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Dedication: Terrance (Terry) H. Gibson

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On August 28, 2018, Alberta's archaeological community lost an influential member. Terry Gibson's influence was broad as he moved seamlessly between the avocational, professional, and academic communities. Terry was involved in over 500 archaeological projects across Canada, the majority of which were in Alberta. The sheer volume of work makes it difficult to summarize his legacy, but here are some of his contributions to archaeology in Canada.

1. Mr. Magnetometer

Terry's first major contribution to archaeology involved research on the archaeological application of magnetometers, which he continued to develop throughout his career. His 1982 M.A. thesis at the University of Alberta explored magnetic survey techniques for site assessments, which he published about shortly after (Gibson 1986). My first encounter with Terry was in the 1980s on a hydroelectric project where he was conducting magnetic surveys with a single proton precession magnetometer at a nearby fur trade post. The current safety environment might not be supportive of someone wearing sweat pants and old canvas shoes, running back and forth through the forest from the line to the datum with a heavy magnetometer strapped to their chest, but such was Terry's dedication. While at Western Heritage, a cultural resource management company that Terry helped found in 1990, Terry bought a gradiometer, which eliminated the need for running although 'the magnetometer walk' that it required introduced its own special hell for the operator. The gradiometer did not produce a measurement of the total magnetic field and Terry considered this a significant drawback. To solve that problem, Terry spent the last three years of his life building a magnetometer for archaeologists; archaeological magnetics was a lifelong passion.

Figure 1. Terry Gibson in the field (photograph courtesy of Christie Grekul).

2. Mr. Macintosh

When Terry came to the University of Alberta in the 1980s, he became a mover and shaker at the Macintosh Owners and Users Society of Edmonton. He saw the light in terms of the application of computers to archae-

ology and quickly became an apostle. His first and most lasting contribution to computer-based artifact documentation was the development of the MacAdem (later Ademar) cataloguing software, first built for the Apple II. His most celebrated achievement of that time period may have been selling a Macintosh computer to the Head-Smashed-In project. The original MacAdem was widely used across most of western Canada and into Montana. MacAdem introduced a standardize cataloguing process that made it possible to process artifacts at the speed required by contract archaeology. At a time when mass storage was a 5.25 inch floppy disk, MacAdem had two major innovations. It introduced the idea of a cataloguing work flow established by taxonomy; the switch from cataloguing bison bones to historic artifacts simply required loading in the historic taxonomy. The second innovation was tokenizing the catalogue to enable the storage of thousands of records on a single floppy disk. The MacAdem software developed by Terry helped produce some of the first big data in archaeology in western Canada.

3. Terry the professor

While many viewed Terry as an archaeological consultant, he held adjunct status first at the University of Saskatchewan and later at Lakehead University, and as an assistant adjunct at the University of Alberta. Terry was a very active external on many graduate committees at those three institutions. He took this role very seriously and if he agreed to help you, you talked to Terry more than you talked to your committee chair. He even persuaded some students to apply geophysics in their approach to excavating sites.

Terry taught a few classes over the years and had the opportunity to teach computer applications in both Thailand and Malaysia. Terry was rarely fazed by external events and while teaching in Thailand, a military coup took place, replete with burning buses. We could not reach him for days, even with calls to the embassy, and when he finally reestablished contact, it was only to ask for some computer cables. We managed to find a courier that would deliver into a war zone and he continued to teach.

3. Terry the archaeologist and scientist

Terry worked on several very large excavations over the years, one of the few members of the 2000 m^2 club (most of us feel privileged to excavate more than 100 m^2). By the time Terry finished his M.A. thesis, he had worked on sites from the Arctic to the State of Maine, and from the Late Pleistocene to the late Historic Period. One of the effects of this broad experience was that he realized that many archaeological projects were largely inefficient in terms of data collection strategies and neglected to collect the full range of data inherent in a site. Armed with this insight, Terry became a beacon for innovation.

