

# General reflections on the importance of documenting the history of CERN

**Herwig Schopper**

Former Director General CERN

**Two aspects will be considered:**

**Why should history of CERN be written**

**How should history be written**

**why and how can a physicist give  
advice to professional historians?**

## Story: My first experience with historians at CERN

In October 1982 a group of historians (independent of CERN and financed from outside) was set up by Council to write the history (from CERN Foundation to 1982)

A.Hermann, J.Kriege, U.Mersits, D.Pestre



Picot, Bohr, Scherrer

Armin Herman came to see me:

interviews with old gentlemen useless

They have forgotten, contradict each other

Conclusion: base report only on documents



Auger, Amaldi, Kowarski

**My reaction: wrong conclusion**

Ask various persons who participated in a meeting yesterday

→ different stories, different aspects of facts

*New ideas and real motivation for decisions are not in minutes!*

**Group continued with interviews -> excellent report**

**What I learned: Is there a true history?**

**Facts → different angles of view,  
different interpretations**

**Physics: also facts (experiments) → different interpretations (theories)**

**Selection criteria: range of facts explained, simplicity, verifiable predictions**

**Exist similar criteria in history?? Probably not**

# Why should the CERN history be written:

## Reasons:

- Outstanding Scientific success
- New way of global collaboration
- Interaction science and politics (science for peace)

These unique features of CERN justifying a new history study

In 1972 CERN Council discussions to set up a history group failed:

One delegate: 'CERN is still in a stage to make history rather than to write it'

# 1. Scientific and technical success

**CERN lived up gloriously to this request:**

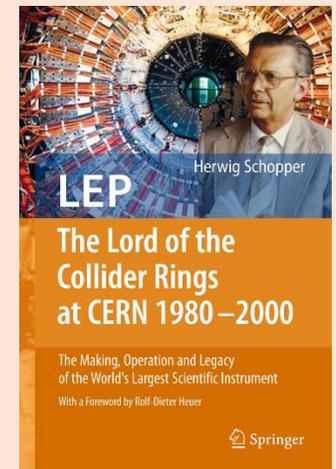
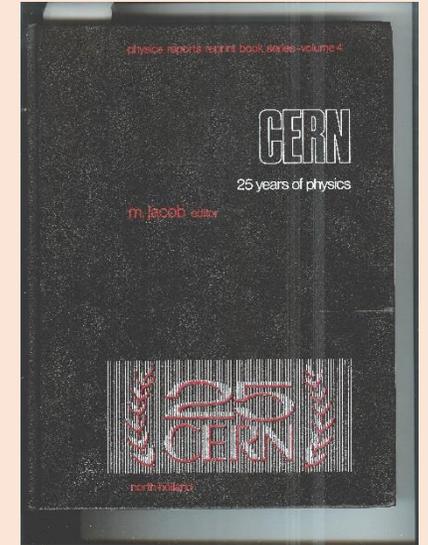
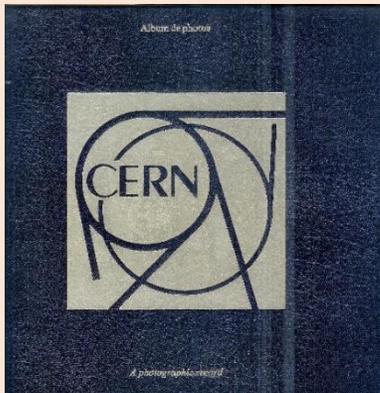
**ISR, SPS, LEP, LHC, Antimatter research, Isolde,.....**

**Fantastic machines, historic results**

**Some of this is documented,**

**in individual articles, books on LEP, Higgs,.....**

**but no systematics and completeness**



## 2. A new way from European to global collaboration

**A long continuous development**

- from small experimental groups
- To UA 1 and UA 2 - the first large groups (about 100 scientists)
- To LEP experiments international collaborations (several 100 persons)
- LHC 'experiments'- **independent global enterprises, (several 1000) billions of EUR**

**democratically organised, no CEO**

**Cooperation and competition -> co-opetition**

**Interesting from general sociological point of view**

WEF Davos shows over many years increasing interest

This year DG Co-chair



### 3. Science and politics

CERN founded on basis of two initiatives (almost forgotten):

