Context:
Gabriola, petroglyphs

Citations:
Tatshenshini-Alsek petroglyph, *SHALE* 22, p.30, January 2010.

Errors and omissions:

References:

This electronic copy also contains an addendum that was written in 2014. This has not been published elsewhere, nor does it appear in *SHALE*.

Date posted:
April 8, 2014.

Notes

This section of *SHALE* provides an opportunity for contributors to present the partial results of ongoing research, publish less-than-normal-length articles, and provide "interesting facts".

The smoking economy

—by Nick Doe

Found in the Nanaimo Community Archives (John Cass fonds):

> **TOBACCO**
>
> On December 9, 1910, 100 lbs of tobacco leaves was shipped out by a Gabriola Island Syndicate under the name "Nanaimo Mixture".
>
> *Nanaimo Free Press*, May 1, 1911

The dates John gives are hazy, and I wasn't able to find the original newspaper item—but what else is new? ◊

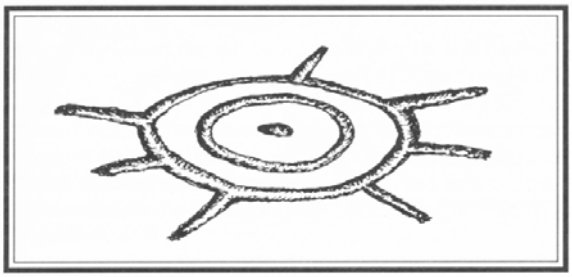
Tatshenshini-Alsek petroglyph—*by Nick Doe*

Last summer, Jenni and I happened to find ourselves at a place called "Petroglyph Island". Yes, the island was in BC, and it was surrounded by mountains, but it wasn't Gabriola. It was at the confluence of two great, glacier-fed rivers, the Tatshenshini and the Alsek, not far from the Alaska-BC-Yukon border. The petroglyphs are at 59°28.327'N, 137°43.605W.

Because we were pressed for time, don't ask me why, I was not able to find the petroglyphs, but I came pretty close. Checking the guidebook afterwards,[1] I was surprised to see that the geometry of the largest petroglyph there bears some resemblance to the geometry of one we have on Gabriola, namely DgRw228, the "sunstar" found by Ron Ewing in 1996. This petroglyph, I'm sure, is a calendar.[2]

Like the Gabriola petroglyph, the one up north has concentric circles with seven rays, space out as if there should be nine; two are "missing". That's about as far as it goes. The northern one is smaller, about five inches across, and I have no idea if its orientation is significant. I wasn't there to measure it. We need someone to write a grant application to go look for it again. ◊

Replica of Gabriola's DgRw228



The Tatshenshini-Alsek petroglyph

[1] Russ Lyman, Joe Ordóñez, Mike Speaks, *The Complete Guide to the Tatshenshini River*, p.113, Cloudburst Productions, Haines, Alaska, 2000.

[2] *A most unusual petroglyph*, *SHALE* 10, pp.25–32, January 2005.

Unpublished addendum, April 2014

That Tatshenshini-Alsek petroglyph again—*by Nick Doe*

One of the petroglyphs on Gabriola, DgRw 228, is a calendar. Its axis is very precisely aligned east-west,[1] and its central bowl when filled with water makes an ideal reflector for observing the sun,[2] particularly at the solstices when the sun at noon is at its highest and lowest points in the year.[3]

Replica of Gabriola's DgRw 228

The carving around the central basin at DgRw 228 petroglyph is circular and divided into segments marked by "petals". The interval between petals is 40° and there are seven of them, not nine, which means two are missing, possibly representing winter as surmised in earlier articles.

The division of circles into nine intervals of 40° is impossible to accomplish with mathematical precision using geometrical tools alone, which adds to the interest in those rare petroglyphs that incorporate nonagons or their "star" equivalents.

