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Nanaimo area backward from three to nine years (1863–1871), and provided him with a child and a wife (in that order). However, we have still been unable to find any more about him after 1871. According to Nicholas d'Ombrain's research, there is only one Dombrain anywhere in the US census, so migration to the south, as suggested in the earlier article, seems less likely.

So…we await further developments, and of course, as always, readers' suggestions for other avenues of research. ◊

Aboriginal burials on Gabriola Island—*by Dr. Brian Chisholm*

Simon Fraser University Press has recently published, in a slightly revised form, the work that went into A. Joanne Curtin's PhD dissertation at Ohio State University.[4] The publication is in the form of a monograph, which remains organized in the style of a dissertation rather than a narrative, which lessens its appeal to the non-specialist reader. Nevertheless, the research she describes will be of general interest to those living on Gabriola and in the Nanaimo area, including of course the Snunéymux[w] themselves.

The monograph deals with the analysis of Aboriginal burials from rock shelters and caves on Gabriola Island, and a comparison is made between these burials and burials in the midden at False Narrows.

Curtin had three hypotheses that she wished to examine, specifically, that the two burial populations—the ones in the caves and the ones in the midden—represent either:

- two different peoples
- different times in the history of one people; or
- different social groups within one people.

Curtin introduces her work by discussing the topic of mortuary analysis, beginning with a brief summary of the development of the subject, followed by observations on its application on the Northwest Coast and on Gabriola Island. She then goes on to describe the geography, geology, and biology of the Gulf Islands, covering the time from the late Pleistocene to the present. She also provides an ethnographic overview of the study region, and a regional culture history for the Gulf of Georgia that relies on generally accepted chronologies and classifications. Last is a summary of the prehistory of the Nanaimo area, including Gabriola Island.

By the end of the first two relatively short chapters, a total of sixteen pages, the problem, its theoretical background and the context and prehistory of the study area have been summarized. While somewhat condensed, this provides the reader with the necessary background information to situate the analysis that follows.

Chapter 3 presents a description of the methods used by Curtin to address her hypotheses. It outlines the reconnaissance methods for the Gabriola Island sites, including definitions of the recorded data types. A description of the excavation and data collection methods for human remains follows, with appropriate definitions provided here also. The author describes how she reconstructed and conjoined the various bone fragments and elements found, and how she collected data from the reconstructed parts. A section on comparisons of the Gabriola Island burials

[4] Curtin, A. Joanne, *Prehistoric mortuary variability on Gabriola Island, British Columbia*. Archaeology Press, Simon Fraser University, Burnaby, BC.

that she recovered with those from the False Narrows midden is included, with descriptions of the False Narrows materials, and of the method for determining biological distance, or similarity, between the two sample sets.

Chapter 4 discusses the site reconnaissance of a three-kilometre long section of the False Narrows bluffs on Gabriola Island. There are now four known sites in this area: DgRw 199 (23 features), DgRw 204 (6 features), DgRw 210 (18 features), and DgRw 213 (2 features), although only three sites (the last three) are described in detail.

Chapters 5 through 9 are reports on five burial features from two of the site (DgRw 204 and DgRw 199). Each provides a description of the feature, the results of the excavations, a description of the matrix of the feature, a listing of faunal remains, a list of artifacts recovered, dates for the features, and a discussion of the recovery and analysis of the human remains. Included in the discussion of buried remains are observations on the conditions of the remains, the spatial distribution of remains, skeletal reconstruction, evidence for burning, demographic information, skeletal anomalies and pathologies, and mortuary practices.

The largest of the burial features is DgRw 199–F1, and it is has the longest description and discussion. Some of the remains from this feature, and from DgRw 199–F9 exhibit burning, and some exhibit a variety of pathologies such as degenerative joint disease, developmental defects, dental anomalies, fractures, cultural modification of one individual's skull, and infectious diseases, specifically three individuals diagnosed as suffering from treponemal infections[5], and one who possibly was.

