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Industry-University Partnerships: Knowledge Creation in Hybrid Space

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Knowledge creation in industry-university partnerships

Theoretical

- Knowledge sharing at the intersection of two different organisational fields
- Conflict and tension between two divergent knowledge production systems: public vs. private science
- Interwoven domains as sites of organisational innovation and knowledge creation

Practical

- Firms adopt network innovation strategy: maintain core competence while engaging in open knowledge networks
- Research universities as suppliers of novel ideas for innovation
- How to build collaborative scientific teams for knowledge sharing and transfer?



The Hybrid Space: Socio-cognitive and organisational

- A 'free space' for experimentation and redrawing boundaries
 - Flexible hybrid organisations supported by stable structures
 - Dynamic human resource flows for circulation of new knowledge
- How actors construct hybrid space for co-production of knowledge between academia and industry
- Entrepreneurial dynamics and tensions in hybrid space



Problems of cooperation and knowledge creation in industry-university links

•Cognition and competencies

- Conflict between 'Mode 1' vs. 'Mode 2' knowledge

→ How to get 'Mode 1' academic scientists to apply knowledge in 'Mode 2' industrial problems (dual cognitive mode)?

•Careers and motivations

- Divergent norms and reward structures between science and business

- Scientists motivated by reputational-based rewards and career incentives

→How to motivate good scientists to engage in collaborative projects that can achieve dual knowledge outputs?



The Evidence base

- Case studies of partnerships between large multinational firms and research universities in U.K.
- Over 100 interviews with managers, industrial scientists and academic researchers engaged in collaboration
- All large companies in dynamic, innovation-intensive sectors
- Well-established in-house R&D until recent past, but moving towards network R&D
- Actively seek to develop new HR and global knowledge sourcing strategies to sustain innovative capabilities



Creating Hybrid Space for Human Resource Links and Knowledge Flows

- Building ‘strategic partnerships’ as frameworks for collaboration
 - select key partners as ‘preferred institutions’
 - diverse linking mechanisms to build long-term relationships
- Hybrid research organisations to create permeable boundaries
 - to recruit ‘star’ scientists; develop novel expertise and widen research
 - mixed staff and joint appointments for knowledge co-production
- ‘Linked scientists’ with hybrid roles and careers
 - personal networks to facilitate continuous flow of new (tacit) knowledge

