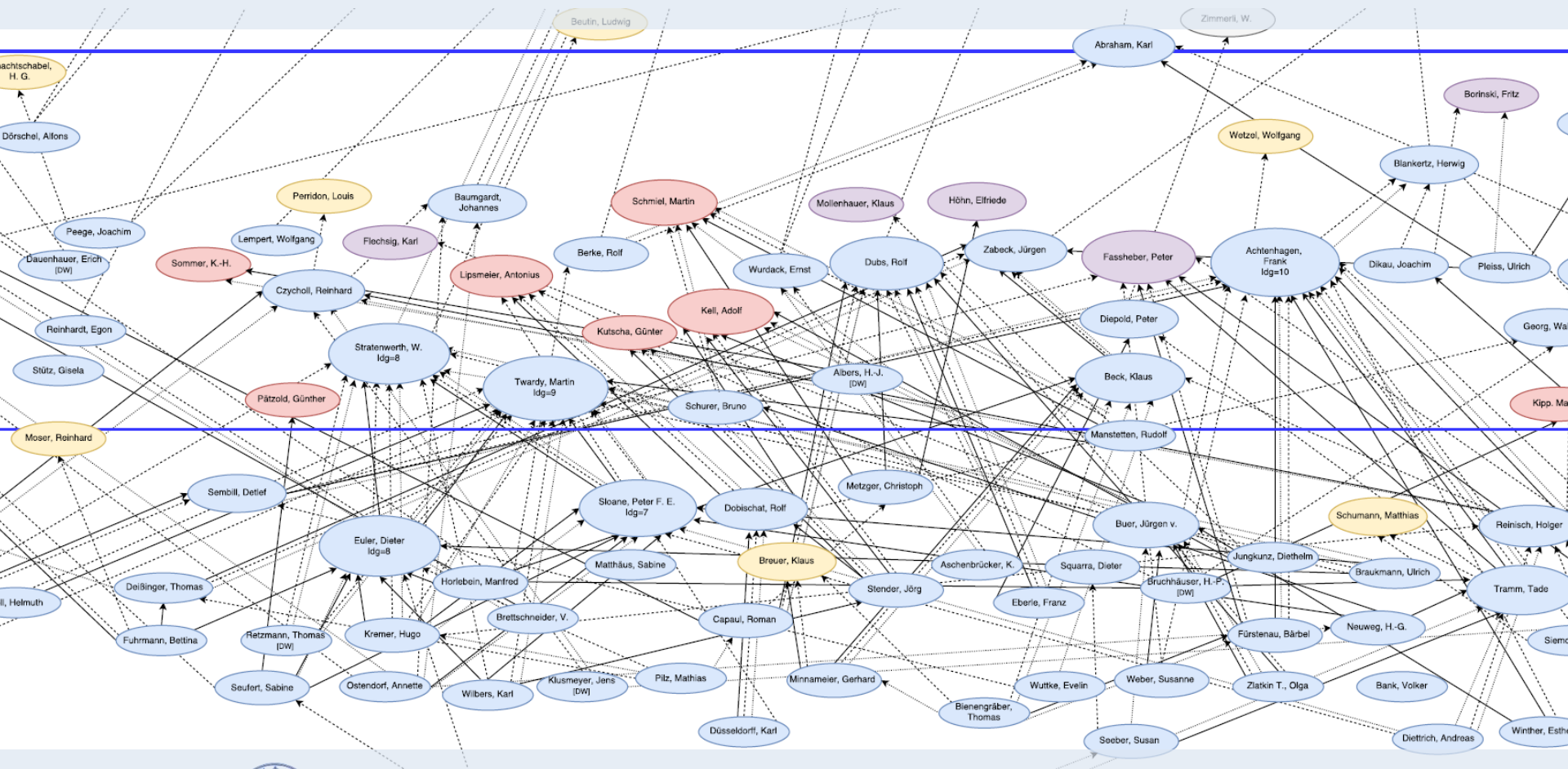


# The Academic Professionalisation of Business Education as a Science

*A Collective-Biographical and Network-Analytical Study of Discipline Formation in the German-speaking Area in the 20th Century*





**Karl von der Aa** (\* 1876 – † 1937)

Prof. of ‚commercial school education‘  
since 1923

Higher education institution of commerce  
Leipzig

Elementary school teacher, studies in  
economics, law and commercial school  
education, former director of the  
‚commercial school‘ of Bautzen, no  
postdoctoral qualification (habilitation)

With some justification, this department  
can be described as the first ‚business  
education‘ professorship (Reinisch, 2009, p. 1)



**Susan Seeber** (\* 1964)

Prof. of Business Education (BE) since  
2010

University of Göttingen

Studied BE, research assistant in BE,  
doctoral thesis in BE, postdoc in BE,  
postdoctoral qualification (habilitation)  
in BE, ‚Venia Legendi‘ in BE (VET)

Prof. Dr. Susan Seeber was a former  
member of the board of the subdivision  
of VET of the German Educational  
Research Association (GERA).



# Structure

## **(1) Introduction**

(2) A theoretical approach

(3) Research design

(4) Some preliminary results

(5) Research prospects

# Overview of the entire research programme

- **Long-term focus:** Development and the internal and external differentiation of vocational and business education (VET) as a science as well as its relations to neighbouring disciplines (*as communication community of scientists (in the 20th century)*)
- **Starting point:** Systems-theoretical differentiation of disciplines (e. g. Stichweh, 2013) by using different (partial-)theories of science studies (e. g. Clark, 1972, *The Stages of Scientific Institutionalization*)
- **Aim:** Description and explication of the development and constitution of VET as a science (in particular the epistemological development)
- **Methodical approach:** Collective biographical and network analysis (e. g. Schröder, 2011; Bohnsack, 2007; Nohl, 2013) of VET scientists (in this contribution: Professors of BE) and in future e. g. Oral History and bibliometric analysis

# Where does the VET as a science in the German-speaking area comes from or why does it exists? – A synopsis (Zabeck, 2009, pp. 520-534)

## Business Education (BE) (,Wirtschaftspädagogik')

- Result of the development of ,Handelsschulen' (transl. commercial schools) and ,Handelshochschulen' (transl. higher education institutions of commerce) in the 19<sup>th</sup> century against the background of an already existing need for teacher training.
- Establishment of teacher training courses at ,Handelshochschulen' (transl. higher education institutions of commerce) at the transition to the 20<sup>th</sup> century (first 1898 at the ,Handelshochschule' Leipzig).
- First professorship 1906 in Berlin (Dunker) or 1923 in Leipzig (von der Aa). According to prevailing opinion, Leipzig 1923 is the first chair of BE (Reinisch 2009; Zabeck 2009).

