

# *Nature Trails*

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## **The Ness of Brodgar, Orkney's Ancient Temple Complex: Using Geochemistry to Unravel its Mysteries**

**Dr. Scott Pike, Associate Professor of Environmental and Earth Science, Willamette University, Salem, Oregon**

**Friday, 20 September 2013, 7:30pm, Room 100 Willamette Hall, UO Campus**

Professor Scott Pike brought his passion for archaeology and geology with him from his native Georgia when he moved west to Oregon in 2005. Shortly after he joined the Environmental and Earth Sciences Department at Willamette University his new intellectual community established an archaeology major. The initial field school for the new major arose largely out of Pike's efforts and connections. It was a collaborative arrangement that included Oberlin College, his alma mater, and the UK's Oxford University.

A field school is a critical part of any viable archaeology program, as we are well aware, having heard several outstanding presentations from individuals connected with the University of Oregon Archaeological Field School. So the collapse of Willamette's field school due to the withdrawal of one of its collaborators caused considerable concern among the affected faculty and students. Almost by chance a wonderful solution arose. Through a mutual connection Pike came to know Nick Card, Senior Projects Manager at the Orkney Research Centre for Archaeology, Orkney, Scotland, and now Director of Excavations at the Ness of Brodgar. Pike was able to get funding for Card to come to Willamette U. to lecture about the ongoing work in Orkney. During his visit, Card suggested that Orkney would be an excellent location for a new field school to augment Willamette's archaeology major. Pike needed no further encouragement. He visited the Ness of Brodgar in 2010 and the following summer showed up with the first contingent of students.

In the new Field School, students spend the summer at the site, learning traditional skills such as note taking, excavation procedures, and post-excavation processing. As well, they gain experience with newer technological methods: magnetometry, ground-penetrating radar, and on-site geochemical analyses using the portable X-ray fluorescence spectrometer purchased under a grant Pike wrote. Willamette University is the only small school west of Iowa with an archaeological field school of this quality, and Pike and participants in Willamette's Archaeology Field School are the only American group collaborating with the Orkney Research Center for Archaeology and the University of the Highlands and Islands in the ongoing work on the Ness of Brodgar.

In case there are ENHS members as ignorant about this find as I was when I started working on Pike's introduction, somehow I have to convey the excitement, the almost giddy excitement, in the worldwide archaeological community about the Ness of Brodgar. "More important than Stonehenge",

"Rivaling the pyramids", "hidden in plain sight" – these are but a few phrases that have appeared recently in descriptions of the Ness of Brodgar. My wife Kris, my sister-in-law Judith, and I visited Orkney in 1997. We saw Skara Brae, Maes Howe tomb, the Ring of Brodgar, the Standing Stones of Stenness, and were mightily impressed. And since it is between the Stones of Stenness and the Ring of Brodgar we must have driven right past the Ness of Brodgar, as had thousands of others, and probably thought it was a nice hill. If you look at the PBS clip (excellent!) that appeared this past January ([http://www.pbs.org/newshour/bb/world/jan-june13/scotland\\_02-20.html](http://www.pbs.org/newshour/bb/world/jan-june13/scotland_02-20.html)) you will learn that Nick Card himself, the same man who now directs its excavation, lives close to the Ness of Brodgar and before its discovery had driven past the site untold times, never suspecting it to be anything but a natural feature of the landscape.

But now, more than a decade after its initial discovery, we know that the Ness of Brodgar dates back at least 5,000 years, making it older than Stonehenge. Its exquisite stonework, in Card's words better than any but the very best modern structures on the islands that make up Orkney, the finely wrought artifacts, the huge outer wall, the evidence of careful planning, together with the firm dates afforded by the organic remains, demonstrate the presence for over 1,000 years of a sophisticated people. It has even been suggested that perhaps the archaeological map of the British Isles should be turned on its head, to reflect the newfound importance of this far-northern site.

