

## FIG 125<sup>th</sup> Anniversary 1878 – 2003

**Jan de GRAEVE, Belgium**

Mister President, Dear Colleagues,

We are privileged to announce to you that our Belgian colleague, landsurveyor Claire Coombs just became a Princess Royal by marriage to his Highness Prince Laurent this Saturday. We wish the couple happiness and good fortune in their new life.

125 years ago our French colleagues had invited our great-grand-parent « géomètres » and surveyors from many countries for a visit to the 1878 World Fair where they had organised in Paris, for all to have a good time together and a good dinner.

Now, 125 years later, they did it again and in style. This week we will have the dinner at Versailles, in Louis XIV<sup>th</sup> château, rather than in the restaurant of Trocadero in 1878.

I will, Mister President, speak slowly, clearly and loudly in French and English.

The French Revolution had abolished all privileges and professions, and the studies for access were also in a total mess. The World Exhibition of 1878 was the opportunity to meet all their European colleagues to compare studies and to learn from their professional practice.

Our distinguished and very learned colleague Jean Mosselmans will in tomorrow's session on « history of surveying » introduce you to the historic background of the first F.I.G.-meetings in 1878 in Paris, 1910 in Brussels and 1926 in Paris, and how F.I.G. has been created. Today we celebrate the meeting of our colleagues, 125 years ago here in Paris, which was the corner-stone for our international organisation, linking together our colleague surveyors from East and West, North and South, and if some of them have their names already inscribed in the stars, this is not just a sign of coincidence but a recognition of humanity to the excellence of work, research and practice of these exceptional men and women we have in our profession.

In the exhibition we have prepared to commemorate this 125<sup>th</sup> anniversary, you will see, the very earliest printed book in French on Geometry the title translates: *A point is that of which there is no part*. It was the idea of our French colleagues to invite their European colleagues to come together.

To prepare this commemoration gave me great pleasure to consult the early archives in our Brussels association. Our great-grand-parent surveyors were wise men to preserve and archive their proceedings. Unfortunately, we had no access to any of the 6 other founding countries archives, as none answered our enquiries, but we were able to sort-out and expose some of our memorabilia of the F.I.G. and our profession.

The French President of the organising committee, Mr Lefèvre de Sucy, was very disappointed to find the French real estate in very poor condition, and saw that every one had similar rights but very different charges to bear.

I quote « *Tout a marché en France, tout a progressé, oui, tout excepté l'immuable Cadastre, entaché d'erreurs grossières, dès son origine, et tombé depuis, grâce à l'incurie des différentes administrations qui se sont succédées et de leurs agents mal rétribués, dans le plus effroyable chaos* ». « *Le double but du Congrès International des géomètres est donc de demander une réglementation légale de l'exercice de la profession de géomètre, la rénovation complète de la conservation perpétuelle du Cadastre, comme Grand Livre Terrier des Nations* ». (Lefèvre de Sucy, president).

The two aims for that international congress of surveyors was to give a legal basis to our profession and its practice and to reform and perpetuate the Cadaster as a « great property book » for all the nations.

During the 3 days conference, each delegation appointed a vice-president to chair with Mr Lefèvre. The surveyors delegations had voting rights, the other assistants had none.

125 year ago they already cared about the history of our profession.

The Italian Cavaliere Tarantelli suggested to preserve and care for all scientific and legal books and documents about the surveyors profession. The French colleague, Robert Gallaert from Levigné, described the origins of the profession in France: where a surveyor general, « le bourgeois Leuguerin » of Paris, was appointed by King Louis VI in 1115.

We recently examined in Aix-en Provence a manuscript written in Provençal of 1305, where the King appointed Arnould de Villeneuve to write down a treatise about abornement, limits and how to measure.

The Belgian Ernest Lacroix explained how the profession was controlled by law from 1825 in Belgium. This original text of the first law of 1451, actually transcribed in the old language, translated by Jean Mosselmans and myself, in French and Dutch, is exhibited in the conference center.

*The line is the shortest way between two points and when you have three lines joining three points you have a triangle - the basis of surveying.*

Geodesy is the science of determining mathematically the areas of the World and the figure of the Earth has been a major preoccupation of our scientific community since Picard in 1669 measured the Meridian between Paris and Amiens. French « géomètres » and astronomers played an important role in the 17<sup>e</sup> - 18<sup>e</sup> century: Bouguer, La Condamine and Godin in Peru ; Maupertuis, Clairaut, Camus, Le Monnier, Outhier in « Lapland » ; La Caille in South Africa ; La Hire, the Cassinis ; Delambre, Méchain, Biot, Arago and Puissant (just to name a few).

