

# FIFTY YEARS AGO



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## June 1967 THE CANADIAN SURVEYOR

The June 1967 edition (Vol. XXI No. 2) was a modest 84-page issue, of which about one quarter was advertising. Its front cover (shown above) was red and white in colour, quite appropriate for Canada's centennial year—with lettering and a conic projection of the Canadian landmass in white against a red background.

Just three papers were featured, each one relating to the latest technology of the day—electronic distance-measuring (EDM) instruments.

“Microwave Distance Meter ‘Telemeter OG-1’” by Krzysztof Holejko described an EDM instrument developed at the Technical University of Warsaw in 1962. The basic principle of its operation was similar to that of the Tellurometer MRA-1, which was introduced from South Africa in 1957.

The paper “Diurnal and Seasonal Variations in the Coefficient of Refraction” by P.V. Angus-Leppan presented a mathematical model to determine the effect of temperature on electronic distance measurements.

“Aerodist in Geodetic Surveying in Canada” outlined the implementation of aerodist for use in the rapid expansion of horizontal control in Canada.

Aerodist was a development from the Tellurometer system used for ground measurement of geodetic distances. It was designed for simultaneous measurement, during movement, from an airborne station to two or more stationary ground stations. A.C. Tuttle, then Chief Topographical Engineer of the federal Surveys and Mapping Branch, detailed the work carried out from 1962 to 1966. Typical tellurometer ground measurements were in the range of 50 km to 70 km, while the aerodist measurements could range from 100 km to 250 km.

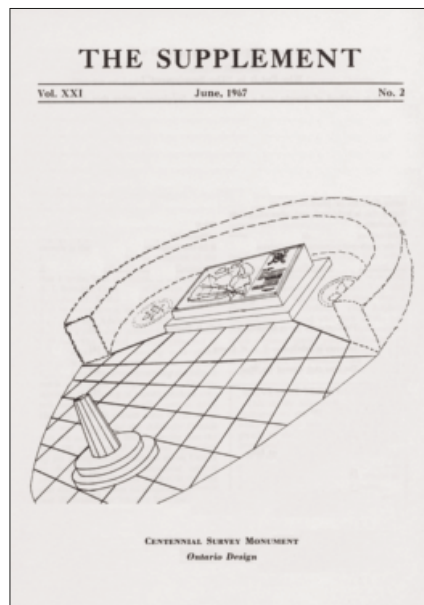


Figure 1: The Supplement cover featured Ontario's design for the Centennial Survey Monument.

## The Supplement

The Supplement section of the journal (Figure 1) presented, along with the usual departments (“Book Reviews,” “Field Notes and Office Memos,” and “The Legal Corner”) several noteworthy items, starting with the following.

## The Centennial Survey Monuments

In 1964, The Canadian Advisory Council on Cadastral Surveys proposed a rather unique project that would both celebrate Canada's centennial year in 1967 and pay tribute to Canadian surveyors. Instituted in 1952, the Advisory Council was a group of federal and provincial government officials responsible for cadastral or property surveys throughout Canada. The council met periodically to consider matters related to cadastral surveying and to develop recommendations or advice on subjects introduced by its members.

Colin Hadfield, chairman of the Advisory Council's Centennial Committee, described the proposed project. It was decided to ask the provincial, federal and territorial governments to place survey control markers on the grounds of each legislature in Canada. The markers would be related geodetically to each other by azimuth and distance, and their heights above sea level specified, so as “to thereby portray in a

real and physical manner the connecting together of all parts of Canada.” As well, the geodetic control marker would be accompanied by some form of ceremonial monument (Figure 2).

All governments agreed to participate and erect the ceremonial monuments and geodetic control markers. Furthermore, all parties agreed to dedicate the monuments and markers simultaneously at the same time across Canada on the summer solstice—

2:30 EDT on June 21, 1967. In a number of the monuments there were placed time capsules containing documents with material representative of the day. These would be opened in 100 years’ time at Canada’s 200<sup>th</sup> birthday in 2067.

Although the form of the ceremonial monuments differed from province to province, the Advisory Council arranged with each province to place a common dedication plaque (Figure 3)

on each of the monuments. Each official site would include the three basic elements: the survey control marker, the ceremonial plaque with the geodetic information, and the dedication plaque.

