German Graduate Education Reforms and Their Implication for US Doctoral Education

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Preface

- Thanks to the helpful people and organizations making this talk possible: DAAD, Max Vögler-DFG, Isolde von Bülow-LMU, Gregg Thompson-UCB, Steffen Burckhardt-GGNB

- A reminder that almost everything I say can be contradicted, is subject to bitter debate and that a critical perspective is required-the angle of perception matters

Purpose of Talk

- To examine doctoral education's purpose and organization in predominantly in Germany
- Give an overview of the organization of German higher education and its characteristics focusing on doctoral education
- Discuss aspects of reform largely within the Excellence Initiative
- Discuss how these could be applied to US doctoral education and why they would be useful
- Discuss path US could take

Background to Discussion

- German and US universities are fundamentally different in their conception and organization
- Profound mutual misunderstanding about one another's system exist
- Doctoral education in particular
- Both countries struggling to define the purpose of doctoral education, definitions arising in very different contexts in each
- Germany is a caldron of "reforms" from reducing the years to an Abitur from 13 to 12, introducing layers of new administration in universities, etc.

German and US universities are fundamentally different in their organization: Germany before Bologna

- National legal framework of state and Bund cooperation, increasingly under European mandates
- Funding largely from states
- Freedom to teach and research freely. (Artikel 5 (3) Grundgesetz, Mai 1949)
- Universal access for those holding Abitur
- Close relationship between research and teaching
- Low or no fees for most German students-- debate

Characteristics of German System before Bologna—and still present

- Heavy emphasis on research based on the "Einheit von Forschung und Lehre."
- Decentralized system of universities of more or less equal quality
- Structuring of majors (*Studiengänge*) based on career paths
- State control of structural and operational parameters: setting formal qualifications, internal budgeting, faculty hiring,
- States hold power to confer doctorates, mostly confined to universities, not Fachhochschulen

Changes since Bologna from 2000

- Introduction (hesitantly) of structured Bachelors and Masters degrees
- As new degrees enabled reform doctoral programs to require a Masters degree
- Introduced new emphasis on foreign language skills, institutional mobility, career training, internationalization of academic work
- Shifted to heavy emphasis of "practical" training for employment (even bringing research to market)

German Higher Education Landscape

- 108 Universities out of 428 *Hochschulen*
- 216 Universities of Applied Sciences (*Fachhochschulen*); also Teaching, Theological, Art, Administrative.
- 112 Private *Hochschulen* (Source: Die Welt, 11.02.13)
- Enrollment Universities: 1,673,053 out of total 2,618,221

- Source: Statistisches Bundesamt, Wiesbaden, 2014. *Studierende, Hochschulen insgesamt*

DAAD, The German University System at a Glance, 2012

"Abschlüsse" in German System

- Bachelors Degree (from 2000, 6-8 semesters)
- Masters Degree (from 2000, 2-4 semesters)
- *Magister* (from 1960-humanities, social sciences, law)
- *Diplom* (natural sciences, engineering, economics and social sciences
- *Staatsexam* (MDs, pharmacy, jurists, teachers)
- *Doktor*—research degree (multiple paths to candidacy; 4-10 semester, plus thesis)
- Source: DAAD, *German University System at a Glance*, 2012. Wikipedia, *Magister*, access 01/27/14

Internal Forces on Doctoral System 1980s-1990s

- Dissatisfaction with perceived quality of German Ph.D.s

- Existing system no particular structure or quality controls, Doktoranden usually working

- Research collaborations, interdisciplinary work not well supported

- Outcomes hard to measure, understanding that employment problematic

External Shapers on System

- Bologna Agreement
- European Commission, Salzburg Principles 2005
- International rankings
- International competition perception, desire to mimic US research universities (differentiate in system)
- Penetration of business model ideology

Paths of German Doctorates

- Structured programs (10%)
- Employee in a research project (Wiss. Mitarbeit)
- Employee as a junior academic in a professor's institute (Wiss. Mitarbeit, Lehrstuhl)
- (Frei promovierend) Without affiliation/employment with either a professor or university until accepted for degree program.
- Source: Jaksztat et al.,Promotion im Fokus, HIS, 2012. DAAD, Research in Germany, *Dachportal,* 2014