Pike grew up in Atlanta, Georgia. He doesn't recall exactly when the archaeology bug bit him but he recalls that from an early age his parents noticed that on outings such as visits to cathedrals in Europe he was always looking down, never up. The rest of the family might be examining the ceiling; he was looking at the crypts. He went to Oberlin College for his B.A., graduating in 1989 with a degree in anthropology. His first archaeological experience was between his junior and senior years at Oberlin, at a Bronze Age site called Tel Dan, near the headwaters of the Jordan River in Israel.

Returning to Georgia for his graduate study, Pike spent two years doing class work at the University of Georgia, focusing on archaeological geology. He won a Fulbright Scholarship to study in Greece. He did his Ph.D. dissertation research in the Wiener Laboratory, part of the American School of Classical Studies at Athens. The lab was built to support classical archaeology using scientific methodology. After his second year there the lab director resigned

and the School asked Pike to be Acting Director during a search for another permanent director. When after a year that search failed they asked him to serve a second year. In all he was in Greece for four years. He returned to Georgia and took on two teaching positions while he worked on his thesis, first at Oxford College of Emory University and then at La Grange College. After finishing his thesis in 2000 he took a position in the Environmental Science Department at Lynchburg College, in Virginia. He came to Willamette University in 2005.

Now an Associate Professor at Willamette, Pike's hard work has resulted in some extraordinary learning experiences for those undergraduates who

have taken advantage of the Archaeology Field School. To focus only on the subject of his presentation to ENHS, the Ness of Brodgar, Pike has seized opportunities as they presented themselves, propelling himself, his students, and the University into a position of prominence in the ongoing investigation of this unique archaeological treasure. His presentation to ENHS, entitled "The Ness of Brodgar, Orkney's Ancient Temple Complex: Using Geochemistry to Unravel its Mysteries," should not be missed. Join us on Friday, 20 September at 7:30 pm in room 100, Willamette Hall on the U of O campus, and learn the latest about this wonderful discovery. John Carter

## Out and About

*"Out & about" is a periodical encouragement to Eugene Natural History Society members to get out and experience our magnificent Oregon. Photos and descriptions provided by David Stone.*



The mosquitoes are gone and so are the crowds, so it's time to head for Waldo Country. If you've never seen Waldo Lake from above, make the short, moderately steep climb up Fuji Mountain for a spectacular view of the entire lake and the surrounding Waldo Country.

To reach the trailhead, take Highway 58 fifteen miles past Oakridge to milepost 50, turn left onto Eagle Creek Rd (FS Rd 5833) and go 11.5 miles to the trailhead. On the way, check out this little un-named lake at the intersection of FS Rds 5833 and 381 and enjoy the flaming red huckleberry leaves along the far shore.

## President's Corner

### Snapshots of Summer by Tom A. Titus

Summer kicked off in late spring when a dozen like-minded Eugene Natural History Society folks trekked to Hancock Station and the John Day Fossil Beds National Monument for a long weekend of exploration in north-central Oregon. Having never been there, I let my imagination run wild. I envisioned hiking in rimrock canyons exuding fossil brontotheres, camels, and small Miocene horses.

What ran wild was my paleontological naïveté. I couldn't have anticipated the stark beauty of Blue Basin, a deeply eroded 29-million-year-old deposit of aquamarine tuff with the character of a huge layer cake covered with turquoise icing and left out in a rainstorm. Even in this dry place, water has cut a network of channels converging into draws still wet with blue-green mud. We hiked the 3-mile trail around the perimeter and then covered the shorter out-and-back route where the bones of a turtle were embedded in the side of the draw. But this "fossil" turned out to be a plastic replica covered with a protective plexiglas case. Inside I felt a small sigh of disappointment that was quickly replaced by reason; real fossils would have been looted decades ago.

The hike is spectacular, but fossil viewing is best done at the Thomas Condon Paleontology Center. The center is beautifully organized, with fossil plants and animals arranged in ancient ecosystems, all detailed with interpretive plaques. I made an unusual decision; rather than try to cover the entire center I took my journal and my time and made notes on each display. This way I thought perhaps I might remember at least one or two things. This was incorrect, but at least I had notes to which I could return at my leisure.