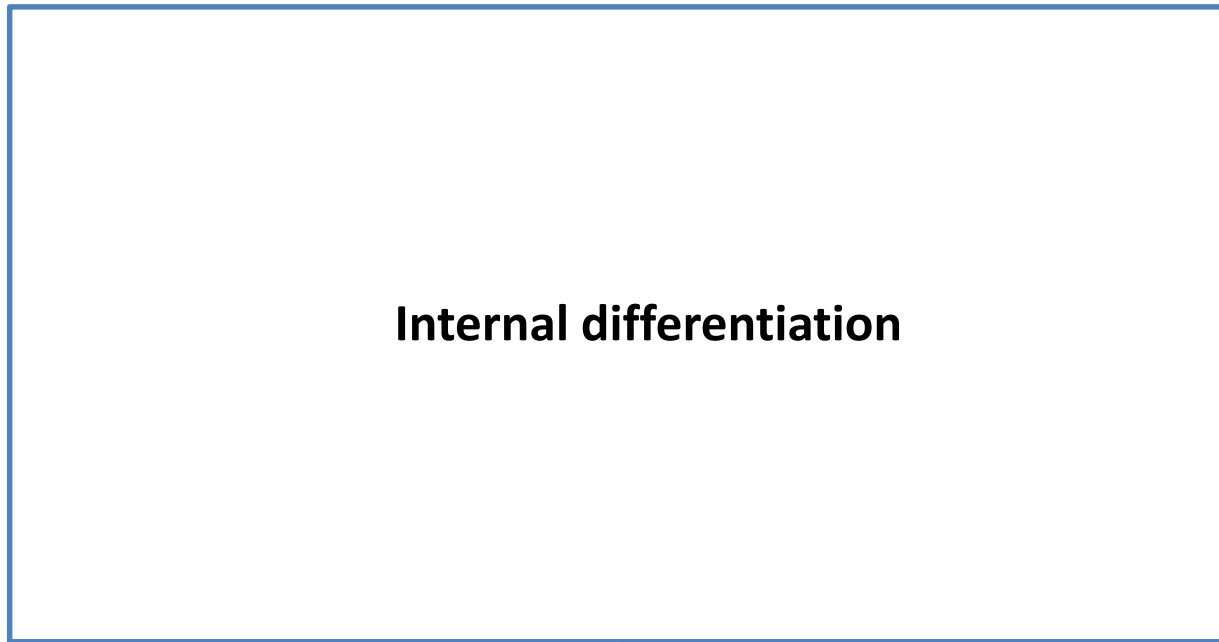
## Vocational Education (VE) in the strict (German) sense (,Berufspädagogik')

- Result of the development of ,Fortbildungsschulen' (transl. continuation schools) in the 19<sup>th</sup> and 20<sup>th</sup> century against the background of an already existing need for teacher training.
- First only teacher training courses outside of ,universities' as from the year 1913 (so-called ,seminaristische (Gewerbe-)Lehrerbildungsgänge an Berufspädagogischen Instituten', first Berlin, later on in Frankfurt a. M., Köln und Königsberg).
- First professorship of VE 1951 in Hamburg (Riedel) or 1963 in Darmstadt (Abel); contradictory statements in literature.

Scientific interlocking of Vocational and Business Education (VET) as an educational partial discipline took place in the late 1960s, e. g. in the subdivision of VET of the German Educational Research Association (GERA) (since 1964).

# What is interesting in particular? – External and internal differentiation of scientific disciplines (Stichweh, 2013)

**External differentiation**



Scientific discipline (e. g. VET or BE) as a communication community of scientists  
(or as a subsystem of a modern society)

# Back to the current focus: The Academic Professionalisation of Business Education as a Science



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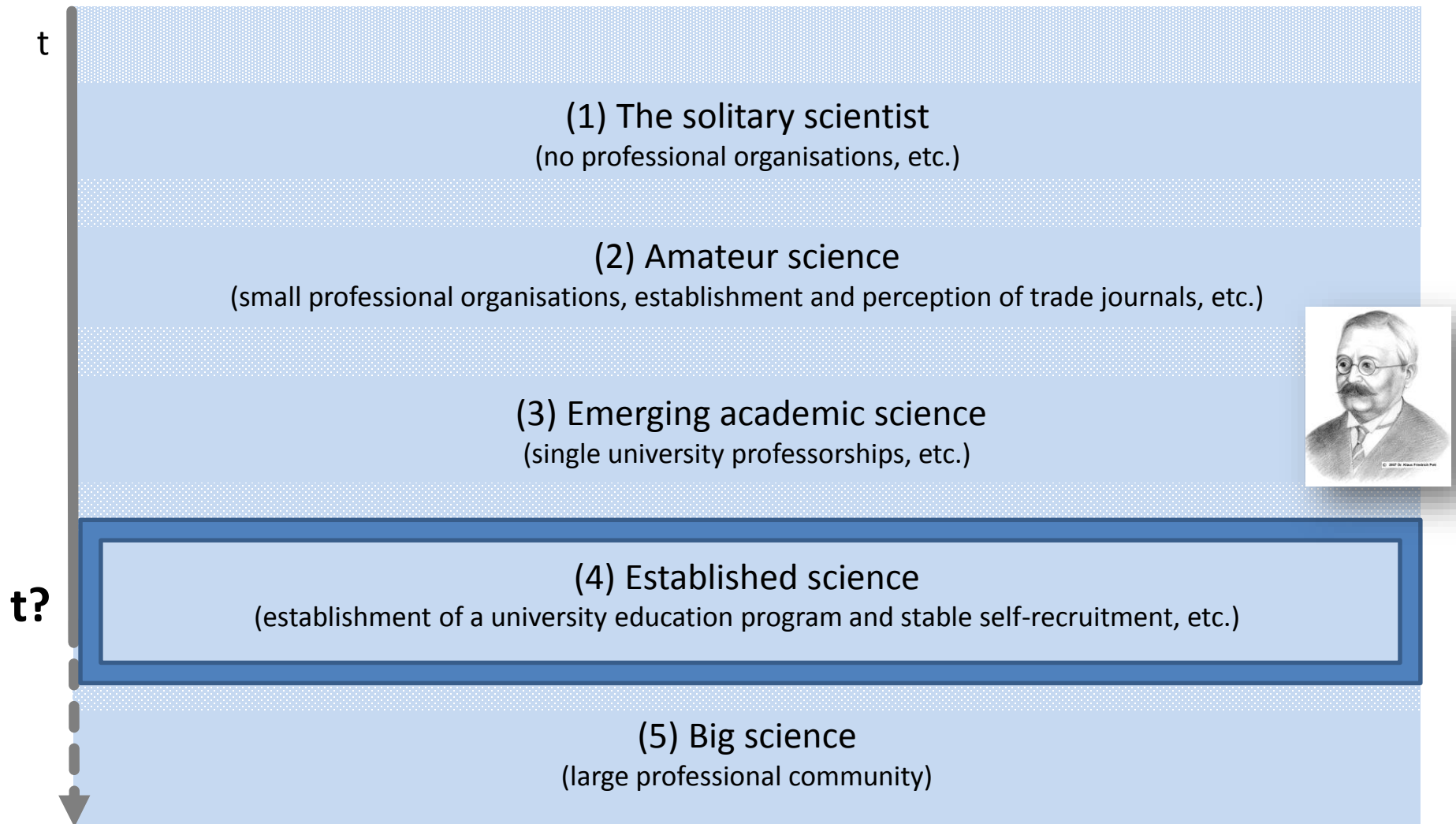
(4) Some preliminary results

