Michel Gevers turns 65 -
Remembrance of the Past and Suggestions for an Emeritus

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Michel at the Dinner on the occasion of Manfred turning 68 and becoming Emeritus

Fact: Michel is happy

Interpretation

(Note there are in general several interpretations possible for a given fact: The problem of identifiability)

Why is he happy?

- Because he is not yet an Emeritus?
- Because he is looking forward to become Emeritus?

Later on, I will give some arguments why the second interpretation is more appropriate (by using prior information, which at least from a Bayesian point of view, makes identifiability easier)

My first encounter with Michel

We met on an airplane from New York to Boston on the way to
the conference "Geometry and Identification", organized by
Peter Caines and Bob Herman in June 1982.

At the ANU (early eighties)

Brian Anderson had moved to the ANU and Michel was visiting him. At the same time, I visited Ted Hannan, and Ted and Brian had their office in the same building.

This was a period of intensive discussions, both on scientific and on non-scientific topics.
Weekend trip to Bega

Parametrization of Monic ARMA Systems

Parametrization of Linear Systems: Kalman

Parametrization was originally done for state space systems. Here the dimension of the minimal state and the set of all systems with this minimal dimension are 'natural' objects. This is not the case for ARMA systems.

Prescription of maximum lags, e.g. of column degrees

In September 1986, Michel came to Vienna for a month, to work on topological properties of 'natural' parametrizations of ARMA systems. IFAC 1986, Automatica 1989. We made several trips. Mountain Lemma and Melk Theorem.

As a more general remark, I should say, that I was very keen to get intensive contacts to the system identification community.

Idea: Convergence of time series (econometrics) (Ted Hannan) and system identification (Kalman, Akaike)

Books by P.Caines, L.Ljung, T.Söderstrom and P.Stoica, T.J.Hannan and M.Deistler in the second part of the eighties, and by G.Reisel later

Particular focus: Combining structure theory of linear systems with parameter-estimation and model selection.

The Birth of ERNSI

Several mutual visits

1988(?) at dinner in Michels house: Michel and I discussed the idea of a European Network on System Identification. Jan van Schuppen made a marvellous job as coordinator.

Substantial impact of ERNSI:

- Subspace Methods
- Identification under Control
- Data Driven Local Coordinates

Divergence

From the nineties onwards econometrics and system
identification drifted apart.

- **Econometrics:** Nonstationarities, cointegration,
  microeconometrics, financial econometrics.
  ARMA and state space systems are considered to be of
  minor importance compared to AR systems.

- **Michel:** Identification and control.

Thanks and Future Work

Thank you Michel for your friendship, we had a marvellous time together.

Future work:

- Singular rational spectra and their state space representations: Your work with Tom Kailath at Stanford

Remarks and Suggestions

We are 'biologically younger' now than our parents at the same age.There is life after retirement. Even more:

When I retired Bruno Buchberger wrote to me:

'The best time of your life is ahead of you.'

And after one year of being emeritus, I can confirm this. Enjoy, and make use of your time.

Marie Evelyn and Michel, all the best,

and please let us stay in contact.

Manfred