Early Sunday morning I ran the trails surrounding Hancock Station, climbing through sagebrush and juniper draws still shaded from morning sun, then breaking onto a bright ridge top with a spectacular overlook of the station and valley beyond. At lunchtime (all of the food was excellent) I learned from my compatriots that I had jogged past my opportunity to see a bona fide wild fossil. The Hancock Tree is a petrified trunk embedded upright in 40-million-year-old rock immediately next to the canyon trail I had run.

I was compelled to find this tree. After dinner, when the sun was slanting its perfect light across bunchgrass and juniper hills, I walked alone back into

the narrow rocky throat of the draw. The upright trunk stands slightly above the trail, complete with roots pushing down into brown rock. Trying to wander back to the middle Eocene, I imagined light flickering through leaves of a hardwood forest, then placed my ear to the trunk, listening for something of a tree pulse, perhaps the creeping scritch of ancient water drawn through xylem. But there was only Now; the swish of a down-canyon breeze against the opposite ear and on my cheek the leftover warmth of a sunny afternoon just passed into the long history of this country. The Hancock Tree is a rock.

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A week after our return from John Day my first grandchild, Edmond Nathaniel, was born. Surely there is a natural history of grandparenting. The biology of people making other people who make other people is a complex mishmash of molecules and cells and organs and organisms and tribes knit together by eons of evolution. Sociologists and psychologists and biologists have detailed nearly every connection imaginable to our children and their children. The evolutionary imperative to push our genes into the next generation has produced maternal and paternal instincts that extend to our grandchildren by way of genetics. The math is simple: my kids each received 50% of my genes and Edmond got half of those, or about 25% of the DNA that resides in my cells. Sociobiologists tell us that this extended genetic relationship is the evolutionary basis of kin selection, the idea that we will work to move our genes and the people who carry them into subsequent generations.

But there are many paths to knowing, and I confess that this purely rational view of grandparenting is a little lost on me. I cannot describe the feeling of seeing Edmond for the first time. His hair and old soul face were as white and round as the moon that waxed and rose in the week following his birth. I wanted to carry him against my chest into an old fir forest, where his eyes could practice catching shafts of sun piercing the high canopy, where his tiny inhalations would pull the living smell of decaying wood into that newborn nose. Later, I would take him huckleberry picking on a crystalline September day, stopping at that small creek running through the ancient forest above the road to fish the shadowy pools for small dark trout hungry for a little kid's bait. If any of this conforms to the hard statistical edge of genetics, then so be it.

In August he and his parents moved to New York.

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I wasn't intending to stay long, only a quick stop at Martha and Jerry's to drop off a sack of surplus pears. But my friends spun kind words and funny stories between sips of wine, and this seemed so good, even perfect, that by the time I drove away the canyons were filled with darkness and unseasonably cool air, and the ridges above me ran ragged with conifers silhouetted by the same waxing three-quarter moon that two months ago had accompanied my grandson's entry into light. Despite the hour, I drove slowly because being home just meant being in bed, then being asleep, then another Monday morning.

The back road into town rose into darkness on my left, and in a matter of seconds I considered the moon

and Monday morning and the silly ten minutes the freeway would save. At the last instant I turned hard on the wheel. With empty black asphalt twisting outward beyond the yellow wash of headlights, I formed a very clear and conscious thought.

*I really want to see a rubber boa.*

Four miles later the snake met me at the edge of the pavement. Her tiny olive scales glistened in the headlights, her tongue flickered against my eyelashes, and I pressed her cool smooth coils against the warmth of my face. Escorting her to the opposite side of the road, she slid from between my fingers, back into darkness, free to continue doing whatever rubber boas do on a cool Sunday night.



## Book Review

*Wildflowers of the Coast*, by John G. Fitch. 2013. Lucretius Press, Victoria BC, Canada. (Available from amazon.com for \$8.99).