(5) Research prospects



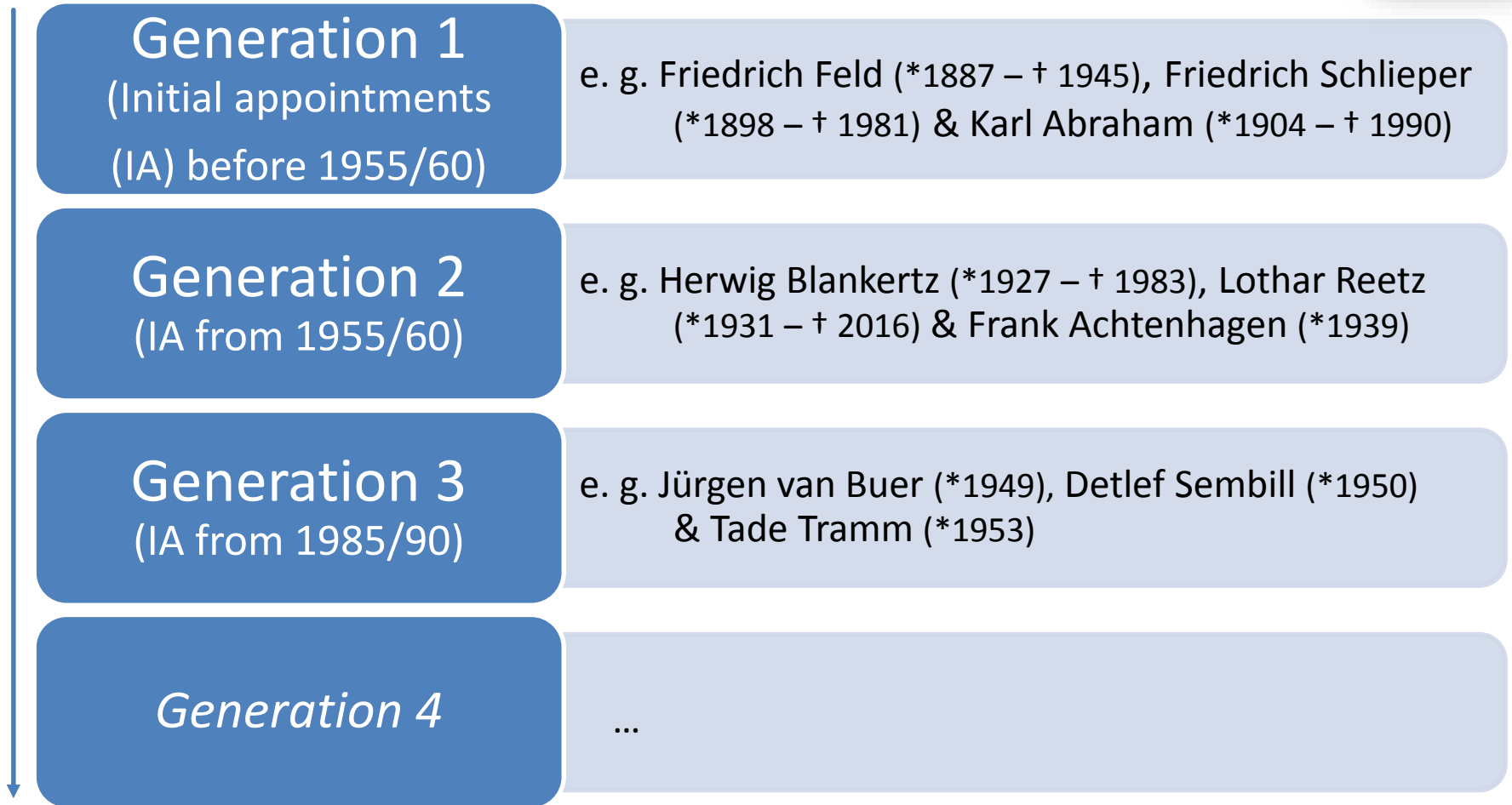
## (2) A theoretical approach

The stages of scientific institutionalisation (Clark, 1972)



