2010

Three Decades in the Cold and Wet: A Career in Northern Archaeology

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Published in *Archaeologia Islandica* 8 (2010), pp. 40–50.

Three Decades in the Cold and Wet: A Career in Northern Archaeology

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Abstract
Thomas H. McGovern has been a pioneering researcher in the North Atlantic region for most of the past 40 years. He has taken his specialty in zooarchaeology beyond counting bones to actually addressing questions about human environment interactions and human response to extreme environmental events. A prolific writer and researcher with a multitude of publications and an impressive funding record, McGovern has always been a proponent of multidisciplinarity and international collaboration. His vision resulted in the creation of the North Atlantic Biocultural Organization (NABO) that currently has more than 400 scientific partners and has been leading projects throughout the Circum Atlantic for over 25 years. The interconnectivity of regions and global events has always been the key to his research, and as of last year, with support from the National Science Foundation Office of Polar Programs, it resulted in the creation of the Global Human Ecodynamics Alliance (GHEA) that is now taking interdisciplinarity and international collaboration to a global perspective.

Keywords: Thomas McGovern, zooarchaeology, environment, NABO, Mývatn

Tom McGovern and the North Atlantic

This is precisely the sort of paper that will profoundly annoy Tom McGovern, who has repeatedly adopted a Tolstoyan view of the historical process that looks at self-identified leaders often "lost in the wonder of their own glory" with a very jaundiced eye. He has taught several generations of students like ourselves that archaeology is very much a team sport, and that recognition needs to be fully shared along with the abundant hard work that makes modern international interdisciplinary collaboration possible. However, anniversaries and retrospectives are moments to recognize both teams and coaches, and perhaps it is appropriate to now both honor and annoy McGovern while also focusing on the

collective achievements of North Atlantic Archaeology and Paleoecology over the past three decades.

McGovern earned his BA at Columbia College in 1972 with a joint degree in Anthropology and Oriental Studies. He went on to graduate school at Columbia University, studying under Ralph and Rose Solecki, Shirley Gorenstein, and Bob Stigler, with early fieldwork in North American sites ranging from late Pleistocene to historic. He got his MA in 1973 from Columbia and an MPhil in 1975. He originally intended to do Paleolithic archaeology in SW Asia and worked with Andre Leroi-Gourhan and the Soleckis on Middle and Upper Paleolithic sites in France. He specialized in lithic analysis and learned Farsi with hopes of joining projects in Iran. Geopolitics and an inspiring course in zooarchaeology taught by Dexter Perkins and Pat Daley combined to divert him to work in Britain and on animal bones. He participated in the major urban excavations at Winchester and York in the early 1970s, and at York worked in James Rackham's cutting-edge zooarchaeology lab. Influenced by Ralph Solecki's stories of arctic archaeology and a growing interest in both animal bones and the Middle Ages, and with the kind help of Ulrik and Jeppe Møhl, Knud Rosenlund, and Tove Hatting at the University Zoological Museum in Copenhagen, he began work on animal bone collections from Norse Greenland excavated by C. L. Vebaek in the 1940–60s. With help from Jørgen Meldgaard and Jens Rosing and doctoral support from the American Scandinavian Society Marshall Fund and the US National Science Foundation, he was able to join the Danish-Greenlandic Inuit-Norse Project of 1976–77 and participate in the excavations of new stratified animal bone collections from the Western Settle-ment. Together with the Vebaek materials, these new collections provided the basis for his doctoral thesis titled "The Paleoeconomy of Norse Greenland: Adaptation and Extinction in a Closely Bounded Ecosystem" (Columbia 1979). In 1977–80 he worked with fellow Columbia student Gerry Bigelow on Gerry's doctoral project at the medieval fishing farm at Sandwick South on Unst in Shetland. In 1981, 1982, and 1984 he was again working in Greenland's Western Settlement, in 1984 leading the Sandnes Archaeological Rescue Project with Claus Andreasen and Jette Arneborg with support from US NSF, Denmark, and Greenland. In 1995 Tom also worked with Sophia Perdikaris, Christian Keller, Paul Buckland, Ian Simpson, and Reidar Bertelsen on Sophia's doctoral project in arctic Norway. Since 2008 McGovern has also participated in CUNY fieldwork led by Perdikaris in Barbuda in the West Indies, returning to the prehistoric New World and the stone age as well as working on 18th–19th century sites with two of the current authors.