The division can always be approximated by "eye-balling", but, as I explained in the earlier papers, there are some fairly simple ways of producing a very good approximation to it using overlapping equilateral triangles. It was because of this that, I mentioned in a previous note[4] that there is another petroglyph, designated LiVk 1, on Petroglyph Island not far from the Alaska-Yukon border[5] that shows a (vaguely?) similar geometry.

Picture of LiVk 1 illustrating how hard it is to accurately document petroglyphs. The small arrows indicate what I think is up.

Photographs received via Doris Lundy

[1] *Petroglyphs and equinoxes*, *SHALE* 14, pp.10–14, September 2006.

[2] Measuring the altitude of the sun using a sextant to measure the angle between the sun and its reflection in a small bowl of mercury was once a commonly used technique by land navigators.

[3] *A most unusual petroglyph*, *SHALE* 10, pp.25–32, January 2005. *Observing the winter solstice at DgRw 228*, *SHALE* 17, pp.41–44, September 2007.

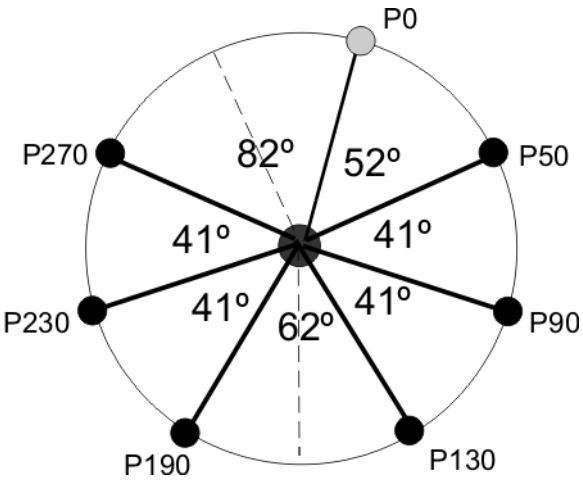
[4] *Tatshenshini-Alsek petroglyph*, *SHALE* 22, p.30, January 2010.

[5] 59° 28.3'N, 137°43.6'W.

Pictures of LiVk 1 are hard to come by, but since last writing about this glyph, I have come across three, only one of which is reasonably clear.

By far the best picture I've seen of LiVk 1. Photographing it is particularly difficult because of the glacial striations running across it. There was no orientation data associated with the picture, but my guess is that the glyph is on a strongly inclined face and the small arrow in the corner is up. Some water was evidently used to improve contrast.

Craig Walker, taken from the web.
http://www.sdc.org/~cwalker/Tatshenshini/TAT3212_34.htm



Six of the seven "rays" on LiVk 1 are involved in ≈ 40° intervals, but the position of P0 remains uncertain. The angles are as measured on one photograph and a sketch, while the names of the points are conjectures; P190, for example, is 41+62=103° from P90, not 190–90=100°.

The spread of the measured angles was 52±1.0°, 41±2.5°, 41±0.5°, 62±3.5°, 41±1.5°, 41±0.5°, 82±6.5°.

There are no written records of the inclination and azimuth of the rock face, nor of the size and orientation of the glyph, which is one of the unfortunate all-too-common casulties of such works being observed for their artistry alone.

So, what about the geometry? The most I could winkle out from the photographs and the sketch in *SHALE* 22 is shown in the attached diagram.

Although the array at LiVk 1 does appear to involve some 40° intervals, with perhaps one "missing" (80° = 2 × 40° ?), it is clearly different from the array of petals at DgRw 228, but who would expect otherwise

A third picture of LiVk 1. The sandy soil in the bottom lethand corner is a strong indicator of the rock-face inclination. The small arrow again indicates what I think is up.

Photographs received via Doris Lundy

given how far apart they are geographically. I would guess that both are the work of an individualist and that the glyphs do not reflect any kind of group culture. Nevertheless, that leaves open the question, what were these geometric glyphs really about? Someone just has to go back to the confluence of the Tatshenshini and Alsek rivers to gather more input. ◊