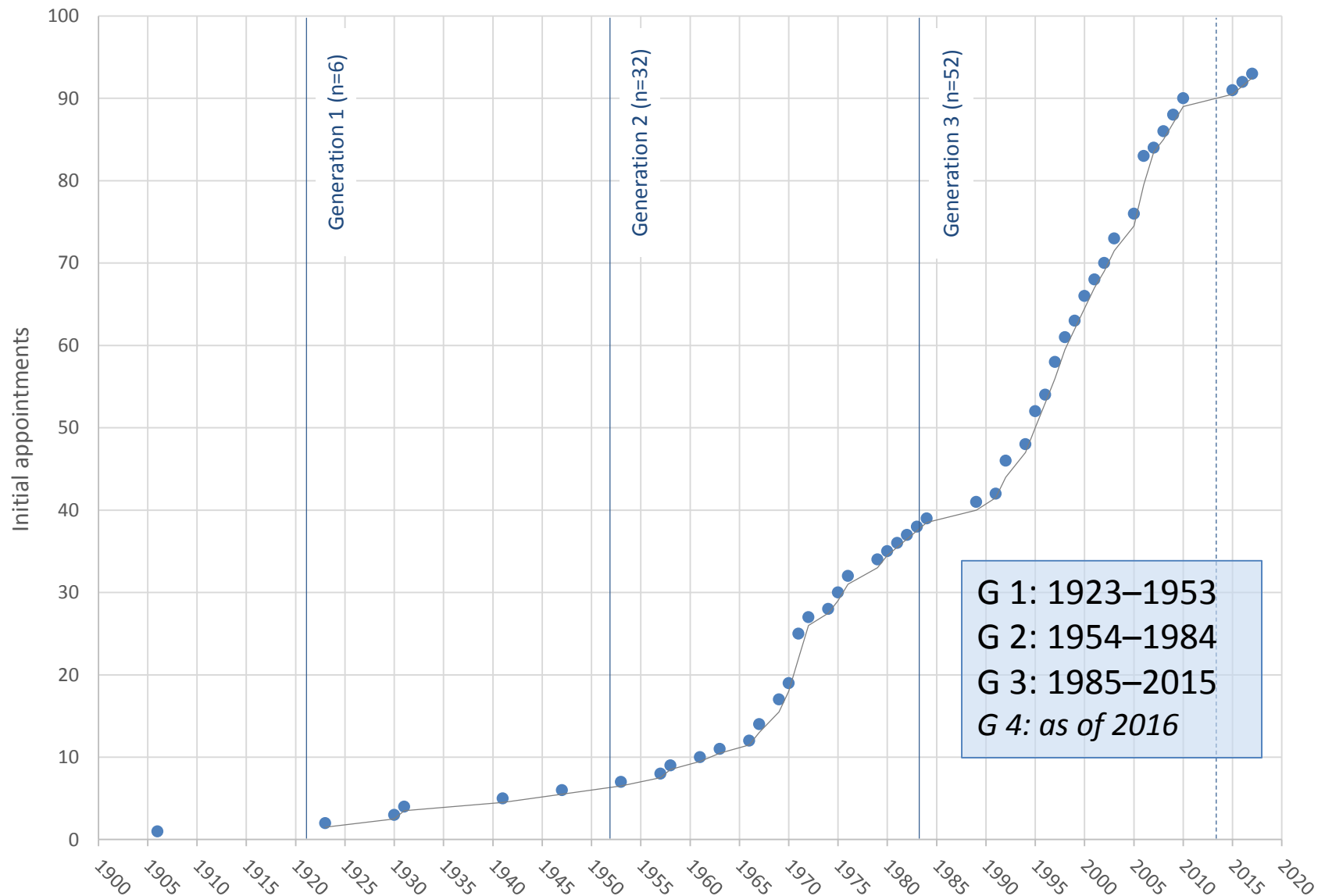
## (2) A theoretical approach

Zabeck's (2006) generational classification of BE



Prof. Dr. Jürgen Zabeck (\* 1931 – † 2014) was Professor of Business Education of the Higher Pedagogical Institute of Berlin (1969), of the Free University of Berlin (1969–1972) and the University of Mannheim (1972–1997).

# Cumulative initial appointments of BE professors 1906-2016 (n=93)



Source: Own presentation based on the collective-biographical data set (status: Sept. 2017)

# Structure

- (1) Introduction
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- (3) Research design**
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### (3) Research design

Research question focused in this contribution

(F1) From what generation onwards can BE be described as an established science or (partial-)discipline of educational science (in the sense of Clark, 1972)?

(F2) ...

# (3) Research Design

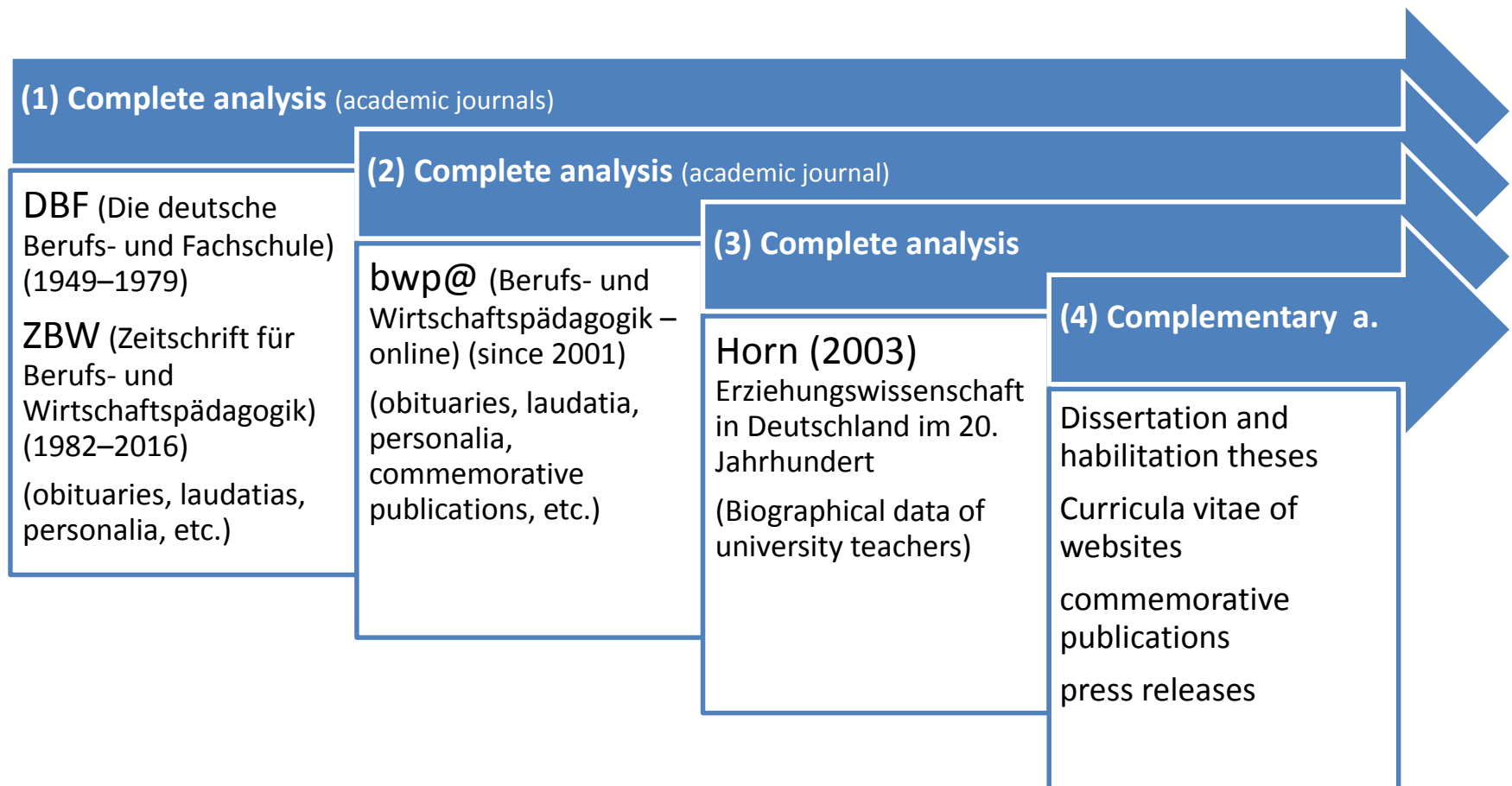
## Hypotheses of F1

- (H1) In the progressing establishment process, the number of BE professors increases.
- (H2) In the progressing establishment process, the initial appointment age of the BE professors decreases.
- (H3) In the progressing establishment process, the number of qualification and/or employment relationships between the BE professors increases.
- (H4) In the progressing establishment process, the relative share of non-discipline professors who are in qualification and/or employment relationships with professors of the BE decreases.