In England, Norwood published in 1635, in the « Seamans Practice », the result of his measures between London and York. Riccioli, in 1660, calculated the distance from Bologna

to Ferrara, and Beccaria made his triangulation near Turin. In Washington 2002 we learnt in great detail how Mason and Dixon measured a great circle of 12° 8' 45'' in longitude at 39° 12' of latitude.

The measurements of Barrow in India were followed of those of Lambton and Everest.

Our German colleagues have played an important contribution in geodesy and have made great progress in the mathematics theory and practice.

The contribution of Walbeck of Königsberg, Gauss of Hannover and his Triangulation, and Schmidt's in Göttingen, the Spheroid of Bessel, and the 10 most important measurements of Meridians: the Arc of Peru, the Indian Arc of Kater and the corrections of Bessel to the Indian Arc, the French Arc of Puissant, the English Arc of Mudge, the Hannover Arc of Gauss, the Danish Arc of Schumacher, the Prussian Arc of Bessel, the Swedish Arc of Svanberg and the Russian Arc from Belin to Hogland. This last arc was expanded from Fuglenaës near Hammersfest to Staro-Nebrassowska near Ismail, on the Black Sea and is known as: *The Struve Arc*.

This Struve Arc is to be submitted for preservation and recognition by the UNESCO as a World Monument of Humanity and if accepted will be the first scientific achievement to receive such reward. This is one of the aims of F.I.G. since the Melbourne Conference – pt 1 – General Assembly. At the Congress Center-restaurant you will find an exhibition about the history of Meridians, first presented in Toronto (Canada) in 1985, to mark the 250<sup>th</sup> anniversary of the Arc Measurements of « Lapland » and « Peru ». Jim Smith, our secretary, has written the history of Arc Measurements in his « From Plane to Spheroid » you all have read of course ; at least you should have or your will, I'm sure, in the near future.

Our colleague, Dr Ahrens, prepared the history of F.I.G. which was published in 1985. It might be an appropriate moment for F.I.G. to go on with this work for the next 100 years to come and write down the resolutions adopted by the general assembly, so it would be easy for our great-grandchildren to understand what we came to do here in Paris was not to go to the Moulin Rouge or the Folies Bergères, but the scientific work we will do this week.

On the agenda of the 1878 invitation was of course the « banquet » to bring all surveyors together, to come and see the International Fair of Paris, and the exhibition of geodetic instruments.

During the preparation our Belgian colleagues argued to expand the agenda by adding substantial suggestions:

1. the improvement of the cadastral system,
2. the creation of a Permanent Committee to perpetuate international contacts.

To answer your question: *Who created the F.I.G. ?*

The French « Comité des Géomètres » invited the « géomètres » to the World Fair in 1878 in Paris. The first announcement in their journal of April 1876 was read by Belgian, German, Italian, Swiss, Spanish and British colleagues whose associations answered the invitation. The Italian delegate represented the U.S.A. surveyors as well.

The first meeting was held from 18 to 20 July 1878, here in Paris, in the « Palais de Trocadéro ». The French « Comité Central des Géomètres » was chaired by Mr Lefèvre de Sucey as president, Bucaille as vice-president, Pottier, Derivry, Gillet, Heurtaut, Barthélémy, Camery, Roger-Gaillard, Hachet, Ledret, Lalande, Cuzacq, Quenolle and Moinet.

The British delegation was represented by its vice-president Edmond Ryde, joined by Charles John Schopper, John Worhalm Penfold and John Clarke Rogers, and they brought their translator Albert Vandendriesche.

Germany was represented by Doctor Jordan and Ludwig Höhler.

Spain by Dionisio Casanal.

Italy was represented by Cavalieri Raphaël Tarantelli, representing as well the U.S.A.-surveyors.

Switzerland by Mr Bise, Redars, Rey, Bertschy, Borel and Froideveaux.

Belgium was represented by our colleagues Paul De Jaer - vice-president, Alphonse Cappelle, François De Deken, Germain Cahu, Emile Van Keerberghen, Ernest Lacroix, Paumier du Verger, Jean Matheussens and Achile Gasthuys.

The proceedings are displayed at the exhibition, at the entrance of the Congress Hall.

*What were the objectives of this first meeting.*

They were addressed as questions to be answered.

After the French Revolution most of the professions were « liberated » ; this means totally unorganised in France and in the French zone of influence.

During the conference each delegation explained the situation of their country.

The Italians had the « mensuratori », but at the universities delivered diplomas to engineers of agriculture.

In Belgium, the title and the diploma have been protected, by law since 1825.

In Switzerland you need a diploma but also to pass a practical test.

In England the candidates are examined by the Institution of Chartered Surveyors in their capacity and notoriety.