While McGovern has done fieldwork in a range of periods and places, most of his field time has been spent in Iceland, beginning with collaborations on the major Stóraborg excavations in the early 1980s and continuing to the present. In the late 1980s he directed collaborative projects in the West Fjords (Finnbogastaðir, Akurvík, Gjögur) and in the Northeast (Svalbarð), research which has been since taken further by his former doctoral students Dr. Ragnar Edvardsson (Icelandic State Heritage Agency) and Dr. Jim Woollett (University of Laval). Since 1997 he has worked closely with Icelandic and international teams working in Mývatnssveit and Þingeyjarsveit in the long-term "Landscapes of Settlement" project that has brought over a decade of sustained regional scale interdisciplinary effort to bear on what has proven to be an exceptionally productive research area (some of whose results will be mentioned further along). Since 1996 he has participated in a joint

field school with the Archaeological Institute Iceland, the University of Oslo, CUNY, and the University of Aberdeen that began at Hofstaðir in Mývatn and has since shifted to Vatnsfjord in the West Fjords. In 2007–10 McGovern served as principle investigator of the NABO International Polar Year program funded by US, Canadian, and Danish sources that conducted coordinated field projects in Shetland, Faroe islands, Iceland, and Greenland for three summers of intensive collaboration on a multi-island scale (reports available at www.nabohome.org).

McGovern has taught at Hunter College of the City University of New York since 1979 and has been a full professor since 1987. Since 1979 he has also run the very productive zooarchaeology laboratory at Hunter, an International Council for Archaeozoology (ICAZ) recognized center that since 1999 has collaborated closely with the Brooklyn CUNY Zooarchaeology Laboratory directed by Perdikaris. Since 1993 he has served as coordinator for the archaeology program at the CUNY Doctoral Program in Anthropology. He has been married to Anne Osborne (now chair of the History Department of Rider University) since 1978, and both his children Dan and Eliza have participated in Icelandic and Barbudan archaeology projects (and Dan has also dug in Shetland and Greenland).

The NABO Cooperative

While McGovern has directed or assisted multiple field projects and laboratory analyses in the past three decades, his major contribution to North Atlantic scholarship and education has been in the creation and promotion of the international, interdisciplinary research cooperative NABO (North Atlantic Biocultural Organization, www.nabohome.org). This regional research cooperative was formally set up at an NSF-supported workshop in 1992 at Hunter College, but the idea was first fielded at a meeting at Bowdoin College in 1988 hosted by Gerry Bigelow and Susan Kaplan of the Peary-Macmillan Arctic Center (Bigelow 1991). "NABO" of course means "neighbor" in several Scandinavian languages, and the underlying idea behind the group has always been neighborly cooperation and pooling of resources to allow us to collectively accomplish ambitious large-scale and long-term projects beyond the capability of any single scholar, research team, or national research effort. Since 1993 NABO has supported field projects in Greenland, Northern Norway, the Faroe Islands, the Shetland Islands, Orkney, mainland Scotland, Barbuda/Antigua, and Iceland with personnel, expertise, and financial contributions. NABO has worked to pool resources and rationalize logistics, with multiple joint-purchase four-wheel-drive vehicles still on the road (Land Rovers a favorite) and substantial stocks of joint-use field gear stockpiled for multiple project use on several islands. NABO has facilitated purchase and sharing of expensive kit among field projects (resistivity meters, mapping GPS, flotation systems, cameras) as well as the consumable bags, tags, and cans of SPAM that keep projects running in the field.

Besides such practical logistical collaborations NABO has also worked to promote comparability in basic collection, analysis, and reporting of our data sets. Given the diverse national and disciplinary traditions represented by North Atlantic scholarship, achieving such basic comparability is no small task, and NABO working groups struggled to produce the NABONE zooarchaeology recording and data management structure and associated

digital osteology manuals. The resulting NABONE 9.0 and FISHBONE 1.1 digital products are available as free downloads from the NABO website and full CD teaching packages with additional materials and sample data sets have been mailed gratis to 379 addresses worldwide. NABO works as an ICAZ working group (http://www.alexandriaarchive.org/icaz/worknabo.htm) and is now collaborating with the Icelandic Natural History Institute and the EU STERNA program in producing a comparable bird osteology digital product (http://www.sterna-net.eu/). The multiyear NABO international field school and the many interconnected field projects across the region that regularly swap students and staff have promoted the adoption and spread of a basic set of excavation and recording standards largely derived from the Archaeological Institute Iceland field manual (heavily modified from a Museum of the City of London model, Lucas 2003). At present the region is fortunate to have a large body of comparably trained active younger workers all now treating common standards and comparable methods as a part of normal research rather than a "desirable but impossible" goal, and NABO has played a significant role in this accomplishment. NABO has held 22 workshops and conferences since 1992 that have facilitated professional networking as well as comparability and produced several major conference publications (Bigelow 1991, Morris & Rackham 1992, Ogilvie & Jónsson 2001, Housley & Coles 2004, Grønnow et al. 2005) and NABO monographs (Lucas 2009, Morris et al. 1995, Dockrill et al. 2007). Nearly a hundred MA, MSc, and PhD theses have been aided by the NABO cooperative, and McGovern has served on doctoral committees for several dozen current PhDs, including ours.

