## Doing Science Internationally in the early 20th century



# Science done internationally?

- What does it mean?
  - Letter Exchange
  - Translations
  - Universities as meeting places
  - Studying abroad
- Obstacles to meeting in person:
  - Distance
  - Borders

- ...

# 1893: Columbian exhibition

- Meeting of mathematicians: associated
- Organised by Felix Klein
- Two other participants from Europe:
  - Eduard Study
  - Norbert Herz
- Compare: Antonín Dvořák (1892-1895)
  - Journey nine days (train, ship, train)
  - for a stay months, not days, long

### American mathematics: offspring of German and British mathematics?

# James Joseph SylvesterFelix Klein(1814-1897)(1849-1925)

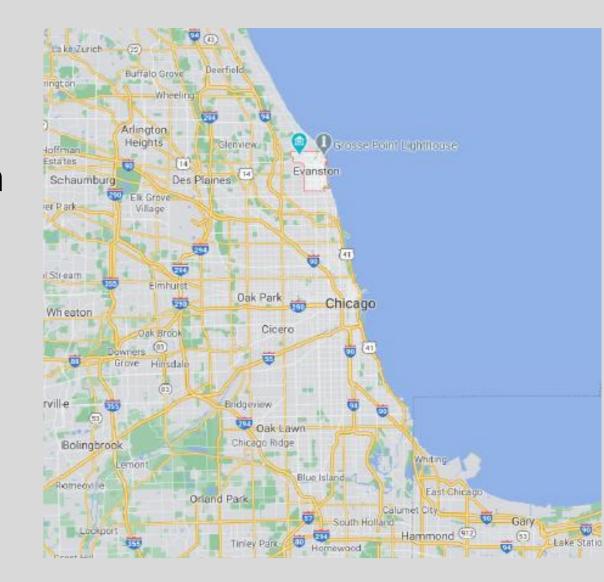




### Evanston, IL 1893

Lectures by Felix Klein for American mathematicians

from 28 August to 9 September

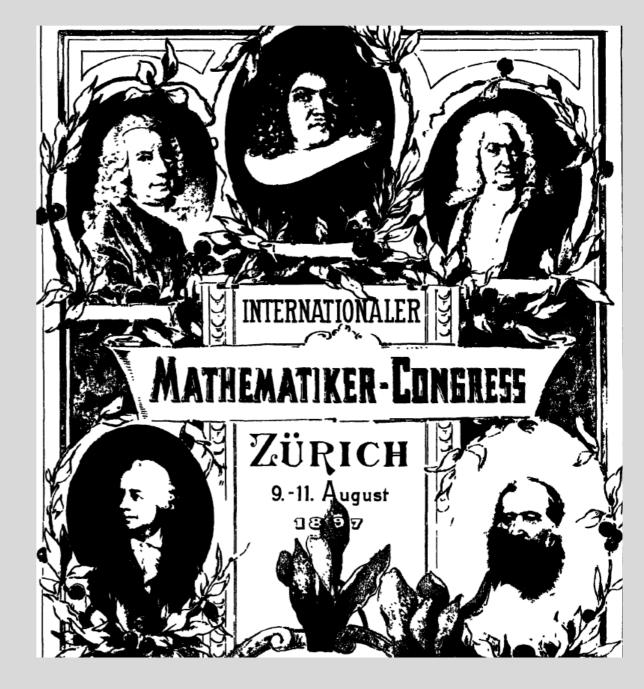


International Congress of Mathematicians: Before the Great War

- Zurich, Switzerland (1897)
- Paris, France (1900)
- Heidelberg, Germany (1904)
- Rome, Italy (1908)
- Cambridge, UK (1912)

**Zurich 1897** Daniel Bernoulli (1700-1782) Jacob Bernoulli (1654-1705) Johann Bernoulli (1667-1748)

Leonhard Euler (1707-1783) Jakob Steiner (1796-1863) 1 April 2021



## Paris 1900

Start of a new century David Hilbert (1862-1943)

French mathematicians: Charles Hermite (1822-1901) Friend with M. Lerch (1860-1922) Henri Poincaré (1854-1912) 1 April 2021 COMPTE RENDU

DU

DEUXIÈME CONGRÈS INTERNATIONAL

### **DES MATHÉMATICIENS**

TENU A PARIS DU 6 AU 12 AOUT 1900.

#### PROCÈS-VERBAUX ET COMMUNICATIONS

PUBLIÉS PAR

E. DUPORCQ, Ingénieur des Télégraphes, Secrétaire général du Congrès.



PARIS,

GAUTHIER-VILLARS, IMPRIMEUR-LIBRAIRE DU BUREAU DES LONGITUDES, DE L'ÉCOLE POLYTECHNIQUE, Quai des Grands-Augustins, 55.

1902

### Heidelberg 1904

Remembering:

Carl Gustav Jacobi (1804-1851)

Affiliations: Towns, not countries

#### VERHANDLUNGEN

DES DRITTEN INTERNATIONALEN

#### MATHEMATIKER-KONGRESSES

IN HEIDELBERG VOM 8. BIS 13. AUGUST 1904.

HERAUSGEGEBEN VON DEM SCHRIFTFÜHRER DES KONGRESSES

DR. A. KRAZER

PROFESSOR AN DER TECHNISCHEN HOCHSCHULE KARLSRUHE I. B.

MIT EINER ANSICHT VON HEIDELBERG IN HELIOGRAVÜRE.