In Germany also a certificate of capacity was required.

The Spanish delegate presented works undertaken by his Spanish colleagues.

A technical visit was organised on July 18<sup>th</sup>, 1878 to the exhibitions of geodesy and surveying equipment. The delegates exchanged their journals and a resolution was adopted by unanimity, to exchange future journals.

The French géomètre Calanon proposed « to perform our role. We surveyors need first science, after that: expertise and probity always ». Mr. Bonjean adds: « Finally the surveyor expert is in fact, if not by law, the real judge in abornement ».

Dr Jordan of Germany: « the conditions of the practice of geometry in public sector and in private are still different in different parts of Germany ... ». We hope that the German government will pass legislation and reform for the surveyors ...

In Switzerland the theoretical examination is followed by a practical test.

Mr Caraval: « In Spain we do not have a Cadaster », and I will vote in favour of the resolution: It is to be foreseen that Cadasters will be reformed by licensed surveyors, with a diploma, conducted with a great precision and detail, so that they become a « livre foncier » or « grundbuch » in each country.

Even today we remain speechless as our colleagues asked that the Cadaster would not only give the correct borders of properties, areas and revenues, but should mention altitudes, and soil differences and geological contents ! (1878)

By unanimity they adopted a first resolution: In all nations the public authority should deliver a diploma to surveyors, recognising their capacities. The profession is exercised by licensed surveyors in private practice.

Mr Vandendriesche translated Mr Ryde's speech from English into French: Mr Ryde regretted not having the opportunity to address delegates in their language but he hopes after the vote of yesterday concerning the studies and diplomas, that English will be a subject in the study package and so in the future he could address everyone in English (general hilarity by the audience).

We further read in the comments of the 1878 conference.

In the not too distant future nations will find the need to adopt the metric system, the uniformity of measures and money ... The nations will see the need for a unity in calendar, time and a Meridian from where all longitudes will be measured.

This theme was discussed in 1882 in Antwerp and the Washington Conference of 1884 adopted the Greenwich Meridian and the metric system.

*What has been achieved in the 125 years since the first meeting ?*

To bring the chartered surveyor in the limelight, he or she is the central person in real estate rights and not only the specialised technician role devoted to him in the last decade, probably due to a different professional structure in the Anglo-Saxon world from the countries under the Code Napoleon where the surveyor is the central responsible person.

When in 1878 the Belgian colleague Eugène Lacroix suggested creating a permanent organisation to bring the surveyors together, it was agreed that the countries would provide for the costs of the meetings and for their delegations.

We think, Mr President, that it is important that delegates receive financial support from their governments to cover and contribute to the working weeks of F.I.G. The F.I.G. represents nearly all the countries of the United Nations where surveyors work, but sometimes so very few can come, meet and work together by lack of financial support. I should recommend to the Bureau to try and find a way to finance this, otherwise the democratic representation of surveyors worldwide would no longer be optimised during the voting procedures of the General Assemblies.

« Moonlighting » was a problem apparently in 1878.

We must have made an important step forward in the last 125 year as actually this same activity is called « black work », unfair competition or unethical behaviour.

In 1789, here in France was written the *Déclaration des droits de l'homme* and one of its articles which many governments seem to like to forget concerns property.

*Art. 20: Nobody can be deposed of his property if it is not for the general interest, following the legislation and after due and prepaid indemnity.*

We see today, Mr President, that many legislations and administrations just issue tables for indemnity to satisfy the needs of the expropriator and his conditions rather than to indemnify the total loss and prejudices of the victims of the spoilation.

In Commission 9 these problems are often discussed but an international forum as ours eventually together with lawyers should have the courage to tackle this problem on a worldscale.

We have a regret that the French President, Mr Chirac, could not attend this meeting, occupied today by his task in Leningrad with the German and Russian presidents, as we know how much he cares about justice and the defense of human rights, and protection of property. A year ago we had the opportunity, here in Paris, to join an international meeting of court-witnesses from all over Europe, under his high patronage.

We look forward to the next meetings in Greece and Egypt where we go to the birthplace of geometry and its applications, and tomorrow in Marne-la-Vallée my learned colleague, Jean Mosselmans, will relate to you in full detail the preparation work for the F.I.G. meeting in 1878, others will join him to explain the first map of –6200 B.C. the first general levelling of France, the Franco-Australian maritime relations and I will keep you informed with the progress for classification of the *Struve Arc* at UNESCO World Heritage.

## **CONTACT**

Jan de Graeve, Honorary Member of FIG  
5, Avenue de Meysse  
1020 Brussels  
BELGIUM  
Tel. + 32 2 268 1025  
Fax + 32 2 262 1033