The Eugene Natural History Society was offered a copy of John Fitch's book of poems for review in anticipation that members of our society would be receptive readers. This assessment is good because Fitch writes especially for those who already know and love the plants he treats. And good because our society has embraced writers and thinkers who are not strictly natural scientists but also poets and philosophers who embrace natural history.

There are 70 poems in this volume, each treating a familiar flowering plant of the Pacific Northwest. Each one has as its essence a description of a beloved plant in language both botanically correct and felicitous. Fitch describes the plants carefully and closely, admiring the way the stamens are arranged, how petals are curved, and how they fit into their

particular environment. I am pleased how graceful are his instructional passages. As a former professor of Latin and Greek, he weaves telling stories about the meaning of the scientific names. Many poems have dark moments, however, as Fitch laments environmental degradation and the overpowering of the first peoples by European invaders. These add a depth to the volume beyond simple flower appreciation.

To call them poems struck me as odd at first. They read simply like well-crafted essays. My take is that only line breaks in the sentences, so phrases are short and arranged in columns less than the width of the page, makes them at least look like poems. I much prefer the label on the cover of the book, "Word Portraits." I mention this since there are some who disdain poetry because of the common prejudice that poetry is tortured language, hard to understand. These word portraits are absolutely accessible, not just easy to read but enjoyable to read. The only awkward moments in them come because rather arcane botanical terms are woven into the text. I doubt any

other book of poems contains the word  
*cleistogamous*:

Yellow Wood Violet, *Viola glabellas*

They struggle up from the dampness  
and debris of the forest floor.  
Their delicate heart-shaped leaves,  
'smooth' and pointed, stretch  
to catch the filtered light.  
(Distinguish the Evergreen Violet,  
with rounded, leathery leaves.)  
Yet despite the gloom of their home  
the yellow flowers are bright  
like cheerful, open faces,  
with the penciled lines on their petals  
like the crowsfeet of a smile.  
These lines guide insects in  
to pollinate the flowers  
while fumbling to find the nectar.  
But since this method is chancy

in flowers so close to the ground,  
violets develop a second  
series of 'flowers', without petals,  
without scent, that never open,  
but fertilize themselves  
(*cleistogamous*, 'breeding shut-in')  
to produce the life-bearing seed.

The book is decorated with some 20 pen-and-ink  
drawings by Bonnie Moro. Alas, I do not appreciate  
them as I do the poems. They fail to do as claimed, to  
"illustrate in detail the structure of the plants and  
flowers." I find most of them fairly crude, lacking the  
accuracy I expect of experienced botanical  
illustrators and the elegance I want from an artist  
using plants as subjects.

*Wildflowers of the Coast* is pleasant, light reading  
for nature lovers ready for new ways to appreciate  
our flora. I have enjoyed reading it and am certain  
many others will, too. David Wagner

## Events of Interest in the Community

### Lane County Audubon Society

You can access the current issue of *The Quail*, LCAS's excellent monthly newsletter, from their website:  
<http://www.laneaudubon.org/>. A summary of their upcoming monthly meeting can be found there, as well as many other  
interesting avian tidbits.

**Tuesday, 24 September, 7:30 pm. Birding I-5: San Francisco to Seattle with Harry Fuller.** Eugene Garden Club, 1655  
High Street, Eugene.

### Mount Pisgah Arboretum

34901 Frank Parrish Rd., Eugene, 97405. Call Peg Douthit-Jackson at 541-747-1504, email [mtpisgjp@efn.org](mailto:mtpisgjp@efn.org), or look at  
<http://mountpisgaharboretum.org/> to find out about current Arboretum activities.

**Sunday, 15 September, 8-10:30 am, Fall Bird Walk.** Led by Chris Roth and Mary Johnson. Meet at the Arboretum Visitor  
Center. \$5, Members Free.

**Tuesday, 24 September, 10 am-noon, Fall Fruits and Foliage Walk.** Led by Botanist Gail Baker. Meet at the Arboretum  
Visitor Center. \$5, Members Free.

**Sunday, 27 October, 10 am-5 pm, Mushroom Festival.** It's not too early to put this important event on your calendar. Come  
visit the ENHS booth when you're there.