The text from the dedication plaque reads as follows:

### Surveying for the Future

This survey monument and plaque is dedicated to the Surveyors of Canada whose skill and industry contributed so greatly to the exploration, mapping and development of our nation.

It is symbolic of the beginning of the second century of surveying in Canada and is a First Post in a unified system of precisely co-ordinated survey points.

With eleven other Centennial Survey Monuments erected across Canada, it signifies the contribution by surveyors both past and present to the charting of our nation’s future.

Hadfield gives a brief description of each of the twelve proposed monument sites. They varied in form from “a slab of granite with the two plaques in a landscaped area” to elaborate designs like the Ontario one with granite obelisk set inside a small flagstone plaza facing “an eight foot by four foot stainless steel plaque on top of which is placed a map of Canada, in bronze,... showing the locations of all the monuments” (Figure 1).

### Editorial: Why put it in “The Supplement”?

It seemed that some readers had taken issue with the content of *The Supplement*. They felt that it was “degrading for an article to appear in the yellow rather than in the white pages.” The original reason for printing *The Supplement* on yellow paper (first introduced in 1961) was to distinguish the non-technical material from the main technical section, or white pages.



Figure 2: Manitoba’s geodetic control marker (left) and ceremonial plaque with geographic location and directions to adjacent capitals.



Figure 3: New Brunswick’s centennial surveyors’ dedication plaque in both official languages.

The editor's explanation of the basis for publishing any given article in *The Supplement* section rather than in the main technical section was as follows:

Our [reasoning] is that the yellow pages should deal primarily with people and with the affairs, history and opinions of people. Hence, it is a place for gossip, for trivia, for passing events, for biography and for argument. It is in the latter context that we publish the "Legal Corner," which is designed not so much to instruct as to promote argument. So, too, with book reviews, and letters to the editor, both expressions of opinions of individuals.

Today the "Legal Corner" lives on in *Geomatica* as "Geomatics and the Law."

As mentioned, printing *The Supplement* section of the journal on yellow paper began in 1961. It was first printed as a separate insert with its own distinct cover as a test to see how readers might respond. The yellow pages were eventually bound in with the white pages as a single issue in 1963.

In 1978, the "yellow pages" became white. A committee had studied the matter and since it was felt that *The Supplement* was the most widely read portion of the journal, there was no need to distinguish it by the use of coloured pages. Its content and purpose remained unchanged, along with its own cover page.

In 1988, our journal underwent a change in format size from 17 cm by 24 cm to the current 21 cm by 28 cm, and, as well, eliminated the distinguishing supplement cover page. Technical papers, or "features," are now printed in two columns on a page, while "articles" and "departments" are printed in three columns to the page.

### ***The Map that Opened the West***

In April 1967, the federal Surveys and Mapping branch withdrew from circulation the last of the "Three-Mile" maps of the Canadian Prairies. The

series, which showed the ground at a scale of three miles to one inch, was started in 1891 to help control the settlement of the Prairies.

The map sheets were drawn at this practical scale so as to show the townships of the Dominion Land Survey System (which are six-mile squares) as two-inch squares on the map. The maps were planimetric and sparse in detail, showing little more than roads, railways and towns. Settlers obtained copies so they could locate their land in relation to other farms around them.

In 1919, a decision was made to convert the maps from planimetric to topographic format. The new sheets were published in five colours; contours were added, roads were classified (gravel, paved) and cultural detail enhanced (e.g. schools, churches). With the arrival of the motor car and the aeroplane, these maps became the first road maps in the prairies and formed the basis for the first aeronautical charts in that region.

However, in 1927, a medium-scale map at four miles to the inch was chosen to cover all of Canada. In 1950, the scale was changed to 1:250 000, which is approximately four miles to the inch, and so the old Three-Mile maps were gradually phased out as replacements became available. On April 11, 1967, the new map sheet "62L Melville" replaced the last three-mile sheet "120 Qu'Appelle."

The 1:250 000 series, which comprises 922 sheets, was completed in 1971.

### ***The "Sixty Year Medal"***

To commemorate its founding 60 years before, The Canadian Institute of Surveying, in 1967, commissioned a special "Sixty Year Medal" to be given in recognition of meritorious service to the Institute (Figure 4). The first recipients were Frank Swannell of Victoria, B.C. and Noel J. Ogilvie of Ottawa, Ont., both of whom had been members of the Institute for the 60 years of its existence.