Zooarchaeology is McGovern's specialty, and zooarchaeology has clearly made its own powerful contribution to Icelandic and North Atlantic archaeology in the past three decades (McGovern et al. 2006; Perdikaris and McGovern; McGovern 1980; McGovern, Perdikaris, and Tinsley 2001; Krivogorskaya, Perdikaris, and McGovern; McGovern et al. 1988; Amorosi et al. 1996; McGovern 1981). Perhaps ironically, the greatest achievement of the NABO zooarchaeological effort in the North Atlantic may have been to fully submerge zooarchaeology into the broader goals of large multidisciplinary teams involving historians, archaeobotanists, geoarchaeologists, geographers, ethnographers, modelers, and data management experts as well as "normal" archaeologists. By conducting multiyear multi-investigator projects with a sustained focus on change through time in a common research area (Carole Crumley's "Longitudinal Strategy" 1994), NABO teams have regularly achieved fully interdisciplinary interactive collaboration on common large-scale research problems rather than the more common multidisciplinary parallel-play collaboration that tends to produce monographs with noninteracting chapters, scattered results, and no common focus. Tom McGovern's vision has been at the center of this effort. Through sheer force of good will, boundless energy, and an unwillingness to work alone, Tom has helped create long-term collaborative networks that cross-cut not only nationality (it is comparatively easy to get archaeologists or palynologists to see common ground whatever their native language) but also the more difficult disciplinary barriers (especially between the hard sciences and humanities). Like all good research, this approach has often produced more questions than answers. Rather than being finite and deterministic about research results, members of this initiative are open to discussion and critical questioning of results, and are aware of the limitations and the potentials of their data. This flexibility allows for

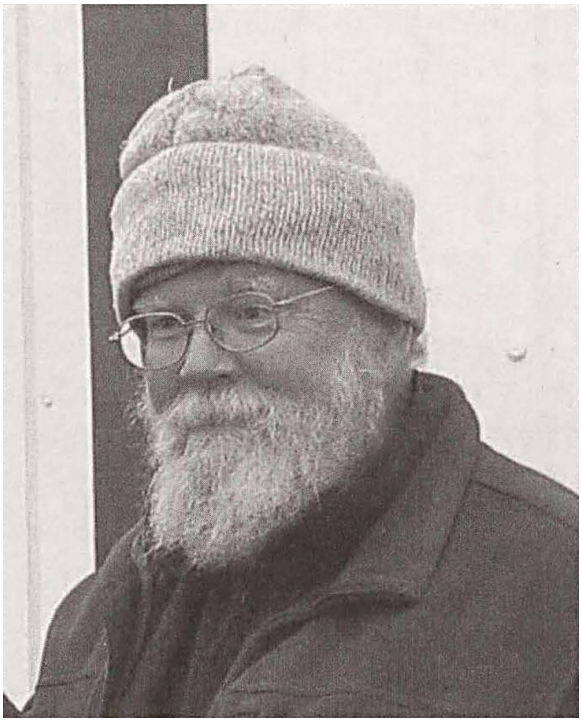
revisiting issues, sites, problems, data, analysis; questioning results; and driving the research toward improved interpretations. Probably the most obvious sign of this reflexively interdisciplinary and collaborative approach is that NABO papers and articles almost never have only one author. They are always written by the full team that produced the data, invariably including graduate students and junior scholars in lead positions. Possibly the best example of this in print is a recent *American Anthropologist* NABO article in a solicited group of papers on the archaeology of global change, which had an author list of 18 scholars (McGovern et al. 2007). This article went on to win the American Anthropological Association's prestigious Gordon R. Willey Award in 2010 for best interdisciplinary archaeological publication in the past three years.

