



Erik W. Grafarend

„Grafarend 75“

Leibniz Sozietät der Wissenschaften

Friday, 13. February 2015

Dankesworte: Thanks

“to all of you”

“namely to:”

Leibniz Sozietät der Wissenschaften zu Berlin

A.v. Humboldt Stiftung

Moderator: L.G. Fleischer

G. Banse, President Leibniz Society, Berlin

Helmut Moritz (Graz): memory story **1971 Moscow**

Heinz Kautzleben (Potsdam): „Geodäsie und Physik der Erde“,
memory story: **Weimar 1982**
(E. Grafarend and Ivan Mueller)

J. Adam (Hungary): Academy of Sciences

M. Poutanen (Finland): Academy of Sciences and Letters

R. Rummel (Munich): ... DGK ...

P. Holota (Prague): “ellipsoidal Earth”

L. Sjöberg (Stockholm): my first Honorary Ph.D.

meeting the king of Sweden

- Break -

Thanks to all

**Geodesists, Geophysicists, Physicists-Mathematicians,
Mathematicians-Physicists**

from Europe and from Germany
(comments later)

Next: Reference Persons

My scientific Heros

(a la Hoagy Carmichael: **Star Dust**)

Friedrich Robert Helmert

born in Freiberg/Sachsen

(1843 - 1917)

1880: 2 volumes **“Theoretical Geodesy”**

1872: **“Least Squares Adjustment”**
(written in Aachen)

* studied “Polytechnical School” in Dresden:
Engineering Science

* 1863: assistant of Prof. Nagel in Dresden

- * 1867 – studies at the University of Leipzig: learnt “exterior calculus” from the local experts
- * 1886 – 1917: Director Potsdam Geodetic Institute

WHY

He learnt **the trigonometric height determination** produces ANHOLONOMIC COORDINATES, differential forms, he introduced **potential heights** based on the **gravity potential field** of the EARTH

My scientific Heros

(a la Jimmy Forest: **Night Train**)

Helmut Wolf

Born in Werdau/Sachsen

(1910 - 1994)

- * studied “Technische Hochschule in Dresden”
- * studied two years after his Ph.D. at the university of **Göttingen** with Max Schuler, 2 publications

- * founded the “**Institute of Theoretical Geodesy**”, the one-and-only-one at Bonn University
- * He was reviewer of my **Habilitation Thesis**, stipend from the DFG (**Habilitationsstipendium**)

* 278 publications, many Books

Father of the **European Datum**,
European Reference Ellipsoid,

Last paper devoted to F.R. Helmert, his scientific hero



Helmut Wolf
- das wissenschaftliche
Werk -- the scientific
work -

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70174 Stuttgart
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01.01.1998 A.D.

My scientific Heros

WHY

As the Founder of the famous “**Institute of Theoretical Geodesy**” he had an unbelievable spectrum of PUBLICATIONS ranging from

4 Honorary Ph.D.’s

Physical Geodesy, Geometric Geodesy, Satellite Geodesy, Photogrammetry, Cartography, Navigation, Adjustment Theory

See the DGK-publication:

Series A, Report 115, by E. Grafarend

Deutsche Geodätische Kommission bei der Bayerischen Akademie der Wissenschaften, **97 pages**, Munich 1998.