# (3) Research Design

## Data collection

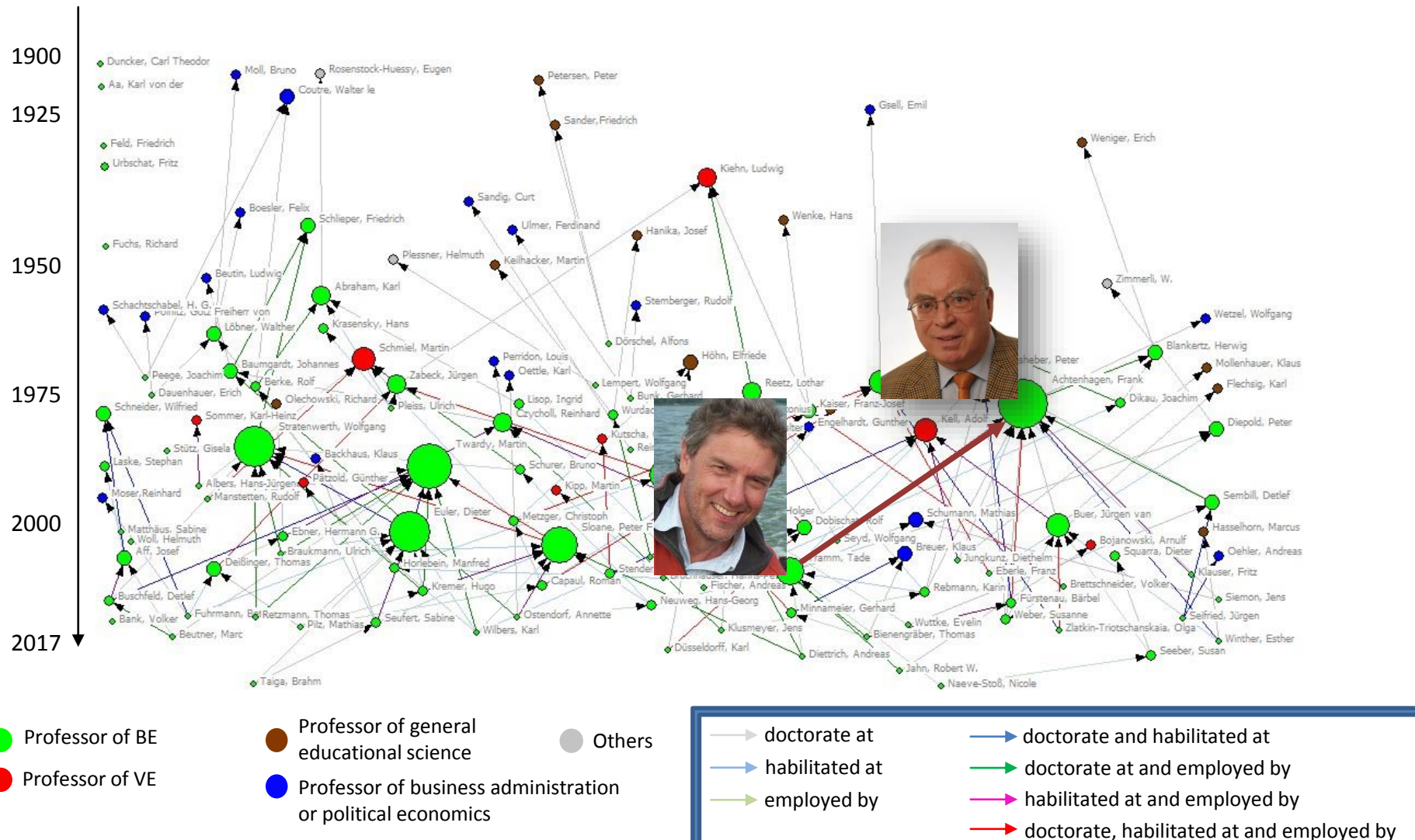
The personal data was obtained from publicly accessible documents (N=175).



### (3) Research Design

Data preparation (Schröder, 2011; Stegbauer & Rausch, 2013; Trappmann, Hummell & Sodeur, 2005)

NetDraw-plot of the network of BE professors (N=139)



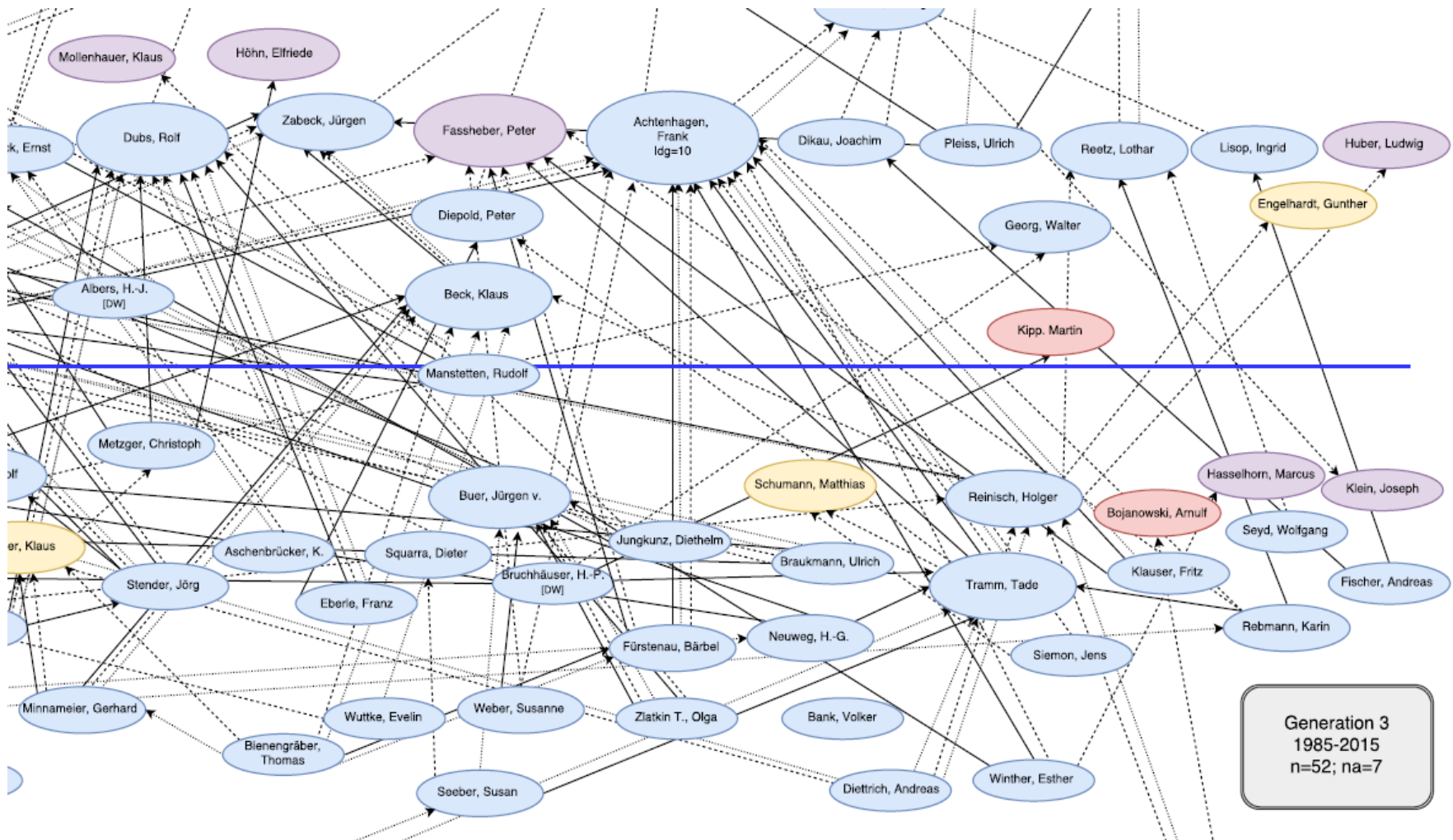
Source: Own presentation based on the collective-biographical data set (status: September 2017)



