

The Triple Helix Model and Micro and Small Firms

Henry Etzkowitz

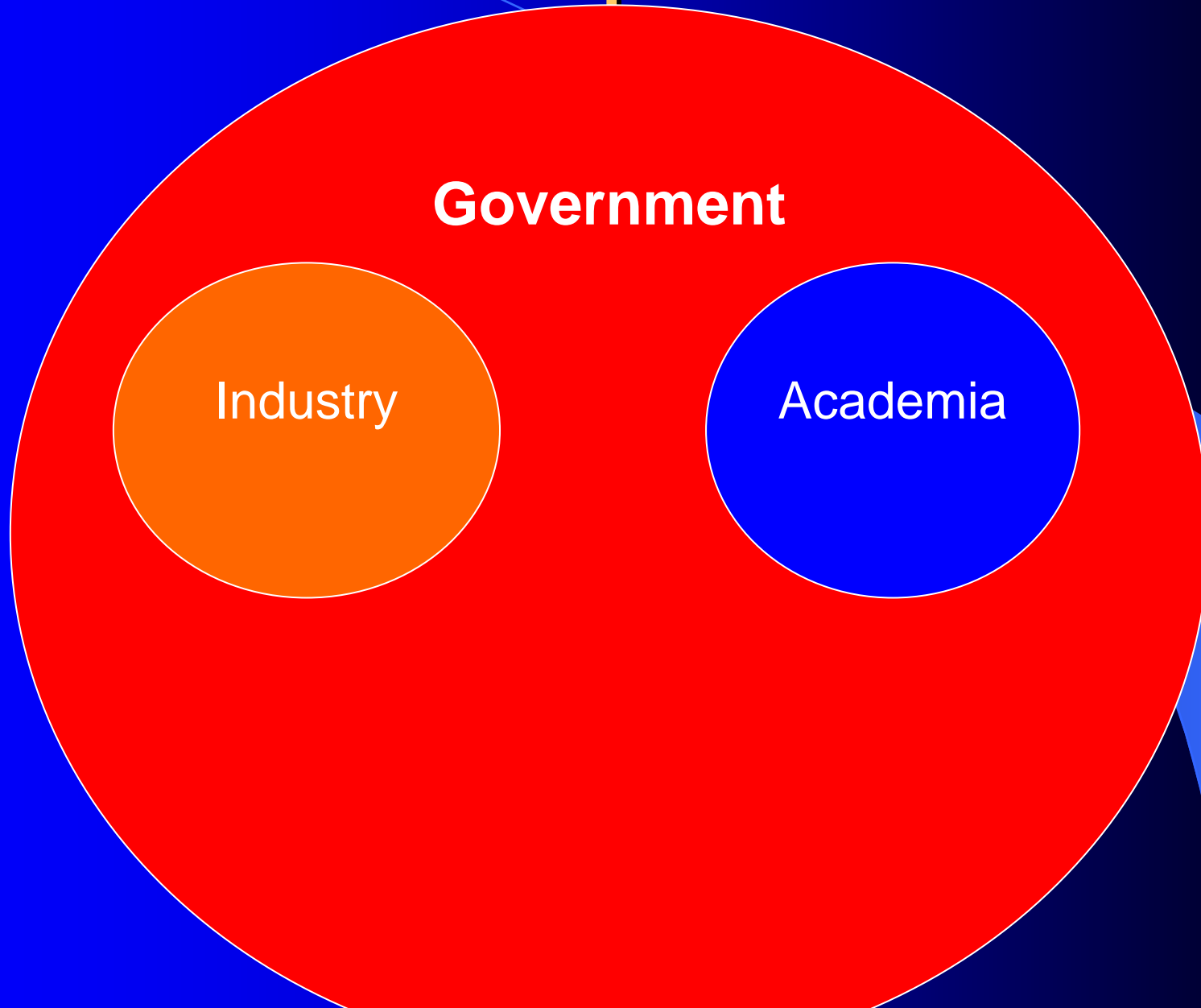
Chair Innovation, Creativity and Enterprise

Newcastle University Business School

Triple Helix Thesis

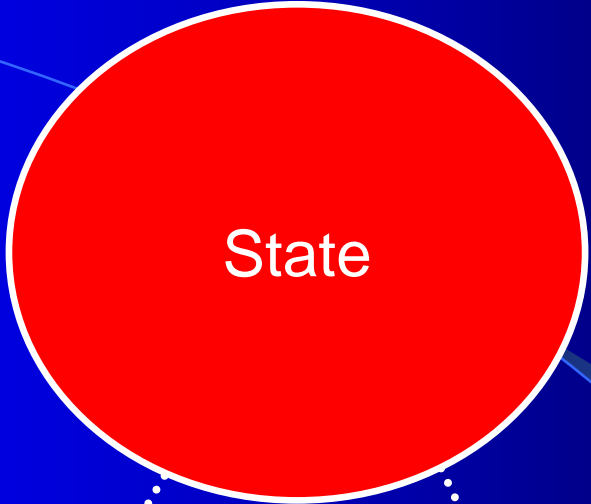
- University Plays leading role in Knowledge-based Society: shift from secondary to primary institutional sphere
- From Separate or Dominant to Overlapping Institutional Spheres
- Taking the role of the other e.g., university forming firms; government as venture capitalist; industry raising training to higher levels

