Pete Ogden – Incomplete Notes[1] 1-26-2013

> "Only those revelations which are reasonably well documented are reported here, since local enthusiasm is not apt to be restrained by the facts in all cases."
>
> J. G. Ogden 1958

James Gordon "Pete" Ogden, III

1928-1996

Half a century ago and rather neatly situated historically between this volume and the late 19th c attempts by Nathaniel Shaler and Henry Whiting to capture the major natural qualities of the Vineyard, Pete Ogden did a pretty comprehensive job of that task. Pete was a Vineyard native who headed to Yale for a PhD that benefitted from association with the best minds in ecology—Ed Deevey, Paul Sears and Harold. J. Lutz, among others. His thesis work centered on the past glacial history of the vegetation in relationship to climate change and rising sea level and his efforts established the basic sequence of vegetation through the post-glacial period—tundra to boreal forest and on to the temperate forest that persists today. Although Pete only retrieved only a few meters of the sediment from Airport Bog and Duarte's Cranberry bog his records stand as the oldest on the Vineyard and among the oldest in New England. And, like many great scientists he had a large worldview and sought to use the specialized tools of pollen analysis to answer big questions that were relevant to the modern world. He thought expansively and with insight and brought the lessons from the past to explore his modern landscape and extensive studies of the modern flora and vegetation as guides for his interpretation of deep history.

Pete's trips back home each summer from Yale, and then faculty positions at Ohio Wesleyan and Dalhousie University gave him time to develop a set of comprehensive studies and contribute to conservation efforts on the Vineyard. He lamented the "bedraggled" state of the modern woodlands and sought to identify the best examples of his day—stands at Seven Gates, the forest at the juncture of Middle Road and Tea Lane, and Priester's Woods in the triangle formed by Mill Brook, State Road and North Road. There he found old trees—red maples 200-years-old at his Airport Bog swamp adjacent Little Duarte Pond and stumps of black and white oak at Priester's that he aged to 150-250 years and astonishing 285-330 years, respectively.

It was an understanding the interaction of physical and ecological processes that shape the island that Pete gained insights and experience that remain so relevant to modern concerns that his words are often citied in newspapers today. In the 1970s Pete penned a classic paper on coastal erosion based on historical maps and observations from Wasque and Norton Point.

[1] Additional handwritten notes, notecards, and source material are in the Harvard Forest Archive

Ogden, J. G., III. 1958. Wisconsin Vegetation and Climate of Martha's Vineyard, Massachusetts. PhD Thesis. Yale University.

Ogden, J. G., III. 1959. A late-glacial pollen sequence from Martha's Vineyard, Massachusetts. *American Journal of Science,* 257**,** 366-381.

Ogden, J. G. III. 1961. Forest History of Martha's Vineyard, Massachusetts. 1. Modern and pre-colonial forests. *The American Midland Naturalist* 66**,** 417-430.

Ogden, J. G. III. 1963. The Squibnocket Cliff Peat: radiocarbon dates and pollen stratigraphy. American Journal of Science 261:344-353.

Ogden, J. G. III. 1974. Shoreline changes along the southeastern coast of Martha's Vineyard, Massachusetts for the past 200 years. *Quaternary Research,* 4**,** 496-508.

Other Papers

With Eville Gorham (Dalhousie and then University of Minnesota) in Nature on the causes of acidity in Nova Scotia lakes; others with Underwood on Nova Scotia lake acidification. Also precipitation chemistry

Use of microspheres in counting pollen and calibrating influx etc.