#### **Frank Cyril Swannell 1880-1969**

Frank Swannell led a very colourful life. Born in Hamilton, Ontario, he studied mining engineering at the University of Toronto. This led him to



**Figure 4: The Sixty Year Medal for meritorious service to the Institute.**

New Denver, B.C., a hotbed of mining activity in 1898, and his first experience in surveying. He was commissioned as a B.C. provincial land surveyor in 1903 and obtained a DLS commission the following year. He surveyed railway rights of way, mineral claims, and timber and oil leases. From 1912 to 1914, Swannell was employed by the B.C. government, in charge of exploratory surveys in the northern central region of the province.

During the First World War, Swannell enlisted in the 88<sup>th</sup> Regiment (Victoria Fusiliers). He was wounded in France and later transferred to the British Army's Royal Garrison Artillery. Seconded to the Royal Engineers in 1917, he carried out surveys in southern England. After the Armistice of November 11, 1918, he was sent to Russia to take charge of the mapping section of the Dvina River Expeditionary Force. He was wounded when Russian soldiers mutinied and murdered several British and Russian officers. He was awarded the Cross of St. Anne for his services in Russia.

From 1920 to 1928, Swannell carried out triangulation and exploratory mapping in the coastal and Caribou regions of B.C.

In 1934, Swannell was one of two surveyors the Canadian government sent to help map the route of the unusual and ill-conceived Bedaux Expedition. The trek was the brain-child of Charles Bedaux, an eccentric French-born American millionaire. He planned to

test drive Citroën half-track trucks from Edmonton through the wilds of northern British Columbia to Telegraph Creek, and to make a movie of the endeavor and generate publicity for himself. After four months, this bizarre and poorly-planned trip was abandoned due to weather, terrain and the loss of the five Citroën vehicles.

Swannell returned to the employ of the provincial government and, from 1935 to 1939, established triangulation control for phototopographic surveys on Vancouver Island and in the Rocky Mountains. During World War II, he was attached to the RCAF, making detailed surveys of airports on the Pacific Coast. Frank Swannell died in December 1969.

#### **Noel J. Ogilvie 1880-1967**

Noel Ogilvie began surveying in 1902 as an articled pupil on DLS surveys in Saskatchewan and was commissioned as a Dominion Land Surveyor in 1905. He then worked on the International Boundary in southern British Columbia, “walking the 49<sup>th</sup> parallel from the Pacific Coast to the summit of the Rockies as he inspected and numbered the monuments.”

Joining the Geodetic Survey of Canada when it was only five years old in 1914, Ogilvie became its second Superintendent in 1917 on the death of Dr. W.F. King. In 1923, his title was changed to the Director of Geodetic Survey, and in 1931, to his position was added the title of International Boundary Commissioner. He headed the organization for a period of 30 years, spanning two world wars and the Great Depression.

On February 10, 1967, during the sixtieth annual meeting of the Institute in Ottawa, the Sixty Year Medal was to be presented to Noel Ogilvie in recognition of his long association with the CIS. However, he was unable to attend the presentation due to ill health, so Fred Lambert, the then International Boundary Commissioner, accepted the award on his behalf. Ogilvie died later that year at the age of 87.

#### **Book Reviews**

Reviewed in this issue was *Surveyors of Canada, 1867–1967*, written by Courtney C.J. Bond. As mentioned in one of my previous columns, this book was published as a special

centennial project by The Canadian Institute of Surveying to commemorate 100 years of surveying in Canada.

The reviewer, Don W. Thomson (author of *Men and Meridians*), wrote:

In words and pictures, this presentation effectively captures the spirit of adventure and accomplishment inherent in man’s efforts, by the application of precise measurements, to master his environment on the northern half of North America...By sponsoring this book as its centennial project, The Canadian Institute of Surveying is helping to ensure that the triumphs and trials of Canadian surveyors over the long years will not be forgotten but rather will be remembered with gratitude and pride.

A “highly pictorial publication,” the 154-page book featured about 200 historic photographs. For the current year, 2017, vintage post-confederation survey photos have been selected from the book to grace the covers and table of contents pages of *Geomatica*’s Volume 71 editions. □



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