Mathematicians and the 1920 Polish Soviet War

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Presentation derived from our new book:
Events known to historians of Poland,
but not to historians of mathematics.
Polish–Lithuanian Commonwealth in 1619, at its maximum extent
Eastern Front Line, 1916
Warsaw was relatively peaceful, until the armistice.
Central Europe in 1918

Poland’s Eastern Boundary in Dispute
In Fall 1918 Alfred Teitelbaum entered the University of Warsaw . . . intending to concentrate in biology.

But it closed for a year due to continuing strife with remaining German troops.
For 1919/1920 Alfred re-enrolled, but in courses on mathematics and logic.

**Spring Semester**

- **Stefan Mazurkiewicz**, calculus
- **Wacław Sierpiński**, number theory, measure theory
- **Stanisław Leśniewski**, foundations of math.
- **Stefan Pieńkowski**, physics

*New Poland, new University, new subject, new aspirations!*
• Polish mathematics was developing marvelously in 1920.

• Mazurkiewicz and Sierpiński were invited to the 1920 IMC in Strasbourg.

• But they declined.

• What else were these 3 professors doing?
Central Europe in June 1920

Eastward Advance of the Polish Army
To Arms!

This is what a village occupied by Bolsheviks looked like.

Bolshevik freedom
Give you room
Give you freedom
Give you the land
Work and bread
Basely cheated
Made war with Poland
Instead of freedom—the fist
Instead of land—requisition
Instead of working—misery
Instead of bread—hunger

Hey!
Whoever is a Pole
To your Bayonets!!
Central Europe in August 1920

Westward Rebound of the Soviet Army
• In 1919, Polish Colonel Jan Kowalewski broke Ukrainian codes → Poles’ decision to push Eastward.

• Assembled Cipher Bureau ➔ those 3 mathematicians.

• They broke the Soviet codes.

• Kowalewski sent coded false orders causing Soviets to halt short of Lwów, enabling Poles to keep them down there.

  [Sierpiński ➔ his son ➔ Stanisław Ulam ➔ Janusz Czyż]

• All Soviet communiqués decoded ➔ Poles’ routing Soviets & chasing them Northward out of Poland.  
  [Pepłoński]
• Almost no information about these events until 1990.

• Principal source now:

• I also mentioned

• Good introduction:
Stefan Mazurkiewicz (1888–1945)

- Needs a full biography.
- A founder of modern Polish mathematics.
- Probably the instigator of the decoding effort.
  - 1920 duel with some Army officer; divorce; former wife married Colonel Kowalewski.
- Major contributions to analysis and probability.
- Continued with Cipher Bureau until ??.
- That ➔ 1930s Polish decoding German *Enigma*.
Alfred Teitelbaum
(1901–1983)

• Volunteered in medical unit during summer 1920.
• Jewish volunteers not very welcome.
• In 1924, became Alfred Tarski.
Central Europe in June 1920

Eastward Advance of the Polish Army
Maria Witkowska  
(1902–1990)

• From Mińsk.
• Father & grandfather W. once exiled for politics.
• Grandfather J. killed by Germans in 1918 battle.
• Maria had 3 sisters & a brother.
• Father, then 78, murdered before them by Soviets in 1919.
• With 2 sisters joined Polish paramilitary.
• All 3 decorated for valor.
• Maria met Alfred where they worked, at the Third Boys’ Gimnazjum of the Trade Union of Polish Secondary-School Teachers.

• They married in 1929.

• Alfred taught there full-time until September 1939.

Late-1930s portraits by Ignacy Witkiewicz [Witkacy]
Thank you for your interest!

Joanna & Andrew McFarland
Witold Kozlowski (1919– )
Tarski’s high-school student

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