Correlation of contemporary and Late Pleistocene records in reconstruction of post-glacial environments

Recurrence surfaces in Nova Scotia bog – Caribou bog

Post-glacial pollen records form Nova Scotia

Lichen diversity and abundance in an urban environment

Forest history of Ohio

James Gordon Ogden III (1928-1996)

James Gordon Ogden III, age 67, limnologist and paleobotanist, Professor of Biology at Dalhousie University (Halifax, Nova Scotia), and formerly Professor of Botany at Ohio Wesleyan University, Delaware, OH, died 17 April 1996 at his home in Martha's Vineyard, MA, after a lengthy illness. A recipient of a Guggenheim Memorial Foundation Fellowship (1962-1963), Ogden published numerous scientific articles covering the broad span of his scientific interests. He served as coeditor and associate editor of the journal Radiocarbon (1968-1981). His research on radiocarbon dating to study the history of forests was the first of its kind in Ohio and culminated in the seminal paper, "Forest history of Ohio. I. Radiocarbon dates and pollen stratigraphy of Silver Lake, Logan County, Ohio" (OhioJ Sci 66:387-400). I le joined The Ohio Academy of Science (1958-1974, 1990), affiliated with Section Plant Sciences, was elected a Fellow (1961), and participated in the Academy's Visiting Scientists Program (1961, 1962, 1964-1966). James Gordon Ogden III (Pete), horn 6 July 1928 in Martha's Vineyard, MA, was the son of Dorothy Frances (Phillips) and James Gordon Ogden, Jr. His childhood years were spent in Pittsburgh, PA, and Lakeland, FL. He and his parents enjoyed summers at their East Chop home on the Vineyard where Pete was an active member of the local beach and tennis clubs, and softball team.

Ogden received the BS (1951) and BA (1952) from Florida Southern College (now University), MS (1954) from the University of Tennessee, and PhD in botany (1958) from Yale University. His thesis concerned "A Photo-tube Solar Radiation Integrator for Field Use," and his doctoral dissertation was titled the "Wisconsin Vegetation and Climate of Martha's Vineyard, Massachusetts." Gaining early professional experiences through assistantships in biology at Florida Southern College (1948-1952) and Yale University (1954-1957) and in botany at the University of Tennessee (1952-1954), Ogden also taught biology at Manatee County High School, FL (1952). Concurrently he served as climatologist, Connecticut Agricultural Experiment Station, New Haven, CT (1956). He was an assistant and associate professor (1958-1963) and professor and director of radiocarbon dating laboratory (1963-1969), Department of Botany and Bacteriology, Ohio Wesleyan University; and professor and director of radiocarbon dating laboratory, Department of Biology, Dalhousie University (1969-1994). Dr. Ogden studied

Pleistocene biogeography, pollen stratigraphy, paleoecology, paleoclimatology, microclimatic ecology, instrumentation for environmental investigations, post-glacial history of vegetation and climate, and impacts of eutrophication and acid-rain on water quality of streams and lakes in Nova Scotia. While in Ohio, he wrote on the early forests of Delaware County, using the bearing tree records from the 1832 and 1835 land surveys (OhioJ Sci 65:29-36). When Dr. Ogden received his Guggenheim fellowship, he took a leave of absence (1962-1963) to study, in part, radiocarbon dating laboratories in England, Denmark, Sweden, Norway, and Germany. During the summer of 1965 he conducted glacial research in Greenland with Ohio Wesleyan University colleague George Growl.

Ogden's memberships in professional societies included: the American Association for the Advancement of Science (Fellow), American Institute of Biological Sciences, American Quaternary Association, American Society of Limnology and Oceanography, Botanical Society of America, Canadian Quaternary Association, and Ecological Society of America. He also served on the Membership Committee, Nova Scotia Environmental Control Council (1973-1977) and was also a member of the National Geographic Society. His excellence in scholarship was recognized with awards and honors: Gold Medal Award, Kappa Delta Pi (1951); Emile E. Watson Biology Medal (1951); Cullman Sterling Fellow, Yale University (1957-1958), and election to Sigma Xi. Recognizing Ogden's professional contributions to environmental stewardship, the government of Nova Scotia presented him (spring 1984) with the Environmental Control Award for 1983.