Statist Triple Helix



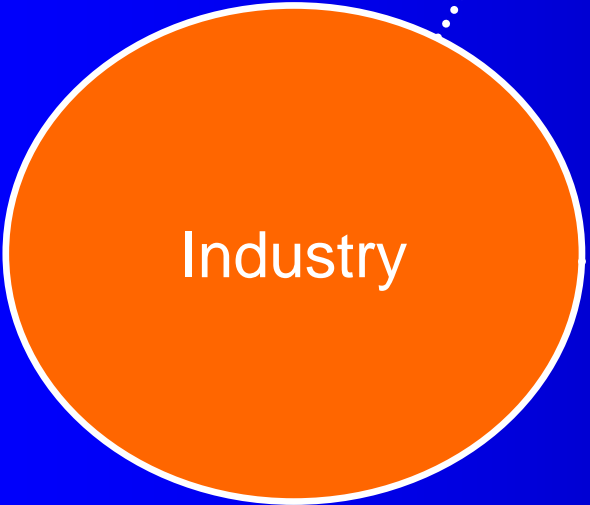
Statist Triple Helix

- Government dominates other spheres
- Top-down bureaucratic co-ordination
- Large project mentality
- Industry: national champions
- University: primarily teaching institution



State

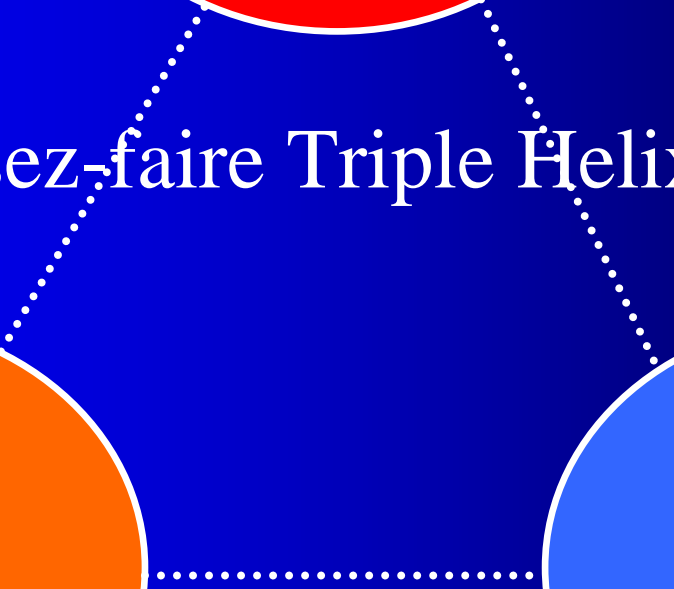
Laissez-faire Triple Helix



Industry



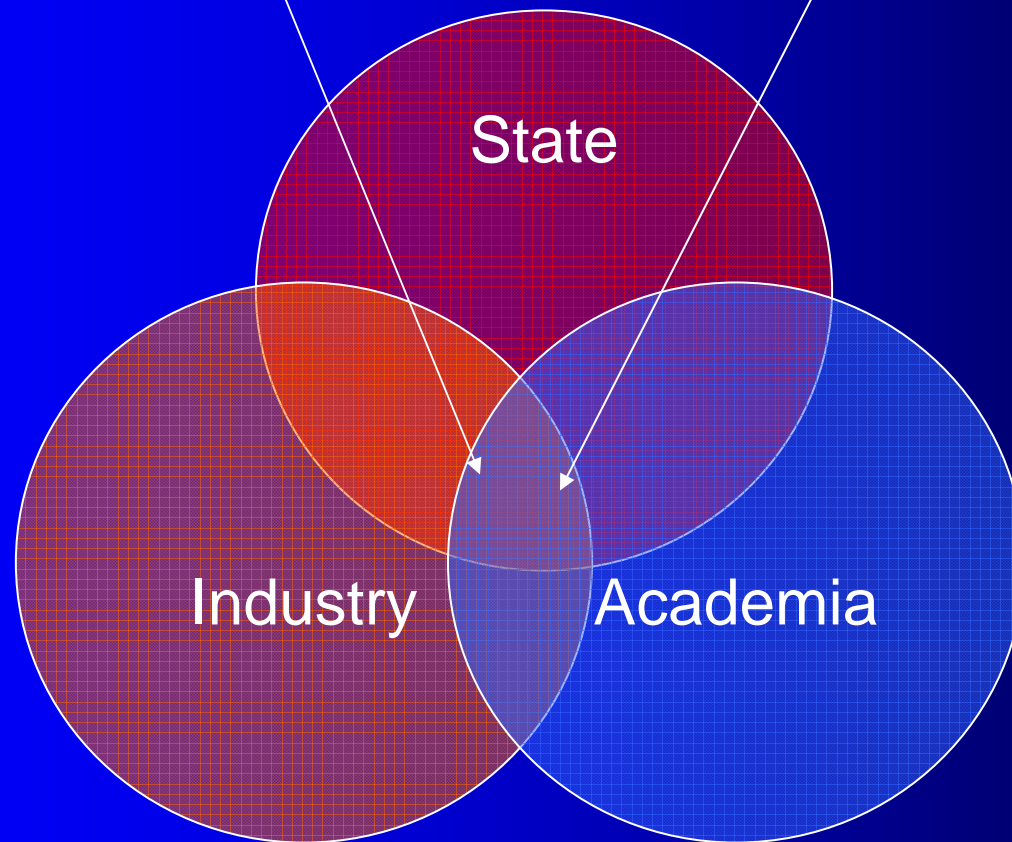
Academia



Laissez-Faire Triple Helix Separate Spheres

- University: basic research and human resource provider
- Industry: Firms linked by market
- Government: limited to addressing market failures
- Individualistic mentality; heroic entrepreneur
- Interface Units Across strong boundaries

Hybrid Organizations and Actions *e.g. Incubator Movements*



Regional Innovation Organizer (RIO)

- Regional Authority: governmental or quasi-governmental
- takes the lead in creating a consensus space bringing together triple helix actors

● Cases

- New England Council
- Joint Venture Silicon Valley