Purpose of Doctoral Training

- Transmission and creation of knowledge
- Socialization/induction into discipline group
- Related mastery of content, communication styles, behaviors
- Preparation for employment
- Social/economic mobility (earning potential)
- Acquisition of social status
- Development of a "calling"
- Realization of self, character (Bildung)
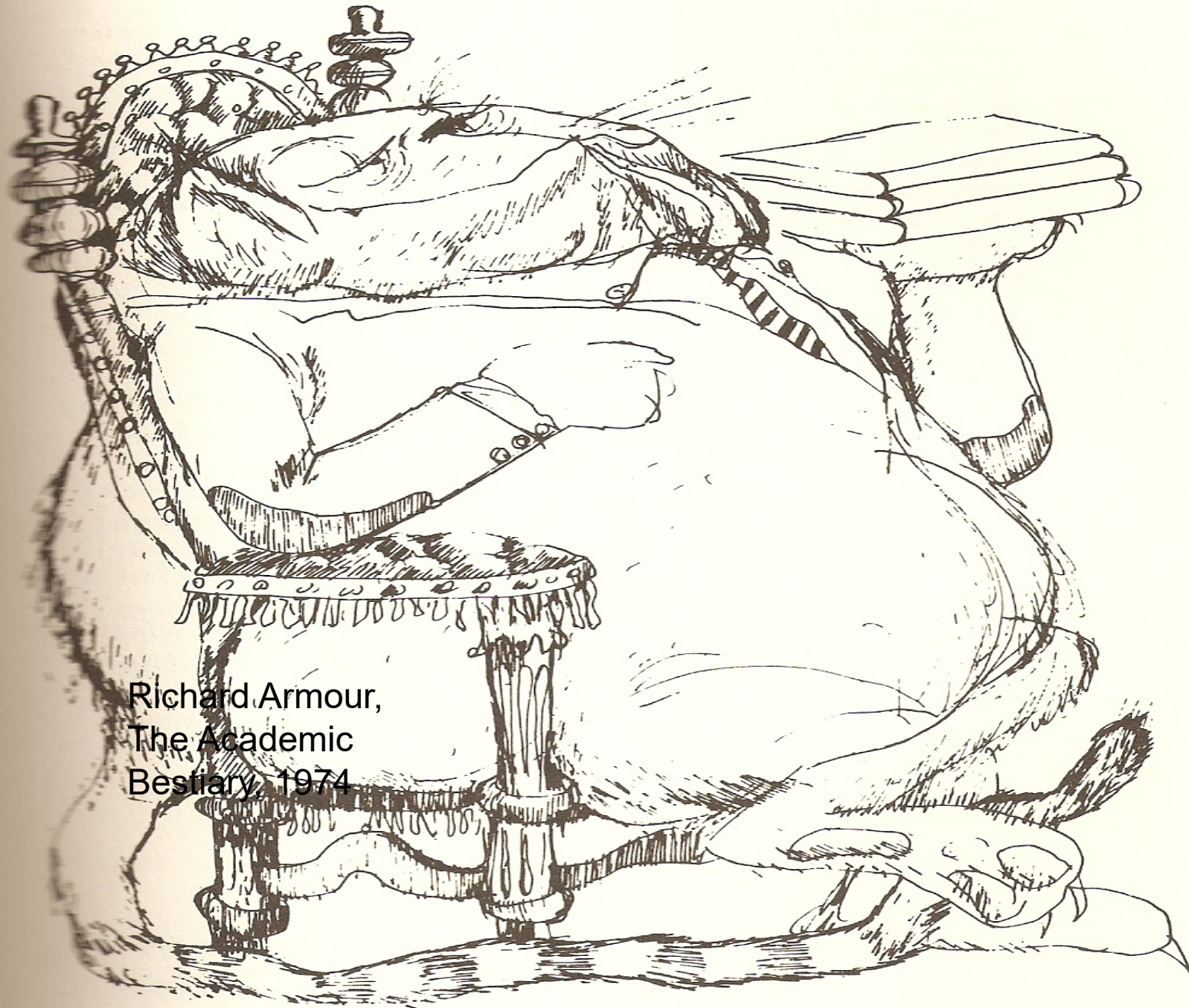- Provide cheap labor for instruction and research