In later life Ogden devoted attention to environmental issues on Martha's Vineyard. He was a lecturer for the Nathan Mayhew Seminars and an advisor to the Friends of Sengekontacket. A contributor to the Vineyard Gazette, he was also a lifelong member and former officer of Union Chapel. James Gordon Ogden III was predeceased by his first wife Anne Elise (Bowditch) Ogden whom he married on 28 July 1956. Surviving are their four children, Karen Frances Ogden of Oak Bluffs, MA, Lawrence Gordon Ogden of Hudson, Quebec, Ford Bowditch Ogden of the Boston, MA, area, and Eric Bowditch Ogden of Vineyard, MA; two grandchildren; and second, former wife Barbara Diana Lyon and her five children, Jennifer, David, Cailleagh, Joanna, and Gillian. Memorial services were held on 18 May 1996 in Chapman Cole & Gleason Funeral Home, Oak Bluffs.

Contributions in memory of Pete Ogden may be sent to the Canadian Cancer Society (phone 888-939-3333)- According to Ogden's former student of Halifax, Nova Scotia, John K. Underwood, who provided helpful information for this biographical sketch. "Pete had the never-ending kindness and patience of a teacher who shunned interference with inquisitive minds" (Eulogy for Dr. Ogden, given by John K. Underwood, 18 May 1996).

WILLIAM R. BURK

https://kb.osu.edu/dspace/bitstream/handle/1811/23836/V099N5_115.pdf;jsessionid=ABC2522DBD650E14BCED43A37FAE5798?sequence=1

OBITUARIES OF THE MEMBERS OF THE OHIO ACADEMY OF SCIENCE
REPORT OF THE NECROLOGY COMMITTEE, 1999

From Dalhousie 2010
Ogden Memorial Prize

The Dr. J.C. Ogden memorial Prize is given to the top student in Limnology (Biology 4068) and honours the late Dr. J.C. (Pete) Ogden, an accomplished limnologist. A long-serving member of the Biology Department, Dr. Ogden contributed significantly to the field of aquatic science. He particularly enjoyed teaching the Limnology class.

NEW Wording:
The Dr. J.G. Ogden Memorial Prize
This prize will be awarded annually to a top 4th year honour student whose research falls within the realm of freshwater ecology, with preference given to those who study freshwater plant ecology. The recipient will be determined during the Cameron Conference poster and oral presentations. In the event that there is more than one student whose research project meets this criterion, overall GPA will be the deciding factor. Should no students meet the requirements, the money will be rolled back into the principal, and no award presented that particular year.

From Library/Archive at Dalhousie
Ogden, James Gordon

> (fl. 1954-1988) Prof. of Biology, Halifax, NS. Misc. Papers and Correpondence relating to the Boat Harbour area pollution, 1969-70; Chemical analysis reports, Boat Harbour, 1987-88; Misc. Notes; Thesis; Biology Dept. material. Extent 2.8 m.*Locator number: MS-2-696*

Ogden, J.G. (III) 1970-1991 MS-1-Ref 89.20
News articles, photographs, negatives, biographical information, misc. documents.

Video of Pete Ogden discussing stormwater treatment by forest soils
http://www.youtube.com/watch?v=rwP5x4Boryg
Published on Apr 10, 2012 Prof. Dr. Pete Ogden III Jr. PhD, Dalhousie University-Diffusion of urban/suburban stormwater over natural woodland soils is preferable over the routine practice of channelization (2:18 minute video

Background on the C-14 Lab at Dalhousie, established by JGO

DALHOUSIE UNIVERSITY NATURAL RADIOCARBON MEASUREMENTS I.
Radiocarbon Vol. 18, No. 1, 1976, P. 43-49

J GORDON OGDEN, III and W C HART. Department of Biology, Dalhousie University, Halifax, Nova Scotia

The Dalhousie University Radiocarbon Dating Laboratory was established in 1972, utilizing equipment and procedures formerly in use at Ohio Wesleyan University, Delaware, Ohio. The laboratory is located on the third floor of the 8-story Life Sciences Center at Dalhousie University. Sample preparation includes leaching with dilute alkali and acid, followed by pyrolysis in a stream of N2 at 500°C. etc.