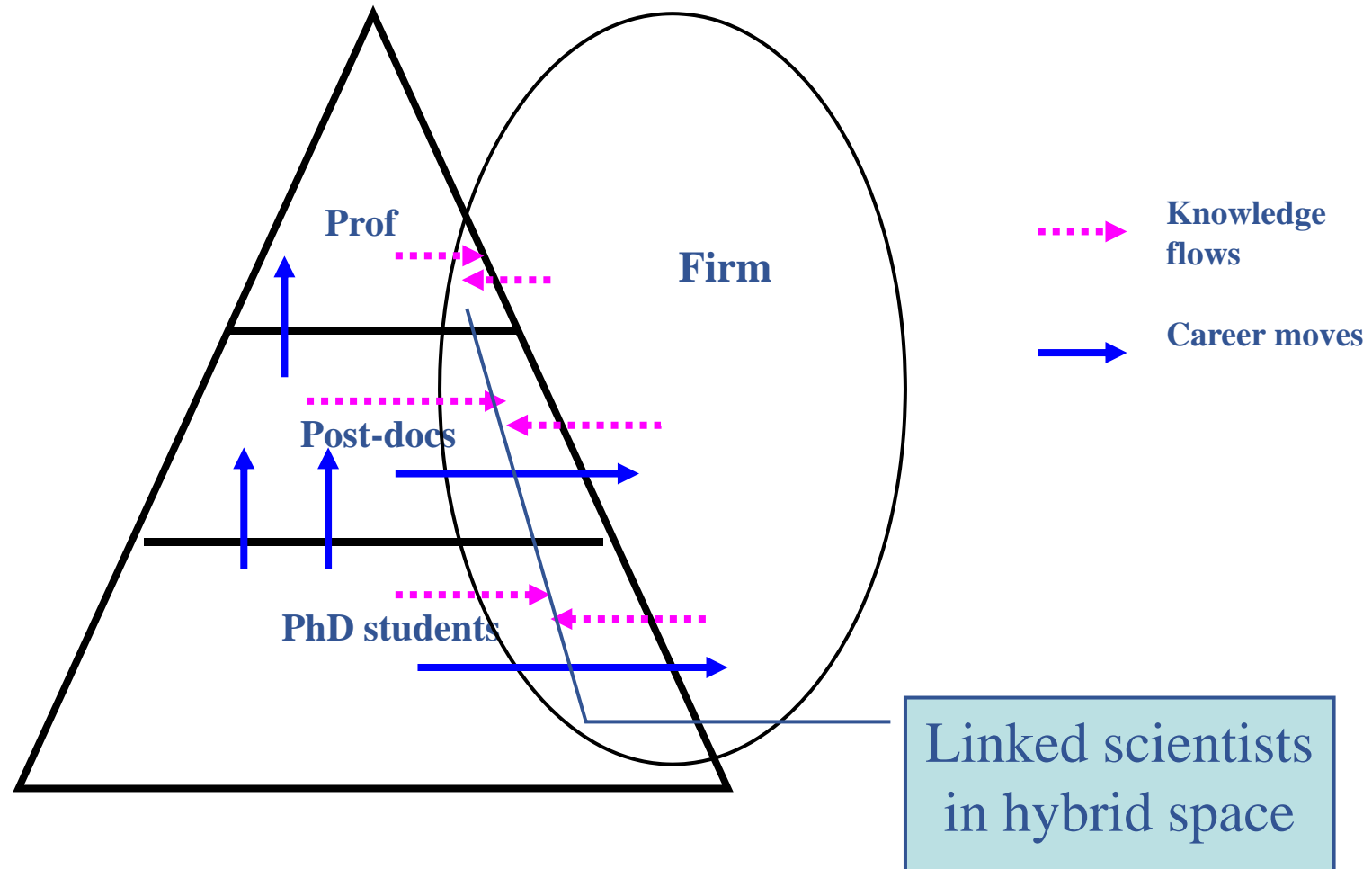


Three categories of 'linked scientists'

- **Entrepreneurial professors as focal links**
 - on-going links with firms but maintain university positions
 - role in attracting and screening researchers to work on projects
 - major players in firms' 'extended' HR system
- **Post-doctoral researchers as 'joint' human capital**
 - transitional position: employed for fixed duration on projects
 - high scientific productivity and repository of new knowledge
- **Doctoral students as new breed of 'hybrid' scientists**
 - competencies jointly produced by universities and firms
 - 'apprenticeship' position enables penetration of industrial practice into academic training



Human Resource and Knowledge Flows Across Boundaries



Academic career system

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Source: Lam (2007)

Careers and Knowledge Flows in Hybrid Space (Overlapping Internal Labour Markets)

- Provide platform for co-production of new knowledge
- As informal apprenticeship systems for shaping joint human capital
- As selection and screening mechanisms
- As careers and incentive structures for cooperation



Issues and challenges

- **Hybrid space needs support of stable structures**

- University as stable anchor but frequent re-structuring of firms can undermine collaboration
- Utilise personal networks and engage bench scientists to feed knowledge into projects

- **Motivation and commitment of researchers in dual roles**

- Researchers motivated by intrinsic rewards of knowledge exchange and reputation
- Restriction of dissemination and open exchange of ideas can de-motivate
- Over project management and under engagement are common problems

- **The fragility of hybrid organisations**

- Fuzzy boundaries and contestation over authority and relationships
- A delicate balance between autonomy and control critical for survival



A Happy Ending is Possible...

- But it needs openness, commitment and experience
- Key is to facilitate continuous knowledge flows, not just buying or selling a stock of knowledge
- Investment in joint human capital: 'boundary spanners' need to be developed over time