Problems with doctoral training

- Too long
- Too costly
- High attrition, possibly 50%
- Lack of orientation or mentoring
- High opportunity cost: job, children
- Academic job crisis overall dim employment prospects
- Lack of faculty rewards or recognition
- Current model intimidating students, promoting subordination, self-doubt: Perception gap
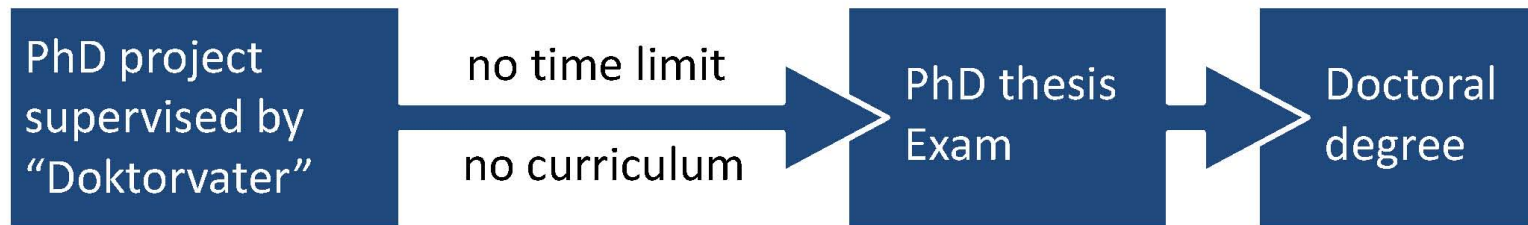- Inculcation that academy not "real world"
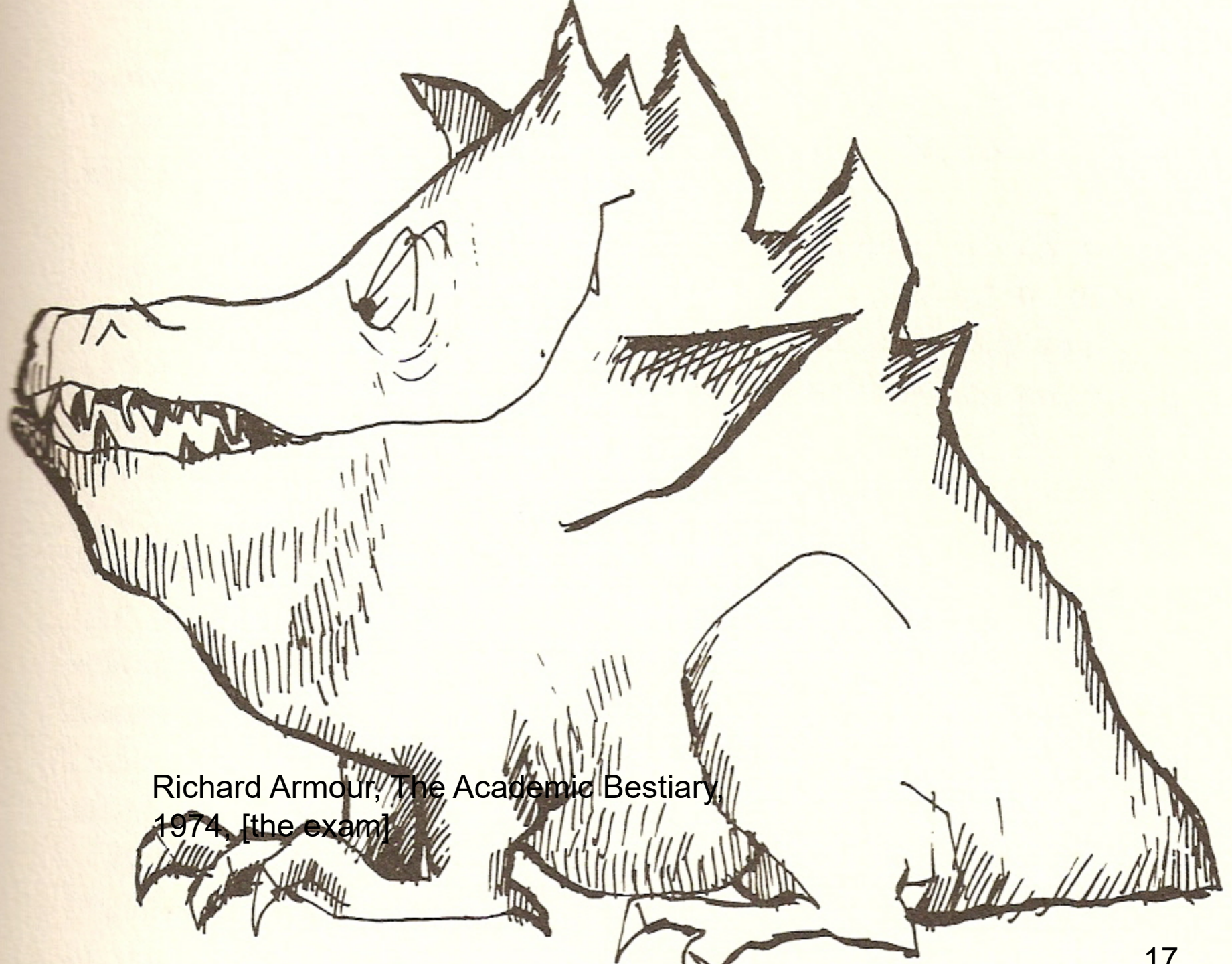
Richard Armour, The Academic Bestiary,
1974, [the exam]