Terry championed the subdivision of one metre squares in to four quadrants to amplify spatial resolution and introduced overhead cameras to map excavation units in the early 1980s. He truthfully hated writing field notes and was constantly developing electronic forms. He borrowed one of the first GPS units in Canada, the size of a pizza box, and pushed its application to improve site recording techniques. He was also excited about satellite imagery, drones, and anything that would increase the accuracy, velocity and density of data being collected from archaeological sites.

Terry analyzed thousands of pottery sherds recovered from Bushfield West, a rich ceramic site in Saskatchewan from which complete vessels were reconstructed, and used the data to identify a new Selkirk complex, Keskachewan (Gibson 2001). Terry thought outside of the "pot" and noticed that a significant number of the sherds had distinct fingerprint impressions on the punctuates. He and Sabine Stratton photographed the fingerprints using laser technology and computer enhancement software at the RCMP crime laboratory in Edmonton. Thus, Terry started a fingerprint catalogue of ancient potters that he hoped could be used to follow traded pots or individuals who moved between groups (Gibson and Stratton 1987).

Predictive modelling was another area in which Terry was a leader. With Terry's guidance, Western Heritage sponsored Luke Dalla Bona's M.A. thesis on predictive modelling at the University of Manitoba (Dalla Bona 2013). Terry continued to analyse early models and learned of the large scale predictive modelling study developed largely by Dr. Ken Kvamme for the Minnesota Highway Department. Terry invited him to Canada to expand his knowledge of predictive modelling and this was the start of a long friendship that helped push the application of predictive modelling (and magnetometry) on both sides of the border. Terry organized and presented at a number of workshops across Canada, including some of the early predictive modelling workshops in Quebec and Ontario.

Why modelling? In its early days, forestry was not part of the heritage compliance process in western Canada. Two major things were needed to change this. The first was new tools to manage heritage resources over a larger land base - predictive modelling was one of those tools. The second was a more realistic understanding of the impact of forests operations to inform heritage compliance. To achieve the

latter, Terry observed and recorded the impact of just about every type of forestry equipment he could access. To characterize impacts, he needed a scale and he built one, called CRICS, which gained some traction as a measurement of site disturbance with other consultants and regulators across Canada (Gibson 2005). The next step in the development of heritage management in forestry was the development of a test case; this occurred in Saskatchewan with a project called CRIMP that involved major forestry companies in the province. The forestry companies wanted to be compliant with heritage legislation and CRIMP showed it was possible. With some initial success, the next step was a willing partner in Alberta. Millar Western was in the process of building a new forest management plan and the timing and personnel matched, and Terry pioneered the archaeological management of forestry operations in Alberta.

Terry was also actively involved in working with First Nations, whether at Frog Lake in Alberta or Rocky Bay in Ontario. In the 1990s, he developed an archaeological training program for the Tskay Dene in British Columbia. When news of Terry's death became public, the first responses came from the Biinjitiwabik Zaaging Anishnabek First Nation where he had developed some close friendships.

4. Bodo man

In Alberta, Terry was perhaps best known for the Bodo archaeological site (see Munyikwa et al. 2014). It was found by a developer concerned about buffalo skulls being dug up around a plant site. Over the years, the property was flipped multiple times and Terry had the dubious joy of informing the new owners that their entire development was sitting in the middle of a giant bison pounding location. Terry was instrumental in bringing provincial attention to the site through meetings and conference papers, and he worked tirelessly with members of the local community to develop the Bodo locale. He constantly brought new technology out to Bodo including geophysics, OSL Profiling, and detailed soil stratigraphy recording. Terry's work at Bodo spurred several graduate theses (Blaikie 2005; Gilliland 2007; Grekul 2007) and during the last few years of his life, he served as a board member on the Bodo Archaeological Society.

To summarize, Terry was an archaeologist, business owner, engagement specialist, Apple evangelist, graduate student advisor, husband, father, and friend. One of Terry's lifelong concerns was that archaeologists were not collecting all of the information at archaeological sites that they could and this missing information was creating an impoverished view of prehistory. His life was spent advancing new processes and technologies that could address this missing information - a goal that has made Alberta archaeology better. This volume of the Occasional Paper series is dedicated to his memory.

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