- **Physicists pushed to unite European efforts to become competitive**
- **Politicians looked for peaceful cooperation between European countries**

European Cultural Conference 1948, Denis de Rougemont

**CERN's uniqueness: two objectives**

- **Promote science and technology**
- **Bring countries together (science for peace)**

**CERN spirit radiated and still continuous to radiate into politics**

e.g. International Parliamentarian Union is interested

**confidence building, humanitarian actions, many other ways**



**Denis de Rougemont,  
Robert Schumann**

# Some Examples for CERN and Science for Peace

(my selection, there are certainly many more)

- CERN - Serpuchov agreement 1968, only contract during cold war between Europe - Sowjetunion, model for later US-Sowjetunion agreement
- Dubna – CERN , e.g. only cooperation between West and East German scientists
- PR China – Taiwan, first scientific collaboration at L3 experiment  
(agreed by Deng Xiaoping )
- Helping scientists in distress, e.g. Orlov released quietly to CERN, Minister Petrosjan)
- Reagan- Gorbachov summit meeting 1985 at Geneva on nuclear disarmament

**Meeting ran into a deadlock.**

**head of the US delegation, Dr. Trivelpiece, a ‘Sherpa’ and physicist, called and suggested CERN for informal meeting as neutral place.**

**Dinner invitation in glass box de-blocked the negotiations.**

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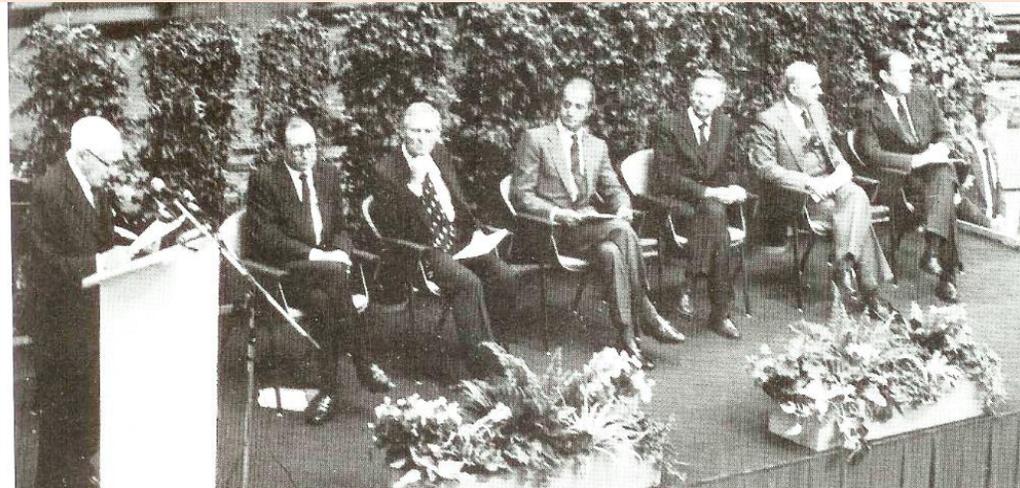
## Isidor Rabi at 30<sup>th</sup> anniversary of CERN 21 September 1984

*I hope that the scientists at CERN will remember that they have other duties than exploring further into particle physics.*

*...I appeal to them not to consider themselves as technicians ...but .*

*. as guardians of this flame of European unity so that Europe can help preserve the peace of the world'.*

Rabi made also some remarks indicating that he considered his involvement in the foundation of CERN as a certain compensation for his contributions to designing the atomic bomb.