Richard Armour,
The Academic
Bestiary, 1974

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The conventional way to the doctorate in Germany

PhD project supervised by "Doktorvater"	no time limit no curriculum →	PhD thesis Exam	→ Doctoral degree

The Downside

- absolute dependence on "Doktorvater"
- no formal training
- no networks, no enrollment, no representation
- no time-limit, long time to degree ("cheap labor")
- significant dropout rate (but no reliable data)

By permission, Steffan Burckhardt, GGNB, Slide 15

Measurement Problems

- US good enrollment statistics, degree data
- Germany poor statistics for doctoral students, who are not "students" but employees (Old S). Not centrally registered with university.
- Lack of good attrition data, data on experience from student perspective
- Lack of follow up data on employment
- Actual career paths unknown

German Efforts to Address Problems

- At state level through extra funding by DFG creating Graduierten Kollege 1990-elite programs for selected students, postdocs & faculty around a shared research theme.

- Studies and commissions by DFG, Wissenschaftsrat, university research centers

- Incorporation of "Salzburg Principles" of EU in structuring of new research programs

Salzburg Principles

- Title: The European Charter for Researchers
  - Establishes "The Code of Conduct for the Recruitment of Researchers,"
  - "General Principles and Requirements applicable to researchers," Research freedom, Ethical principles, Professional responsibility …….

  Passed by the Directorate-General for Research of the European Union, 2005
  www.europa.eu.int/europacharter

Excellence Initiative

- 3 forms: 1. 45 graduate schools, 2. 43 research clusters of universities and other research facilities, Max-Planck, Frauenhofer & industry, 3. 11 "institutional strategies" involving whole universities

- Highly competitive involving many new ideas about organizing research training. Review panels international

- Three rounds of proposal requests beginning 2005: 2006-12, 1.9 billion Euro; 2012-17, 2.7 billion E.

- Very expensive: 404.3 Mil. Euro in 2012 (DFG, Vögler, et al)

Excellence Initiative Outcomes 2011

- GS and Clusters funded 6,200 new positions
  - 3600 doctoral, 700 postdoc, 270 junior profs, 390 senior profs, 230 other academic staff
- Institutional Awards 2009 funded
  - 850 new positions from doctoral to group leader and 145 Junior and senior profs
- Each award for a limited time, all expire 2017
- >>>>Could there be a problem with this??