### (3) Research Design

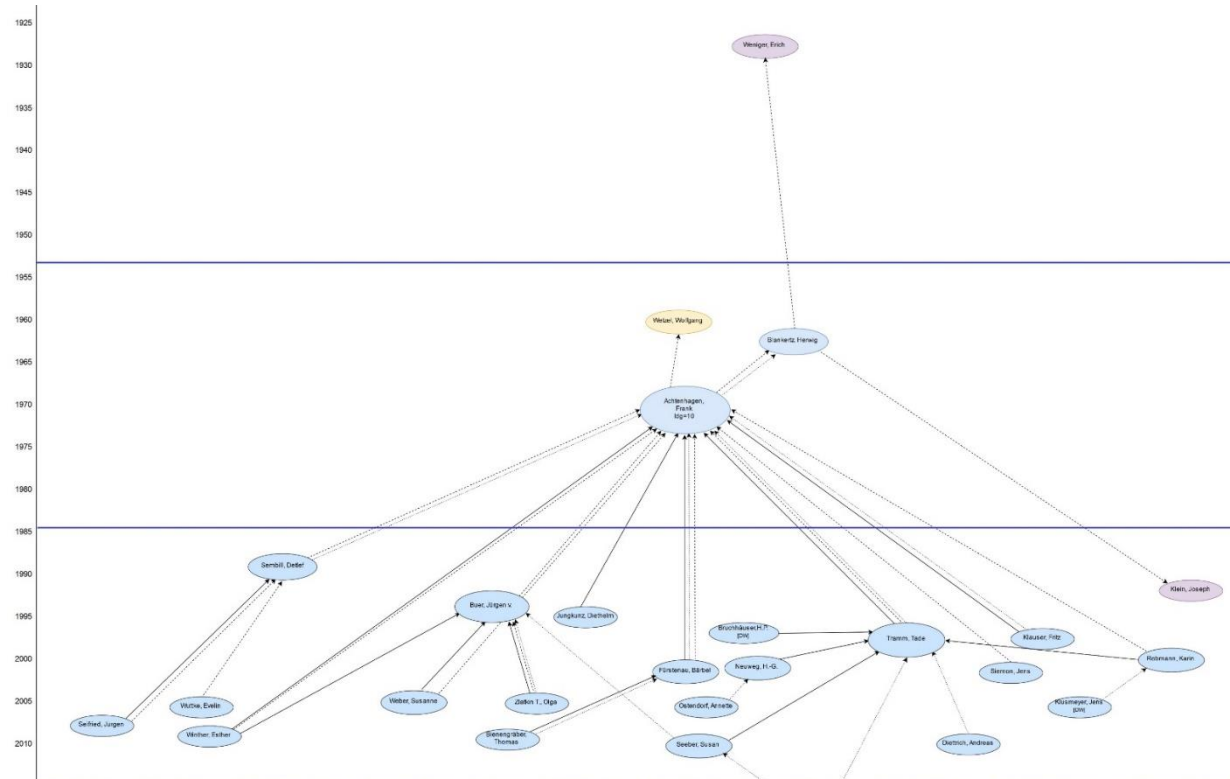
#### Data preparation

Excerpt of the optimized network of BE professors with draw.io (N=139)



Source: Own presentation based on the collective-biographical data set (Status: Sept. 2017)

Exemplary verification of data and network quality on the ego network of Frank Achtenhagen (per interview)  
(Status: **before** validation )



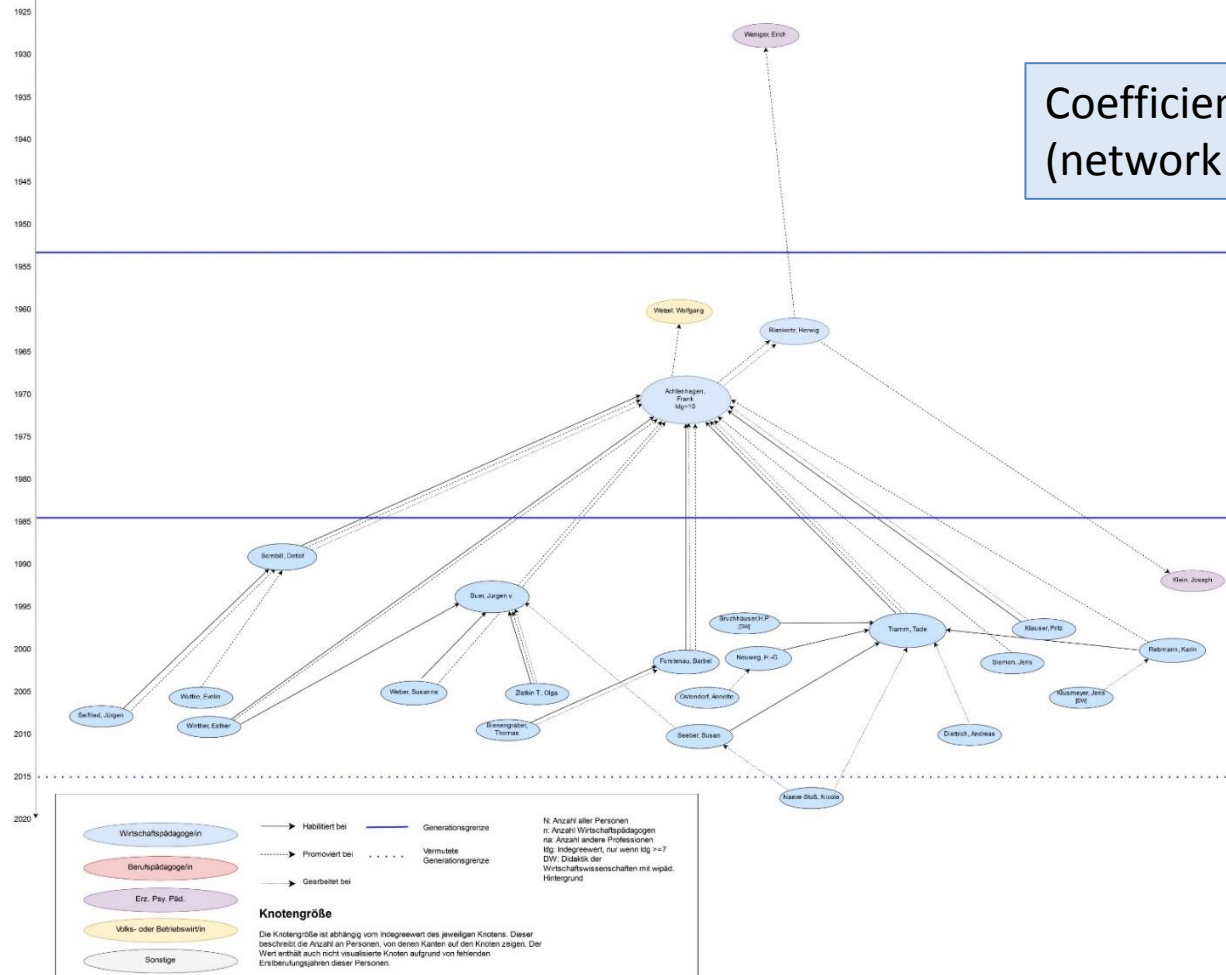
Prof. (em.) Dr. Dr. h. c. mult. Frank Achtenhagen (\* 1939) was Professor of Business Education and head of the research area of Business Education of the University of Göttingen (1971–2007).