J. Gordon Ogden. 1963. The Squibnocket Cliff Peat; radiocarbon dates and pollen stratigraphy. American Journal of Science 261:344-353.

A peat deposit exposed in a wave-cut cliff sampled for radiocarbon and pollen content. The section is 2.29 m long, including 12 cm of till at the base. overlain by 30 to 50 cm of windblown sand, the upper 25 cm of the peat is weathered and oxidized. Till at the base of the section contains randomly oriented pebbles overlying stratified till. Much of the pollen in the till is primary. Pollen stratigraphy of sediments is similar to core MV-7 in Duarte's Bog. Four radiocarbon dates from clay gyttja at the base of the deposit show radiocarbon ages from 12,300 to 12,700 B. P. Equivalent to the A1 pollen zones of southeastern Connecticut.

SAMPLE DESCRIPTIONS

OWU-6. Squibnocket Cliff, Massachusetts **11,352 ± 211**
9402 B.C.

Pine wood (id. by B. Bruce) from a forest bed in a limnic section exposed in a wave-cut cliff on the island of Martha's Vineyard, Massachusetts (41° 18′ N Lat, 70° 46′ W Long). Coll. 1960 by C. A. Kaye, U. S. Geol. Survey, and J. G. Ogden, III, Ohio Wesleyan Univ.; subm. by Ogden. *Comment*: beaver-gnawed twigs, as well as needles and cones of pine and spruce have been reported by Kaye (1962) from this and several similar sites in SE New England. A similar sample from this deposit was dated by Humble (0-766) at 11,650 ± 250 (Kaye, 1962). A piece of the same log as OWU-6 was subm. to the Smithsonian Institution (this date list) as an interlaboratory check sample. Their determination (SI-3) is 10,900 ± 144. The pollen stratigraphy of this site was discussed by Ogden (1963) in reference to earlier C^{14} dates reported from the site by the Yale and USGS laboratories (Yale V; USGS V). Samples from a similar deposit found at Point Judith, Rhode Island on the 1962 Friends of the Pleistocene Field Conference were subm. and run as OWU-22 (this date list).

19,906 ± 691

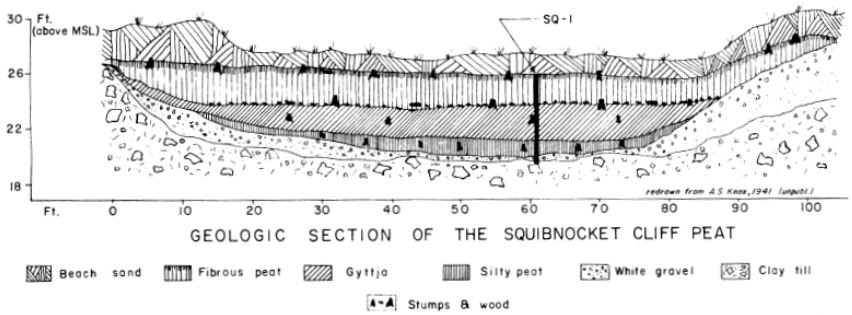

Fig. 2. Stratigraphy of the Squibnocket Cliff Peat, (Redrawn by permission of A. S. Knox, from unpublished field notes.)

Stratigraphy of the Sediments

Pollen samples were withdrawn from the cliff face at 2-cm intervals near the bottom of the deposit and at 5-cm intervals in the upper parts of the deposit. A cross section of the deposit is shown in figure 2 (redrawn from an unpublished diagram by A. S. Knox). Sediment stratigraphy outlined below was compiled by P. B. Sears as pollen samples were collected.