Structures in Doctoral Training in Excellence Programs/Centers

- Admission: highly selective, applicants must hold MA or equivalent, review by a committee, interview usually required
- Students given extensive orientation to program and faculty
- Study program set up to align with student interest and career path
- When committee selected has at least 2 members, with equal power, no one person determines student fate
- Committee members and student sign a contract outlining the responsibilities of both
- New personnel for student advising, training, development of new layers of governance and bureaucracy

Doctoral Structures cont.

- Intensive orientation to field, study program
- "professional development" throughout program on all aspects affecting research career: writing, ethics, conference presentations, effective networking, presentation of self
- Faculty participated in application, support program
- Fellowship for duration
- Internship in career field of interest
- Concentration of programs in natural science
- Facilitates intellectual cooperation, interdisciplinarity
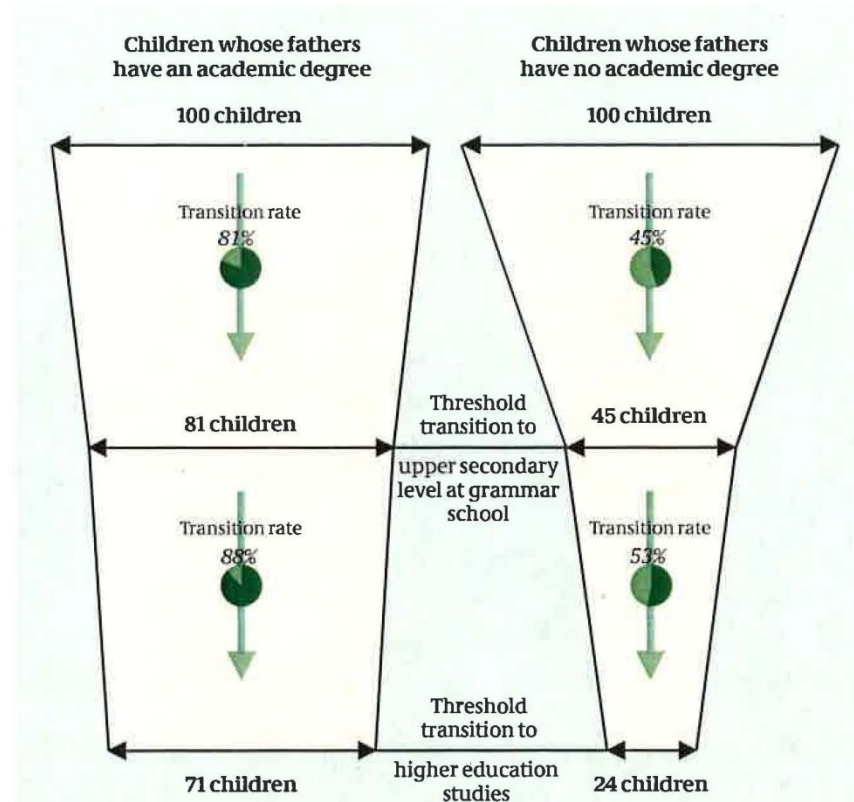
Characteristics of Structure

- Heavily centered on student interest
- Provides a supportive environment with support coming from several sources
- Strives for transparency, no nasty surprises
- Liberates students from the potential tyranny of a single "Doktorvater/mutter"
- Exposes student to a broad array of distinguished individuals in field of interest at different research centers
- No financial burden
- Employment/postdoc follows degree
- Program completed in 3-3.5 years
- Promotes international relationships for student

What is Wrong with this?