Rabi, Aubert (CH), Merrison, Juan Carlos I, Schopper, Curien (F), Brooks (UK)

**Many other significant events**

are already forgotten or not known

## **Splitting of CERN 1972**

**CERN I and CERN II,**

**origin: new site for SPS**

**Two DGs, two separate labs with their loyalties**

**Re-unification decided 1981**

**Without unification no LEP, no LHC**



**W. Jentschke DG CERN I**

**J. Adams DG CERN II**

**In SPS tunnel**

## Political Problems with LEP tunnel

(not to mention geological issues)

### Legal situation for tunnel building

completely different in CH and F

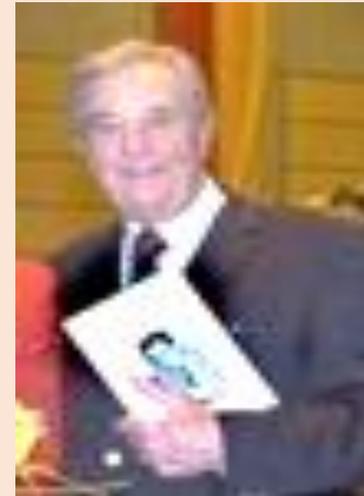
**F: Owner keeps right to center of earth  
each could have stopped the tunnelling  
to avoid it: declaration d' interet publique by highest court,  
but considerable political opposition**

**CH: public referendum or not ?**

**J.Vernet, Councillor in GE government: No referendum**

**Decision handed to me on his last day in office**

**Otherwise delay by several years**



Jacques Vernet

**Never adequately documented !**

Last question

**On what carrier should history be documented?**

**How to conserve it?**

Parchment, paper ? They decay

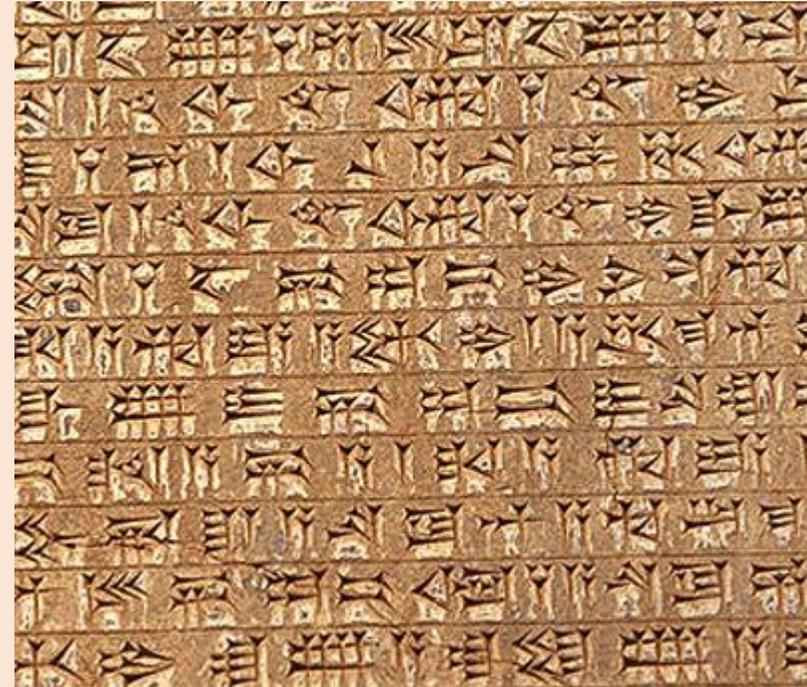
Digitisation?

Carrier (tapes, discs) last 30 to 50 years

Software and Equipment to read the data get obsolete

Copying everything every 30 years??

**clay tablets last longest!!**



Sumerian clay tablet on astronomy, 400 B.C.

What will historians think  
about CERN in 500 years?  
**Without written testimony?**

**Strange Perfect geometry of tunnels  
Kind of Stonehenge  
Place of worships**



The 7th FCC-ee  
Physics Workshop

A 100 km Tunnel for Luminosity, Energy and Precision

19 - 21 June 2014

TH Auditorium (CERN)

Register at  
[indico.cern.ch/event/313708/](http://indico.cern.ch/event/313708/)

Organizing committee  
Alain Blondel - U. Geneva  
John Ellis - U. College London  
Christophe Grojean - ICREA  
Patrick Janot - CERN

Designer  
Cristina Maria Pizarro

FCC  
International Design Study  
of Future Circular Colliders

European Organization  
for Nuclear Research

The poster features a central image of a tunnel with a dartboard at the end, surrounded by green foliage. A speedometer is visible in the bottom right corner.