30-50 cm	Overburden of windblown sand
0-25 cm	Oxidized black woody peat
25-55 cm	Woody peat
55-85 cm	Black ooze containing much charcoal
85-117 cm	Fibrous woody peat and sedge peat
117-170 cm	Clay gyttja
170-179 cm	Wood-upper forest bed
179-217 cm	Clay gyttja—lower forest layer 205-207 cm
217-229 cm	Clayey till

As figure 2 shows, there is an unconformity at 117 cm between the overlying fibrous woody peat and the underlying clay gyttja. There is another sharp contact at 55 cm between the overlying woody peat and the underlying black ooze. Pollen evidence indicates that the B pollen zone is missing at about 85 cm. where there is still another stratigraphic break, but a transitional one, not necessarily indicating erosion of woody peat before deposition of the ooze.

Perhaps the greatest interest that Pete had, and shared with Margaret Davis, Estella Leopold and other contemporaries in the 1950s and 1960s was in the chronology of deglaciation and Late Glacial vegetation change. Peat believed that the Vineyard was ice-free early (which was correct) and that some of his sites had sediments from those earliest times (incorrect, or at least he did not collect this) and that the pollen changes noted could be matched up with early records from Europe. Those much of this early wiggle-matching proved to be misleading, one interesting note is that the interpretation of strong relationships between European and North American climate and vegetation dynamics has come back into vogue after a long period in which an emphasis was placed on the differences between these.

The table below comes from Pete's thesis.

Figure h. SUMMARY OF NEW ENGLAND LATE-GLACIAL POLLEN SEQUENCES AND CORRELATIONS

Wisconsin Sub-division	Aroostook, Maine		Athol, Massachusetts		Totoket, Connecticut		Martha's Vineyard, Mass		Approx. C14 years
	A1-3	Spruce	B	Pine	B	Pine	B	Pine	9000
Valders	L3	Low spruce Low pine NAP max.	A4	Spruce max. Pine min. Alder-birch Rise NAP	A4	Spruce max. Pine min. Alder-birch Rise NAP	A4	Spruce max. Pine min. Alder-birch Rise NAP	10,000
Two Creeks	L2	Spruce max. Pine min. NAP min.	A3	Spruce min. Pine max. NAP min.	A3	Spruce min. Pine max. NAP min.	A3	Spruce min. Pine max. NAP min.	11,000
	L1	Spruce rise Pine min. Birch NAP max.	A2	Spruce max. Pine min. Birch max. NAP min.	A2	Spruce max. Pine min. Birch min. NAP min.	A2	Spruce max. Pine min. Birch min. NAP min.	12,000
			A1	Spruce rise (Pine max.) Birch min. NAP fall	A1	Spruce rise (Pine max.) Birch max. NAP fall	A1	Spruce rise (Pine max.) Birch max. NAP fall	13,000
Fort Huron Middletown-Lexington ?			T3	Spruce min. (Pine) NAP max.	T3	Spruce min. Pine min. NAP max.	Tb	Spruce fall Pine min. NAP max.	
					T2	Spruce max. (Pine max.) NAP min.	Ta	Spruce rise (Pine max.) NAP fall	
					T1	Spruce rise Alder max. NAP max.			
Buzzards Bay -Sandwich							V4	AP min. NAP max.	(18,000-20,000)
		****** G L A C I A T E D ******					V3	Spruce fall NAP rise	
							V2	Spruce max. NAP min.	
							V1	Spruce rise NAP fall	

A Few Quotes from Ogden & Others on Early Forests and their Change

"Character and Composition of the Vineyard Woodlands

By no stretch of the imagination can any of these woodlands be called "forests". It is true that there are some very good woodlands which, in the absence of further disturbance, will probably develop into true forests in time. These "good woodlands" are restricted to the protected valleys and slopes of the moraine that forms the northwest coast of Martha's Vineyard." Pg. 24. (Ogden 1958)

"There can be little doubt that the species composition of the pre-colonial forests was much the same as today. That the forests were larger and probably somewhat richer in species abundance seems equally probable, although the evidence is less specific on this point. Data gleaned from early historical records indicate that large timber trees were the rule, rather than the exception, and that many of the early homes and fishing vessels were constructed of native wood (Banks, 1911).

