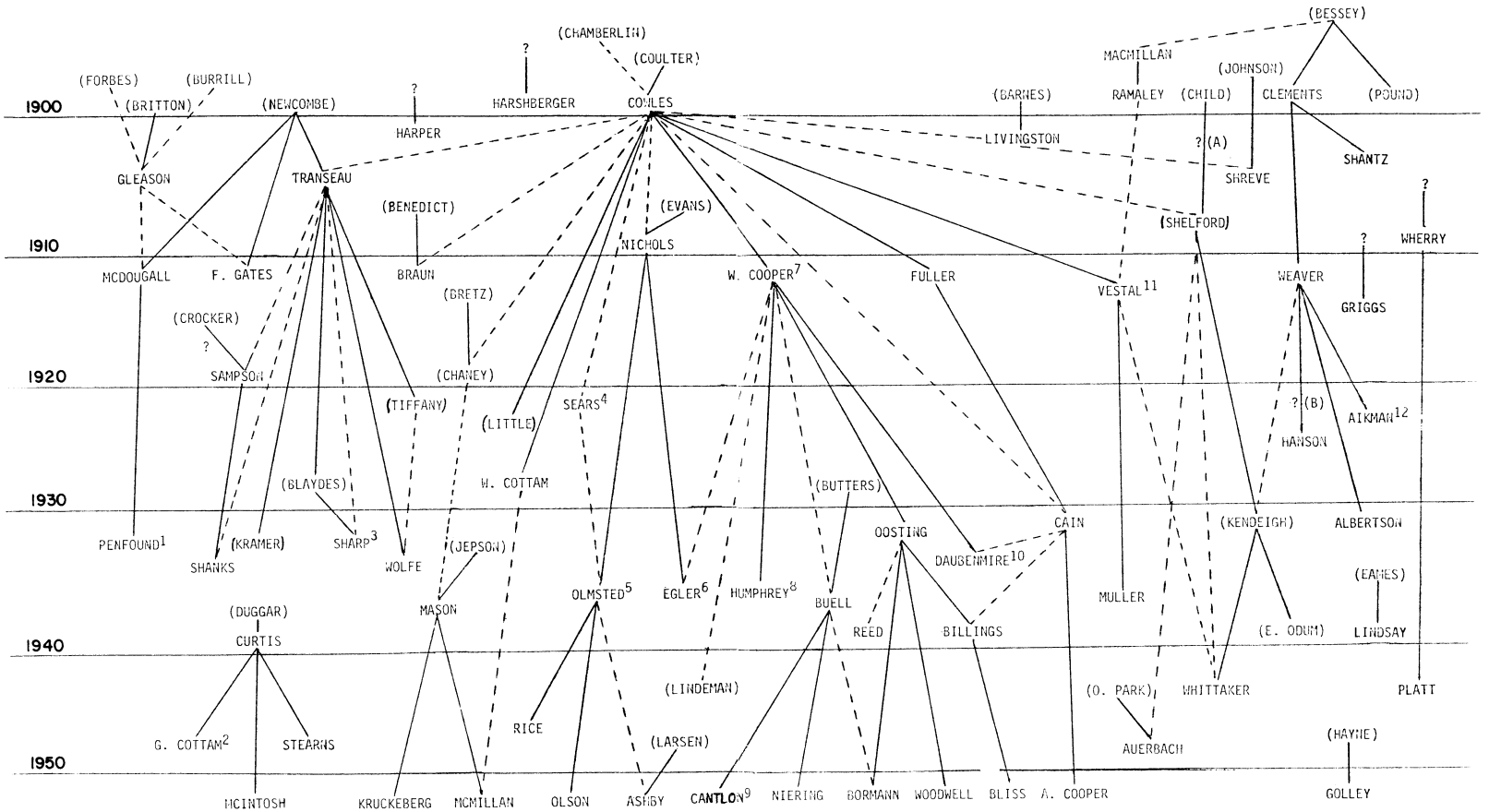

[1]Also influenced by Vestal
[2]Also influenced by W. Cottam
[3]Also influenced by Sears and F. Gates
[4]Also influenced by Transeau
[5]Also influenced by Weaver
[6]Also influenced by Fuller
[7]Also influenced by Transeau
[8]Also influenced by Shreve
[9]Also influenced by Billings
[10]Also influenced by Ramaley
[11]Also influenced by Gleason
[12]Also influenced by Cowles

that the people who make truly major contributions in this or any other field do so largely because of their own unique abilities and not primarily because of what they learned in school. While they may be informed and strongly influenced by a powerful teacher, the future outstanding scientists are usually not molded into his pattern as much as some others, who may be identifiable as "students of the master" throughout their careers. Thus, it is not surprising that a teacher's best students are often those who least resemble him.

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Acknowledgments

Dozens of people have been involved in the collection of the material on which this genealogy is based and the help of all is appreciated. Murray Buell first stimulated my interest in the history of plant ecologists, and Robert Muller was closely involved in the planning and early data collection stages. Don Lawrence and Ronald Stuckey provided important information about the Minnesota (Cooper) and Ohio State (Transeau) schools, respectively. W. D. Billings, Helen Buell, Frank Egler, Robert McIntosh, Peter Marks, C. H. Muller, R. Muller, and Paul Sears all read an earlier draft and provided useful comments. Finally, I would like to thank all of the distinguished ecologists, many of whom are listed in the chart, who took the time to answer questions about their own educational background and that of their colleagues. Without the help of all these individuals the project could never have been completed.