# (3) Research Design

Exemplary verification of data and network quality on the ego network of Frank Achtenhagen (per interview  
(Status: **after** validation )



Coefficient of conformity  
(network relations): 99.95 %



Prof. (em.) Dr. Dr. h. c. mult. Frank Achtenhagen (\* 1939) was Professor of Business Education and head of the research area of Business Education of the University of Göttingen (1971–2007).

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- (5) Research prospects

## (4) Some preliminary results

Verification of hypothesis H1 over generations (G1-G3)

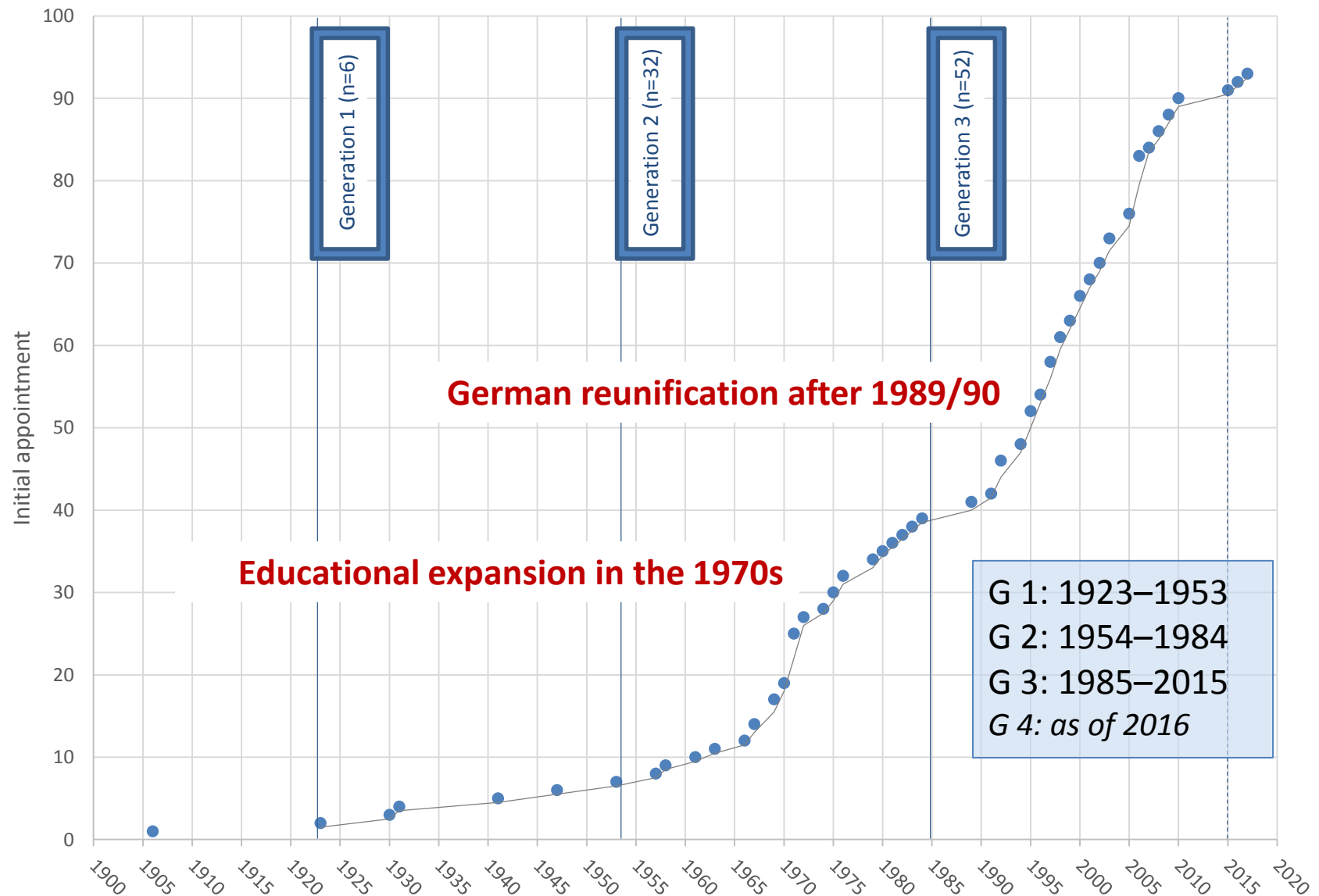
**(H1) In the progressing establishment process, the number of BE professors increases.**

(H2) In the progressing establishment process, the initial appointment age of the BE professors decreases.

(H3) In the progressing establishment process, the number of qualification and/or employment relationships between the BE professors increases.

(H4) In the progressing establishment process, the relative share of non-discipline professors who are in qualification and/or employment relationships with professors of the BE decreases.

# Cumulative initial appointments of BE professors 1906-2016 (n=93)



## (4) Some preliminary results

Verification of hypothesis H3 over generations (G1-G3)

- (H1) In the progressing establishment process, the number of BE professors increases.
- (H2) In the progressing establishment process, the initial appointment age of the BE professors decreases.
- (H3) In the progressing establishment process, the number of qualification and/or employment relationships between the BE professors increases.**
- (H4) In the progressing establishment process, the relative share of non-discipline professors who are in qualification and/or employment relationships with professors of the BE decreases.