Human Ecodynamics in Mývatnssveit: Some Surprises

Sustained longitudinal projects and dedication to long-term regional analysis that can produce full cross-disciplinary interaction have become a characteristic NABO approach in many islands and regions, but nowhere has this approach been more sustained than in Mývatnssveit in North Iceland. Here a series of interconnected projects have provided some surprising new perspectives on long-term human-environment interactions, or "human ecodynamics," many of which contradict or modify the picture we provided Jared Diamond when he was doing his research for *Collapse* nearly a decade ago. This earlier view saw humans in Iceland as destructive agents of widespread environmental change (especially deforestation and soil erosion) who introduced a farming economy and an associated set of cultural expectations formed in less-vulnerable ecosystems in Norway or Britain that had unexpectedly adverse impacts in Iceland. Early Icelandic settlers were perceived as poor resource managers who regularly drew down the natural capital of soils, vegetation, and wild animals accumulated prior to human settlement and thus left their descendants with an impoverished landscape vulnerable to subsequent climate change, volcanic eruption, and early globalization impacts.

Multiple site excavations and geoarchaeology trenches tied together with the isochrones provided by volcanic tephra (backed by a large series of AMS radiocarbon and a growing number of datable artifacts) built up over multiple field seasons now provide some challenges to this view of human ecodynamics in Iceland. In the Mývatn region, the early settlement period sites datable to ca. 875–940 analyzed to date do reflect what we now recognize as a standard "Landnám package" of cattle, sheep, goats, pigs, and horses. Zooarchaeological analysis has made plain that this package of animals was altered a number of times, most likely in response to both climatic pressures but also to political and market pressures. Archaeofauna from the Mývatn sites show that the initial Landnám faunal profile changed during the 11th century as pigs and goats become increasingly rare, eventually effectively disappearing from the Icelandic archaeofaunal record by the mid 12th century. The medieval Grágás law code makes clear that pigs and goats needed control precisely to manage adverse environmental impacts (Dennis et al. 2000) and that the zooarchaeological shifts in species frequency are the result of rational assessment of cost and benefits that were enforced on the community scale. These changes in husbandry strategies suggest that the Icelandic farmers were not all conservative "prisoners of culture"

incapable of responding to changing conditions around them or that they were incapable of using animals to create a landscape of their liking. The goats and pigs (who are such effective deforesting agents worldwide and provide an excellent way to convert initially over-abundant woodland into human food) had done their job by the later 12th century. Forests had shrunk, or to put it another way, pastures had increased to the point where their services were no longer needed. Palynological data collected by Ian Lawson and Katy Roucoux (Leeds) and work on widespread charcoal pits by Mike Church (Durham) suggest a complex pattern of deforestation and multiple woodland use for the region that also appears to reflect a long-term nuanced management strategy not easily reconciled with the early view of ecocidal Viking Age settlers (Church et al. 2007, Lawson et al. 2009).



Thomas McGovern; photograph taken in 2010

Mývatn is today world famous for its huge migratory waterfowl population, migrating from both Eurasia and North America. Documentary records extending to the mid 19th century indicate this natural resource has been sustainably managed to produce tens of thousands of eggs annually for human consumption without endangering the waterfowl population. Farmers carefully collected only a few eggs per nest and did not normally kill adult birds. Excavations in Mývatnssveit have repeatedly uncovered sheets of bird eggshell in midden contexts datable from first settlement down to the 18th century, and SEM analysis has revealed that most are indeed duck eggs. At the same time, there are few bird bones in the archaeofauna, and these are nearly all ptarmigan (grouse), not waterfowl. It

would appear that sustainable management on the community level has been effective in Mývatn for more than 1200 years.

