The Swiss Contributions to the International Development of Cartography: The Eduard Imhof Era

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Eduard Imhof
Cartographer and Artist

Eduard Imhof (1895–1986)
was a professor of cartography at the Swiss Federal Institute of Technology, Zurich, from 1925 – 1965. His fame, which extends far beyond the Institute of Technology, stems from his relief shading work on school maps and atlases. Between 1922 and 1973 Imhof worked on many school maps. He drew and shaded maps of Switzerland as well her various cantons and the Austrian province of Vorarlberg.

Eduard Imhof not only drew and mapped mountains, he also modelled them.
Figure: Grosse Windgällle, 1:2000, and rock drawing.

First ICA president
Eduard Imhof was the first president of the International Cartographic Association ICA (1961–1964).

Figure right: Lake of Wilerstaldt and See Valley, 1:10000, Map painting, 1938 – 1939. Section.
The picture conforms to the natural appearance of the landscape. Imhof “chose the visual experience of a landscape painter and his artistic conception.” The original art, painted with gouache colors, measures 480 x 200 cm. It is on permanent exhibit at the Swiss Alpine Museum in Bern.

-Eduard Imhof (1895-1986)

The Imhof era covers several decades, from the 1920s to the 1960s, in the eventful history of contemporary cartography.

From 1925 to 1965, Professor Eduard Imhof was the director of the Institute of of cartography of ETH Zurich. He was instrumental in the National Map Series (1938-1978) of Switzerland. The introduction of color shading for relief depiction is probably the contribution for which he is better known.

Imhof’s most important books are:
Gelände und Karte (1950),
Thematische Kartographie (1972),
Kartographische Geländendarstellung (1965),
which two years ago was reissued in English under the title Cartographic Relief Representation (2007).
The three stops of our itinerary:

- Sichuan Alps and ETH Zurich: Fieldwork and revelation in Gongga shan 贡嘎山 [Minya Konka] mountains, school atlases, and map conventions

- Paris and Berne: The emergence of an epistemic community and the foundation of the International Cartographic Association, ICA

- “Chicago” (short form for: “the Anglo-American historiography school”): Toward de-sacralization and de-nationalization in the history of cartography
FIRST STOP

The combination of art and field observations

Eduard Imhof’s expedition mapped this dangerous mountain in 1930. Thought to be higher than Mount Everest, the elevation of Gongga shan fell to 7,590 meters after he measured it.

... to conquer the “Third Dimension”

The daily sketches of the area that Imhof surveyed in the Sichuanese Alps (above) were based on distance estimations and compass measurement, as was usual still in 1930.

Imhof relied later on coloring and illuminating to better depict elevation and relief, like in this map of Mount Everest published in 1988 (below).

The definition of a scale of tints was a major achievement. The Swiss style of topographic mapping has influenced cartographers worldwide.
Swiss School Atlas

“Jamais le monde n’a changé plus rapidement qu’aujourd’hui. Même des faits et des conditions stables apparaissent soudain sous une forme nouvelle, ceci en conséquence de recherches scientifiques plus précises.

[...] L’aspect entièrement différent de l’Atlas est surtout dû à la nouvelle présentation du relief dans les cartes générales des régions, pays et continents; la méthode en fut élaborée par notre rédacteur, M. le Professeur Edouard Imhof.”

La Conférence des chefs des Départements cantonaux de l’Instruction publique, 1962
Imhof’s mission in Paris and Berne (but also Mainz, Chicago and Stockholm)

Imhof opened new forums to encourage the exchange of ideas across the discipline, from summer schools in Switzerland to international conferences abroad.

Despite the Cold War context, he conceived with colleagues from Europe and the United States the International Cartographic Association to promote the discipline and profession of cartography. “Extending international cooperation” was the purpose he stated in 1959.
Foundation meeting

The First General Assembly of Delegates adopted in Paris the Statutes prepared by de Bromer, Fitchet, Gigas, Harris, Imhof, and Mannerfelt. Several French government departments and public agencies, such as the Institut français du pétrole, supported the meeting.

Imhof served as president of the new association. The Soviet representative at the International Geographical Union prevented the affiliation of the ICA to the IGU.

Today, “ICA is the world authoritative body for cartography, the discipline dealing with the conception, production, dissemination and study of maps.”
ICA was founded June 9, 1959, in Bern, Switzerland. Preparatory conferences, during which its foundation was discussed, were held from 1956-1959: the Esselte conference, Stockholm 1956, the Rand McNally conference, Chicago 1957, and the DGfK conference, Mainz (Germany) 1958. The first General Assembly was held in Paris in 1961: that is also when the statutes were accepted.

Throughout its 50-year history, ICA has brought together researchers, government mapping agencies, commercial cartographic publishers, software developers, educators, earth and environmental scientists, and those with a passion for maps. The cartographic world has changed significantly since 1959 – the role and impact of ICA has been steadfast.
In July 2002, *CaGIS*, the journal of the American Congress on Surveying and Mapping, had a special issue on the history of cartography in the 20th century. This represented the culmination of an NSF three year long project.

Mark Monmonier and David Woodward were the guest editors. James Akerman, John Cloud, Peter Collier, Karen Cook, Michael Heffernan, Alastair Pearson, Alexey Postnikov, etc. contributed exploratory essays.

“The challenges of writing a twentieth-century history of cartography are daunting.”
The 20th century in a few titles. From right to left:

- Llyod A. Brown, *The Story of Maps* [1951]
- Arthur H. Robinson, *Elements of Cartography* [1953]
- *International Yearbook of Cartography*, 1, 1961
- *The Cartographer*, 3-1, June 1986
- *The American Cartographer*, 1-1, April 1974
- Eduard Imhof, *Gelände und Karte* [1950]
- [Charles H. Deetz and Oscar S. Adams, *Elements of Map Projection*, 1945]
- Max Eckert, *Die Kartenwissenschaft*, 2 [1925]
- Charles Frederick Arden-Close, *Text Book of Topographical Surveying* [1905]

“A selection of influential cartography books”
Photo courtesy of David Woodward.
*CaGIS* 29-3, 2002, cover page
More than a biography

Mapping the cold and high mountains of Sichuan and the numerous schools atlases he edited, as well as an obvious talent at merging art and science, turned Edouard Imhof into a living legend after he retired. Members of the Swiss government prefaced exhibition catalogues and biographical memoirs.

Imhof is today much more than a street name in Oerlikon, or an attractive figure for would-be biographers. Other reasons would justify our particular interest in his work, such as the relationships and debates he had with his colleagues. His untapped archives in Zurich could help us better understand how cartography has developed as it has.
Conclusion

Eduard Imhof’s maps: myths and narratives

Historiography and methodology at the turn of the 21st century

For more information, please tour the Eduard Imhof Virtual Library at ETH Zurich:
http://www.maps.ethz.ch/imhof/index_EN

Other useful links:
http://www.karto.ethz.ch/
www.geography.wisc.edu/histcart/
http://cartography.tuwien.ac.at/ica/

Chair of the Conference Center of the French Ministry of Foreign Affairs (May 1961)
“Maps do not tell you where things are, but who we are.” Robert Karrow, 2007

Thank you for your attention