- All these programs end in 2017 and dependent on external DFG and other financing. Land or university unlikely to provide anything like same level, structure dissolves

- Highly elite, training a privileged cohort of students—only 10%

- No research on background of Germans, but likely to exclude those from uneducated families

- Add to the burden of an over populated job market

- Persistence at a time of large drop in state funding for higher education, cutbacks in regular uni activities

Why this Matters

Fig. 45   Educational filter: Social selection and educational paths, by the father's[1] academic degree (2007)

Children whose fathers have an academic degree

100 children

Transition rate
81%

81 children

Transition rate
88%

71 children

Children whose fathers have no academic degree

100 children

Transition rate
45%

45 children

Transition rate
53%

24 children

Threshold transition to upper secondary level at grammar school

Threshold transition to higher education studies

1) For methodological reasons, assessments of education participation rates among specific social groups continue to use the concept of a family provider as an indicator of the social status of a student's family of origin. For the most part, the family provider is the father. In single-parent families, the family provider is the single parent.
Source: 19. Sozialerhebung des Deutschen Studentenwerks, figure 3.17; Data: Federal Statistical Office, special findings from the 2003 and 2007 Microcensus; Hochschul-Informations-System GmbH, Studienanfängerbefragung 2007/2008

BMBF's Data Portal (German language only): Figure: www.datenportal.bmbf.de/bild-45
Additional data: www.datenportal.bmbf.de/2.3.35

Problems with doctoral training revisited

- Too long
- Too costly
- High attrition, possibly 50%
- Lack of mentoring or orientation
- High opportunity cost: job, children
- Dim employment prospects
- Lack of significant career training in which ever sector
- Lack of faculty rewards or recognition
- Current model intimidating students, promoting subordination, self-doubt: Perception gap
- Inculcation that academy not "real world"

What could be applied to US Doctoral Training

- **Too long**: 1.Intense orientation/socialization to doctoral program and discipline 2. Complete clarity about structure of program and expectations for student performance 3. Setting up committees of 2 or more with a monitor which meets with student regularly, sets clear timetable 4. Faculty scrutinizing department structure for gaps, problems 4a. Use fewer PI grants for funding so student works on own research

Applications to US cont.

- **Too Costly**: 1. Gradually raise GSI/GSR salaries 2. If not holding a fellowship facilitate fellowship applications 3. If program shorter, not so expensive 4. Provide concrete financial guidance 5. Limit number of students so funding goes further

Applications to US cont.

- **High attrition, possibly 50%:** 1. Know why students leave 2. Emphasize family friendly policies, pregnancy should not be a failure 3. Proper socialization/orientation could limit mis-matches 4. Confront alienation stemming from class, gender or identity by ensuring all students are welcomed and are clear about degree of conformity to habits and behaviors of discipline or Tribe. (Becher & Trowler, 2nd ed. Academic Tribes and Territories, 2001)

Applications to US

- **Lack of mentoring or orientation**
  - Consider training for both faculty and entering students. 1.Make use of existing resources such as those at the U. of Michigan on being a mentor and being a mentee 2. Develop faculty training program on *Karolinska Institutet* model in which first new faculty, now all faculty participate in learning how to effectively guide and mentor doctoral students (Italo Masiello, Doctoral Supervision Education at KI, 2014)

Implementation

- Lacking both German legal framework and funding, requires action largely at department level.

- Most suggestions would not cost money, but attention and time and a willingness to look at doctoral education somewhat differently.

- Graduate Divisions and Deans (which Germany lacks) clearly play a pivotal role

Could be More, but The Summary

- The German graduate system is based on fundamentally different ideas about the nature of education, even if the structures in which these are executed look like those of the US.

- Current reforms are attractive because they come with a lot of money, faculty themselves have to design them to get it, so execute the reforms. ~Plus very well trained bright students and well financed research projects with a network of their own.

The US Doctoral System

- Differs radically by discipline, even department. Big difference in approaches between science, the humanities and professional schools.

- There are many reforms created by faculty scattered among universities and their departments.

- US faculty are neither especially well compensated for their doctoral work financially or in terms of job credit

Conclusion

- Neither system has perfect solutions to broadly mitigate doctoral education problems

- Great similarity in trends: public systems underfunded, general doctoral education problems similar

- Huge difference in how systems are conceptualized which put different constraints on each