## (4) Some preliminary results

Verification of hypothesis H3 over generations (G1-G3)

(H3) In the progressing establishment process, the number of qualification and/or employment relationships between the BE professors increases.

| Generation     | Number of BE professors | Sum Indegree | Average Indegree |
|----------------|-------------------------|--------------|------------------|
| G1 (1923-1953) | 6                       | 5            | 0,8              |
| G2 (1954-1984) | 32                      | 78           | 2,4              |
| G3 (1985-2015) | 52                      | 52           | 1,0              |

Average Indegree of the Professors of BE (by generations), Source: Collective-biographical data set (status: Sept. 2017)



## (4) Some preliminary results

Limitation of the establishment period of BE (according to Clark, 1972) over generations (G1-G3)

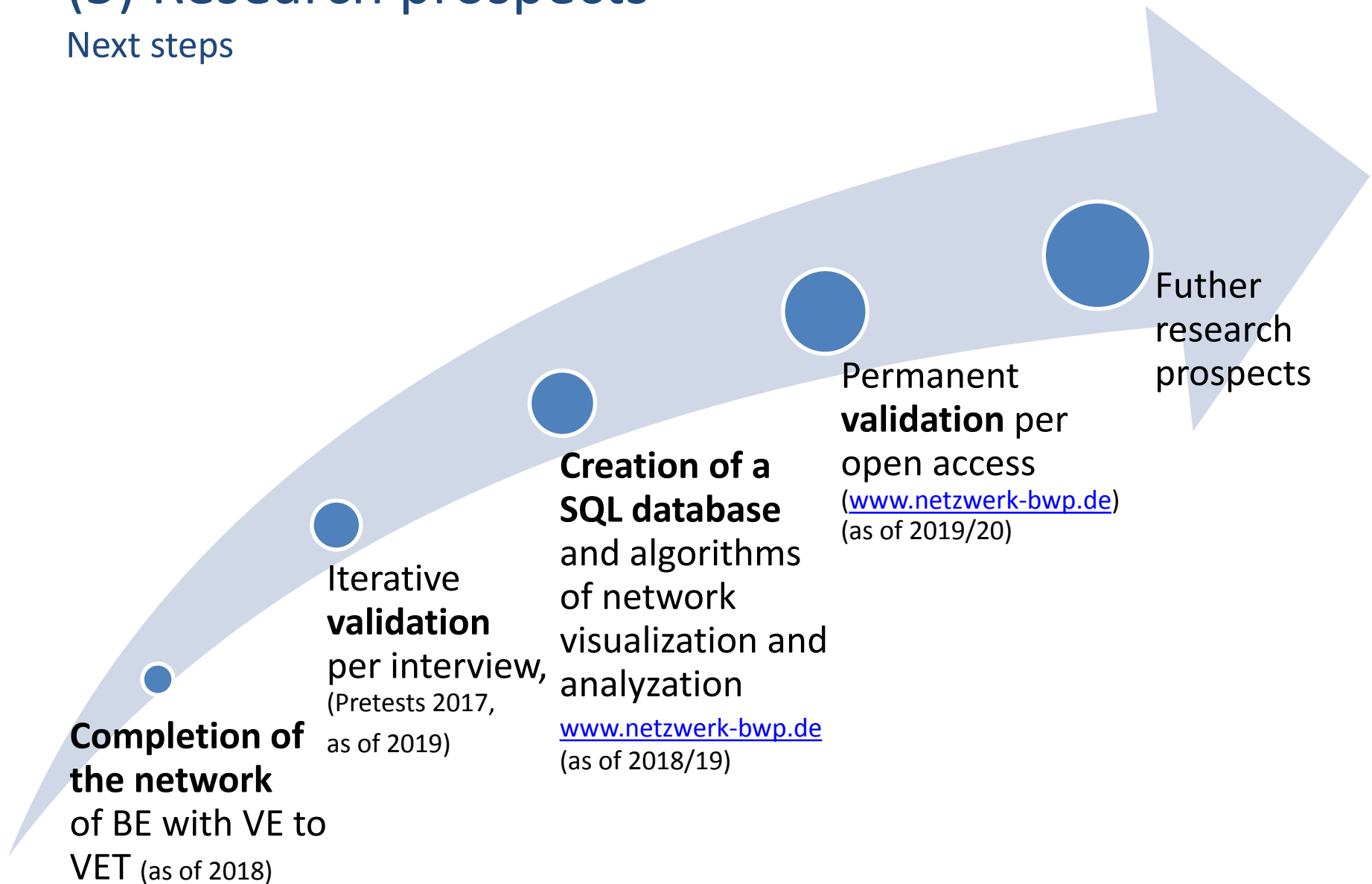
| Hypotheses  | G1<br>(1923-1953) | G2<br>(1954-1984) | G3<br>(1985-2015)  |
|---|-------------------|-------------------|--------------------|
| <b>(H1)</b> In the progressing establishment process, the number of BE professors increases.  | X                 | ✓                 | ✓                  |
| <b>(H2)</b> In the progressing establishment process, the initial appointment age of the BE professors decreases.   | X                 | ✓                 | (✓)<br>rel. stable |
| <b>(H3)</b> In the progressing establishment process, the number of qualification and/or employment relationships between the BE professors increases.  | X                 | ✓                 | (✓)<br>expectable  |
| <b>(H4)</b> In the progressing establishment process, the relative share of non-discipline professors who are in qualification and/or employment relationships with professors of the BE decreases. | X                 | X                 | ✓                  |

# Structure

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## (5) Research prospects

Next steps



## (5) Research prospects

### Further ideas

e. g.

- **Comparative biographical analyses** (e. g. classification per cluster analysis)
- Analyses of groups (scientific schools) per ego networks (e. g. with regard to size, period of time, forms of relations, percentage of other disciplines)
- Qualitative analyses on the basis of ego networks (oral history)
- **Bibliometric analyses** (e. g. of publications and/or presentations) **of groups** (scientific schools) **to identify epistemological positions and paradigm shifts**
- Conception of a category system as a basis to identify epistemological or paradigm shifts (of VET)
- ...

*network-vet ?*

?

?



We would like to invite you, to extend our research to Scandinavia (*maybe in cooperation with Franz Kaiser*).



*If you like, you can follow us on:*  
**[www.netzwerk-bwp.de](http://www.netzwerk-bwp.de)**

Netzwerk-BWP

PROJEKTBEITRÄGE

LOG IN



# Das Netzwerk der BWP

# Take-home message

Why do we first develop a collective biography or a biographical network of scientists of VET? (Kuhn 1970, pp. 179-180)

‘Both normal science and revolutions are, however, community-based activities. To discover and analyze them, one must first unravel the changing community structure of the sciences over time. A paradigm governs, in the first instance, not a subject matter but rather a group of practitioners. Any study of paradigm-directed or of paradigm-shattering research must begin by locating the responsible group or groups.’



# Thank you for your attention!

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Institut für  
Berufspädagogik



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