### Rome 1908

Guido Castelnuovo (1865-1952)

Representatives of math. societies and institutions:

Academis of science

Mathematical societies

Smithsonian Institution

Ministries

Government representation

ΑΤΤΙ

DEL IV CONGRESSO INTERNAZIONALE

DEI

### $\mathbf{M} \mathbf{A} \mathbf{T} \mathbf{E} \mathbf{M} \mathbf{A} \mathbf{T} \mathbf{I} \mathbf{C} \mathbf{I}$

(Roma, 6-11 Aprile 1908)

PUBBLICATI

PER CURA DEL SEGRETARIO GENERALE

#### G. CASTELNUOVO

PROF. ALL'UNIVERSITÀ DI ROMA

----

1 April 2021

### Cambridge 1912

Local organising committee

International programme committe

Introducers of sections (nowadays: chairs)

#### PROCEEDINGS

OF THE FIFTH INTERNATIONAL CONGRESS

OF

#### MATHEMATICIANS

(Cambridge, 22–28 August 1912)

EDITED BY THE GENERAL SECRETARIES OF THE CONGRESS

E. W. HOBSON SADLEIRIAN PROFESSOR OF PURE MATHEMATICS IN THE UNIVERSITY OF CAMBRIDGE

AND

A. E. H. LOVE

SEDLEIAN PROFESSOR OF NATURAL PHILOSOPHY IN THE UNIVERSITY OF OXFORD

## Repercussions of the Great War

- ICSU international science council
- Abbreviations: in French (diplomatic language, language of post office, ...)
- Founded by the French and Belgians
- Excluded from international scientific communication: Germans

(also: Austrians, Bulgarians --- that is those who lost)

### International Congress of Mathematicians: Interbellum

- Strasbourg, France (1920)
- Toronto, Canada (1924)
- Bologna, Italy (1928)
- Zurich, Switzerland (1932)
- Oslo, Norway (1936)

### Strasbourg 1920

Introducing new international organisations

**Excluding Germans** 

IMU: without Felix Klein, David Hilbert, and others

Resistence (1924)

COMPTES RENDUS

CONGRÈS INTERNATIONAL

DES

#### MATHÉMATICIENS

(Strasbourg, 22-30 Septembre 1920)

PUBLIÉS PAR

HENRI VILLAT Professeur à l'Université de Strasbourg.



TOULOUSE

IMPRIMERIE ET LIBRAIRIE ÉDOUARD PRIVAT Librairie de l'Université 14, rue des arts (square du musée) 1921

### Toronto 1924

First on the American continent

Czech participation

PROCEEDINGS

OF THE

#### INTERNATIONAL

#### MATHEMATICAL CONGRESS

HELD IN

TORONTO, AUGUST 11-16, 1924

EDITED BY

J. C. FIELDS Research professor of mathematics in the university of toronto

WITH THE COLLABORATION OF AN EDITORIAL COMMITTEE

VOL. I

REPORT OF THE CONGRESS LECTURES COMMUNICATIONS TO SECTIONS I AND II

> TORONTO: THE UNIVERSITY OF TORONTO PRESS 1928

## Bologna 1928

Germans were (finally!) also allowed to participate

Diplomacy

Is this an international congress?

What about the ones before?

Were they truly international?

#### ATTI DEL CONGRESSO INTERNAZIONALE DEI MATEMATICI

BOLOGNA 3-10 SETTEMBRE 1928 (VI)

TOMO I.

RENDICONTO DEL CONGRESSO CONFERENZE



## Zurich 1932

In parallel:

Rockefeller foundation grants

Institute for Advanced Study founded in Princeton

(Oswald Veblen)

Verhandlungen des Internationalen Mathematiker-Kongresses Zürich 1932

#### I. Band Bericht und Allgemeine Vorträge

Im Auftrage des Komitees für den Internationalen Mathematiker-Kongress Zürich 1932 herausgegeben von

Dr. Walter Saxer Professor an der Eidg. Techn. Hochschule



ORELL FÜSSLI VERLAG ZÜRICH UND LEIPZIG

## Oslo 1936

Commemorating

Niels Henrik Abel (1802-1829)

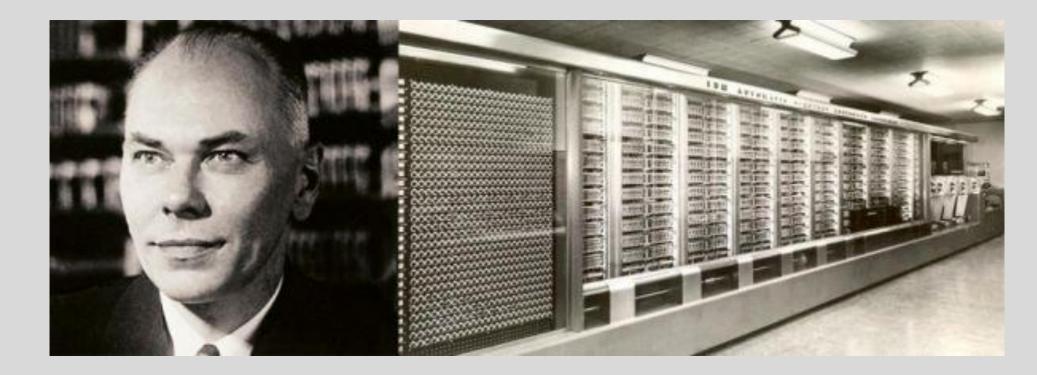
Note the sign And the language

Congresses growing in size

DU CONGRÈS INTERNATIONAL DES MATHÉMATICIENS OSLO 1936 Tome I Procès-Verbaux Conférences Générales A. W. BRØGGERS BOKTRYKKERI A/S **OSLO 1937** 

COMPTES RENDUS

#### Evening lecture by Howard Aiken at ICM 1950: *Computing Machines*



# 1st International Congress of Mathematicians after WWII: Cambridge, MA / Harvard (1950)



http://legacy-www.math.harvard.edu/history/icm1950/index.html

1 April 2021