Marine Resource Networks and the Origins of the Codfish Trade

The same archaeological sites from the Mývatn region have revealed a surprising amount of specimens of marine species, given their location 50–70 km from the sea. While seal bones, porpoise, eggs of marine bird species, and marine mussel shells (that were most likely transported attached to seaweed) have been found at sites in the Mývatn region, the most common marine resources found are cod-family (Gadidae) fish. Local trout and charr (Salmonids) from Lake Mývatn and the surrounding rivers make up the majority of identified fish specimens at all the sites, but surprisingly the marine fish bones regularly make up 15–20% of the fish remains from these deep inland sites datable to the 9th to 19th centuries. Analysis of the skeletal element distribution reveals that the marine fish in earliest times soon after the 871 Landnám tephra fall entered Mývatnssveit as headless flat or round dried prepared fish similar to the better known stockfish traded worldwide by late medieval times. This Viking Age distribution of marine resources in inland sites in Iceland is best dated in the Mývatn region, but there are other inland sites outside of the Mývatn region in Iceland where marine resources have been recovered (McGovern et al 2006). Despite a well-developed Viking Age farming economy and locally available freshwater fish and wild birds inland, farmers in Iceland felt the need to provision their households with dried fish products, and these were indeed widely available. This at a time when research has demonstrated that marine fish products in Anglo Saxon England or Frankia are exceedingly rare more than a few kilometers from the coast (Barrett 2004). The clear and well-dated evidence for this well-organized system in Iceland well prior to what has been called the "Fish Event Horizon" of ca. 950–1050 in Europe has made clear the ultimate Nordic origins of the stockfish trade and one of the commercial engines of the later North Atlantic (Perdikaris & McGovern 2008). While we do not know exactly how these early trade networks functioned, they do suggest that from Iceland's earliest history neither the single farm nor even the local district (*hreppur*) were the basic unit of economic survival. The possibility of large trade networks connecting wide areas of Iceland run by entrepreneurially minded farmers or chiefs is just one result of this zooarchaeological record that requires further collaborative investigation.

Zooarchaeology and pre-Christian ritual activity in Mývatnssveit

Zooarchaeology has also helped reveal some unexpected aspects of pagan ritual activity as well as wider Viking Age economy in North Iceland. The archaeofauna from the large hall of Hofstaðir in Mývatn largely represents economic activities as we now know them at a normal farm from the Viking Age in northern Iceland (McGovern et al. in Lucas 2009). Yet a number of finds found around and within the hall are very different from other Icelandic archaeofauna. At least 23 cattle skulls show evidence of having been hung up and displayed on the outside walls. There is distinct weathering on the frontal side of the skulls, but not the back. The weathering also indicates that these skulls were displayed on the

outer walls for years after any soft tissue had disappeared. Depressed fractures caused by a powerful and fatal blow between the eyes appear on these skulls. Where the base of the skull is preserved evidence of equally forceful decapitating blows appears as well, suggesting a ritualistic killing intended to produce a spectacularly theatrical spray of blood as well as a demonstration of weapons skills. The horn cores of these animals were not removed for craft working, which was the opposite of the norm. The size profiles of these animals also suggest that they were mostly bulls, young adults in the "prime beef" stage of development, which would be exceedingly rare in the dairying economy of the region and a strong contrast to the normal consumption of either surplus calves or worn-out milking cows. The seasonal indicators suggest that the animals were slaughtered in the spring, around the time of the equinox in late June. All these peculiar attributes together suggest a pattern of ritual feasting and sacrificial activity (Lucas and McGovern 2008).

Beyond NABO and the North Atlantic

Together, North Atlantic scholars have come very far from the days of the early 1970s when international or cross-disciplinary collaboration was an exception, single sites were the limit of most investigations, and the region as a whole was regarded as an "unproductive backwater," in the memorable words of one grant reviewer. In the past two decades, the North Atlantic has taken its proper place in world archaeology, and NABO collaborative projects have brought over US$15 million in highly competitive grants into our now productive and exemplary region. International, interdisciplinary collaboration; comparability in data collection and reporting; active young researchers; and a string of successful long-term projects productive for multiple disciplines and combining cutting-edge research, education, and public outreach have been seen as worth funding by multiple agencies in many nations. The results of such sustained large-scale funding and sustained intense collaboration have been transformative. At present, the North Atlantic and the NABO cooperative are increasingly seen as leaders in interdisciplinary research into the complex interactions of humans with landscape and seascape, climate change, and each other.

This new status is reflected not only in our notable inclusion in the best-selling environmental popularization *Collapse* by Jared Diamond (2005) and a string of North American and European media programs but also in the selection of NABO by the NSF Office of Polar Programs to organize a set of meetings intended to take the North Atlantic experience global. An NSF grant to McGovern, Perdikaris, Dugmore, and Ogilvie allowed an international workshop at Eagle Hill, Maine, in October 2009 that was hugely successful in connecting teams similar to NABO from Arizona to Antigua to the Atacama Desert and creating the groundwork for a still more widespread scientific network that produced the beginnings of a new Global Human Ecodynamics Alliance (www.gheahome.org). GHEA aims to connect regional cooperatives and pool ideas and resources on a wide scale that will allow the long-term record of human interactions with the environment to inform the present and strive to a better collective future. We hope that many North Atlantic scholars will want to go global with GHEA and share their expertise more widely. If Tom McGovern will be predictably impatient with personal encomiums, we know he will approve the

collective credit that this global-scale recognition of North Atlantic scholarship does the whole broad team of collaborators.

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