### Friends of Buford Park and Mt. Pisgah

**Saturday, 21 September, 9 am – noon, Public Tour: Oak Woodland Ecology.** Led by Bart Johnson, Landscape Architect,  
and Aryana Ferguson, Ecologist. Registration is required. For more information and to register, visit [www.bufordpark.org/tours](http://www.bufordpark.org/tours)  
or call Lyn Gilman-Garrick at 541-344-8350.

### Nearby Nature

Go to <http://www.nearbynature.org/events> to view NN's calendar, or call 541-687-9699.

### Native Plant Society of Oregon, Emerald Chapter

**Monday, 16 September, 7:30 pm. Meeting/Talk: Landscaping Nature's Way.** Whitey Lueck will guide us in thinking about  
our garden and urban landscape. Most conventional landscapes, both residential as well as commercial, set themselves apart  
from the region's natural landscape, rather than making them a part of that landscape. Learn how and why we got to this point,  
and what we can do--in addition to planting regionally native plants--to make our cultivated landscapes more nature-friendly,  
as well as easier to care for. Location: EWEB Training Room, 500 E 4th Ave., Eugene. For more information call 541-349-  
9999.

# The University of Oregon's Museum of Natural and Cultural History

Exhibit Hours: Wednesday through Sunday, 11:00 am - 5:00 pm

## Current Exhibits

Cruisin' the fossil freeway with artist Ray Troll and paleontologist Kirk Johnson  
Site Seeing: Snapshots of Historical Archaeology in Oregon  
Oregon - Where Past is Present

## WREN

Go to <http://www.wewetlands.org/> for news of upcoming events, or call 541 338 7047.

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We welcome new members! To join ENHS, fill out the form below. Membership payments allow us to give modest honoraria to our speakers, as well as to pay for the publication and mailing of *Nature Trails*. Our web address: <http://biology.uoregon.edu/enhs>

## MEMBERSHIP FORM

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I (we) prefer electronic copies of NT rather than paper copies. \_\_\_ Yes \_\_\_ No

If yes, email address (if different from the one above): \_\_\_\_\_

ANNUAL DUES: Contributing 20.00  
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P.O. Box 5494, Eugene OR 97405

**Annual dues for renewing members are payable in September. Memberships run from September to September. Generosity is encouraged and appreciated.**

The following information is voluntary, but appreciated:

Would you like to: \_\_\_ lead field trips \_\_\_ teach informal classes \_\_\_ work on committees?

What would you like to hear a talk on? \_\_\_\_\_

Do you have special experience in natural history: \_\_\_\_\_

INTERESTS:

## ENHS Schedule of Speakers and Topics for 2013

- |  |   |
|--|---|
| <b>20 Sept. 2013</b> – Scott Pike      | – The Ness of Brodgar, Orkney's Ancient Temple Complex: Using Geochemistry to Unravel its Mysteries |
| <b>18 Oct. 2013</b> – Robin Kimmerer   | – Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants          |
| <b>15 Nov. 2013</b> – Ray Rivera       | – Native Salmonid Fishes of the McKenzie River.   |
| <b>13 Dec. 2013</b> – Daniel Robey     | – Caspian Tern Predation in the lower Columbia River Basin  |
| <b>17 Jan. 2014</b> – Bob Doppelt      | – Climate Change  |
| <b>21 Feb. 2014</b> – Kristine Kirkeby | – Conveying Nature in Personal Sketchbooks  |
| <b>21 Mar. 2014</b> – Robert Fleming   | – From the Impenetrable Forest to the Namib Desert: Biodiversity in sub-Saharan Africa              |
| <b>18 Apr. 2014</b> – Richard Pugh     | – Meteorites Rock From The Sky  |
| <b>16 May 2014</b> – Robin Hartman     | – Energy from Waves: A Consideration of the Issues  |

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Incised artifact found in the Ness of Brodgar.



View from the air of the dig at the Ness of Brodgar. The truck at left top gives a sense of scale.