There is very good evidence to support the inference suggested by Brereton's account that there were no forests of white pine on the island. All of the early homes which were constructed of native wood have hand-hewn oak beams and rafters. It seems unlikely that the colonists would have preferred so hard a wood had softer woods, such as pine or cedar, been available. Another indication that there must have been sizeable trees in the Vineyard forests is the record of a whaling ship 135 feet long, of 65 tons burden, that was constructed of Vineyard timber. Although the keel was not a single log, for the practice of splicing keels for added strength was initiated early in the ship-building trade, there are no oaks on the Vineyard today which approach the dimensions required for this construction." Pg. 32. (Ogden 1958)

"Vineyard cabinetmakers were highly skilled and were quick to take advantage of the variety of hardwoods found on the island. Pieces of furniture still survive made of native Walnut (Juglans nigra) as well as hickory (Carya spp.). Some of these articles, notably chair and pew seats, as well as wainscoting and paneling, require stock from trees not less than 30 and even 42 inches in diameter." (Ogden 1958)

"Even in the best modern woodlands, referred to earlier in this paper* there are stone fences running through the woods." Pg. 33. (Ogden 1958)

"The fact that beech and gum are similarly distributed in the modern Vineyard woodlands suggested that the area around the Airport bog may well have supported a pre-Colonial forest similar in composition to the "young forests" now found only in restricted and protected sites in the valleys along the north shore of the island. This lends some support to the concept of a mesic forest covering much more of the island in pre-Colonial times that at present." Pg. 61. (Ogden 1958)

"From the studies reported in this paper, the follow-generalizations can be drawn:

1) The present vegetation is entirely secondary and the modern woodlands are in various stages of re-forestation following clear-cutting.
2) The early colonists found richer and more varied forests, with trees substantially larger than any now found in the area.
3) The dependence of the early colonists upon the forests for timber and fuel resulted in the depletion of seed sources and the disappearance of tree species which could not withstand repeated cutting and burning.
4) There is evidence of an early consciousness of the importance of woodlands, and attempts at a form of tree-farming. These efforts, however, would not spare those trees which could not stand repeated cutting, or which were especially prized for their wood.
5) From early historical documents it seems apparent that neither white pine nor chestnut were conspicuous members of the pre-colonial forests.
6) From pollen data, it seems probable that ash, basswood, and tulip trees were absent from the pre-colonial forests, or if present, were exceedingly rare.

7) The pollen evidence from Martha's Vineyard indicates at least two episodes of major forest disturbance in postglacial time. It is probable that at least one of these episodes may have been due to forest clearance and land occupation by early Indian inhabitants." Pg. 75 & 76. (Ogden 1958)

Colonial Settlement 17th C

Witness Tree Data: Tisbury (36): RO – 50%; WO – 31%; H – 8%; PP – 6%; Edgartown (32): RO – 22%, WO – 44%, PP – 28%, H – 3%. Ave: RO-36%, WO-37%,PP-17%, H-6% (no beech)

"…the woods of this island were full of high timbered Oaks…(and) in the thickest part of these woods, you may see a furlong or more round about…" PO: "At least some portions, if not all, of the Vineyard were covered with a high canopied mature forest when the colonists arrived". "…the pre-colonial forests of Martha's Vineyard did not contain any different trees than are now found on the island, but rather, that the present "better woodlands" now found in only in restricted sites in a small part of the island, were once more widespread". (*Ogden 1961*)

"Thus a relatively scarce native community type—modified somewhat with the addition of several introduced taxa became considerably more widespread because of human disturbance." (Dunwiddie 1990)