My scientific Heros

* Antonio Marussi

** Helmut Moritz

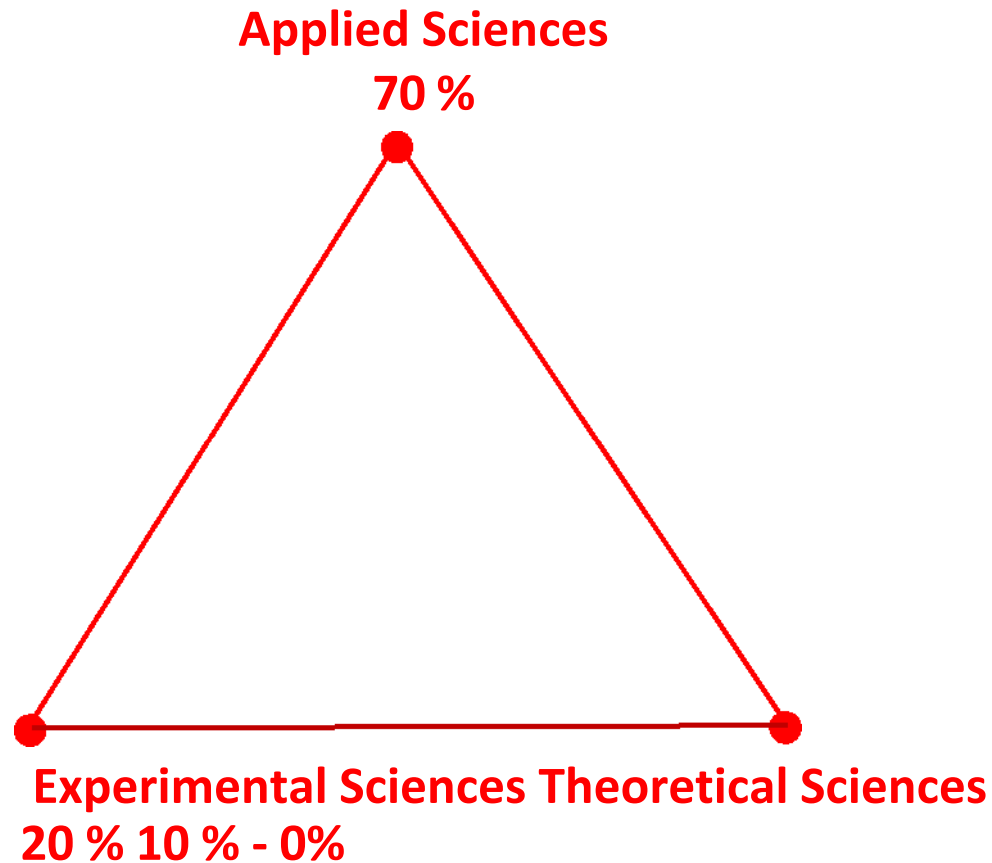
** Erwin Groten

** Wolfgang Keller



Mein wissenschaftliches Vermächtnis

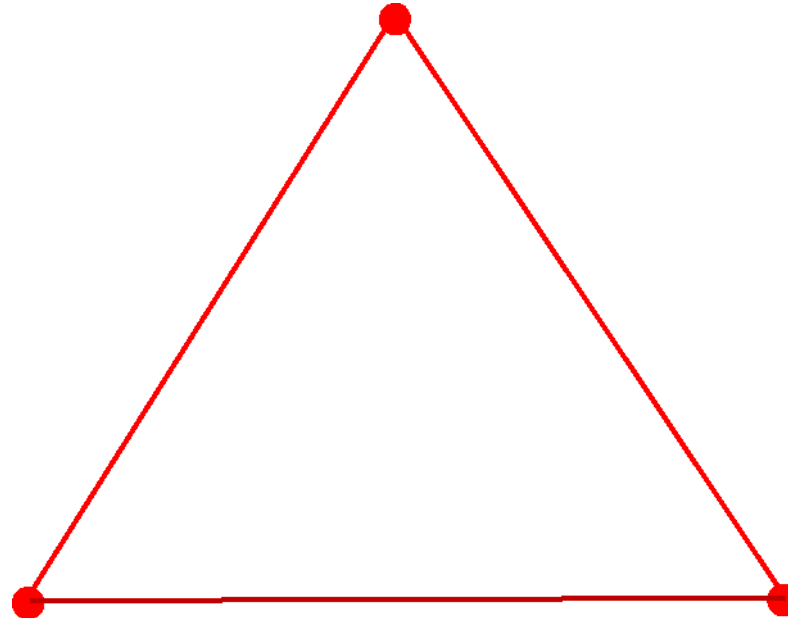
Triangular Structure of Sciences



Mein wissenschaftliches Vermächtnis

Example

Applied:
GPS positioning
(Applied Geodesy)



Experimental: Theoretical:
Hydrogen Maser Clock Relativistic Effects
(Experimental Physics) (Theoretical Physics)

Future of Geodetic Sciences

Geodesy – Photogrammetry – Cartography - Navigation

**Cooperations
of Geodetic Sciences**

Cooperations with

Geodesy, Geophysics, Environmental Sciences

and

**Physics and Mathematics
Astrophysics**

E. Grafarend, Leibniz Sozietät der Wissenschaften

Friday, 13th February 2015

manuscripta geodaetica

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„Nun steh ich hier
ich armer Tor
und bin so klug
als wie zuvor“

**Johann Wolfgang
von Goethe**