Chapter 10 is where Curtin brings together her results and addresses her three initial hypotheses. The first hypothesis, that of population variation as a cause of mortuary variation is rejected because the biological distance between populations is essentially zero. The second hypothesis, regarding chronological variation as a source of mortuary differences, is also rejected. The dates obtained just do not support the idea that the burials represent different stages in the history of one people. The third hypothesis, relating social differentiation to mortuary differences is similarly rejected. So none of her three initial hypotheses account for her findings.

This leads Joanne Curtin to present a new, more plausible, hypothesis. This is that the differences in mortuary pattern actually reflect the manner of death of the individuals. The presence of burned bone, infectious diseases, and skeletal pathologies is, she suggests, the key reason why the cave and rock shelter burials at DgRw 199 differ from the midden burials at False Narrows (DgRw 4). She supports her conclusion by comparing these burials with a multiple burial group from the Duke Point midden (DgRx 5), which was analysed by Cybulski in 1978, the members of which also seem to have suffered from some form of infectious disease.

The hypothesis that Curtis adopts is straightforward, and provides a reasonable alternative explanation for the differences between burial sample sets. Curtin's approach to their analysis is academically sound and also straightforward. Overall, I

[5] Treponemal infections are caused by a specific type of bacteria and commonly leave identifiable lesions in bone.

found the study interesting and informative and I imagine that many researchers of Northwest Coast prehistory will too.

Because the report is based on a dissertation, it treats the analysis of burials quite objectively and impersonally as is proper for an academic work. Curtin succeeds in avoiding any extravagant claims or interpretations and does not glorify the research in any way—an important consideration when dealing with skeletal remains, and particularly when many Aboriginal people have reservations about the propriety of conducting such analyses. The dead deserve to be treated with respect, and that Joanne Curtin has managed to do, while at the same time providing us with an interesting, and unexpected glimpse into the lives of Aboriginal people on Gabriola in prehistoric times.

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Summer tides—*by Nick Doe*

Have you ever wondered why the tide is *always* out during the day in the summer? Go to the beach on Gabriola any summer day, and chances are, the tide is low.

Just to prove this *scientifically*, let's take the year 2002 as an example and look at the tidetables. The number of days that the lowest tide of the day on Gabriola occurred between six in the morning and six in the evening in June and July was 57 times out of 60. For December and January, it was only twice. Clearly, although the moon has a lot to do with our tides, the sun must also play an important role. It can't be the moon that is causing the tide to be low during the day because the position of the moon in the sky has nothing to do with the time of day.

So what's the problem? Well it's this. If an important component of the tide is due to the gravitational pull of the sun, shouldn't the highest solar tide occur whenever the sun is highest in the sky—noon on a summer's day for example. Well, as we know—it's not. Not only is it not high, it's not even close. Let's include the moon just to make the point. There was a new moon on June 20, 1993. The summer solstice was just one day later. At noon, when both the moon and the sun were high above, the tide on Gabriola stood at only 0.7 feet. High tide that day was just before five in the morning and again at about eight o'clock at night. This happens all the time. It just doesn't add up if you believe that the moon and sun are "tugging" at the water—pulling it higher.

I learned the answer to this puzzle many years ago when living in North Vancouver. Being new to BC, I determined to make a trip to the west coast of Vancouver Island one weekend to see the famous tidepools at Botanical Beach near Port Renfrew. Tidetables in the newspaper were consulted; ferry schedules enquired about; library books on marine life withdrawn; and bright and early one Sunday morning, off I set.

I arrived shortly after twelve, only to see—not tidepools, not even beach really—just the surf sweeping up to the salal at the forest's edge. My timing just couldn't have been worse.

Thinking about why this had happened on my long drive home, it occurred to me that, assuming there was no mistake, the timing of the tide in the Strait of Georgia must lag behind that in the open Pacific. However, to prove that, I needed to calculate the delay between the tides at different places, and this is not quite as straightforward as it may seem.