Knowledge Space

- Universities and Research Institutes
- Underutilized Potential
- Research Projects with economic and social relevance
- Mexico City Institute Relocation

Consensus Space

- Fora to Generate Ideas and Strategies
- Triple Helix Meeting Place
- e.g. New England Council; Niteroi Technopole; Amsterdam Knowledge Circle

Innovation Space

- Organizational Experiments:
- Invention of Venture Capital Firm
- Brazilian Incubator Innovation

Route 128 and Silicon Valley

- Prototypical Innovating Regions
- Brownfield and Greenfield Sites
- University as Cornerstone
 - MIT and Stanford
- Necessary but not Sufficient
- University-Industry-Government
Collaboration: Key to Growth and Renewal

Early 20th Century Boston

- A Declining Industrial Region
- Comparative Advantage: Universities and Research Institutes
- Leadership Structure: New England Council
- Failure of Traditional Regional Strategies
- Shift to Science-based Firm-Formation

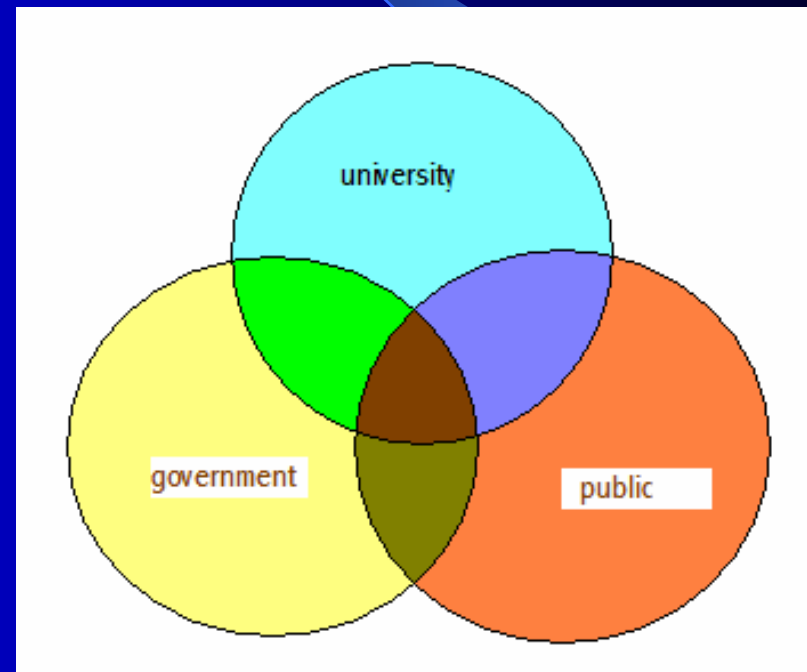
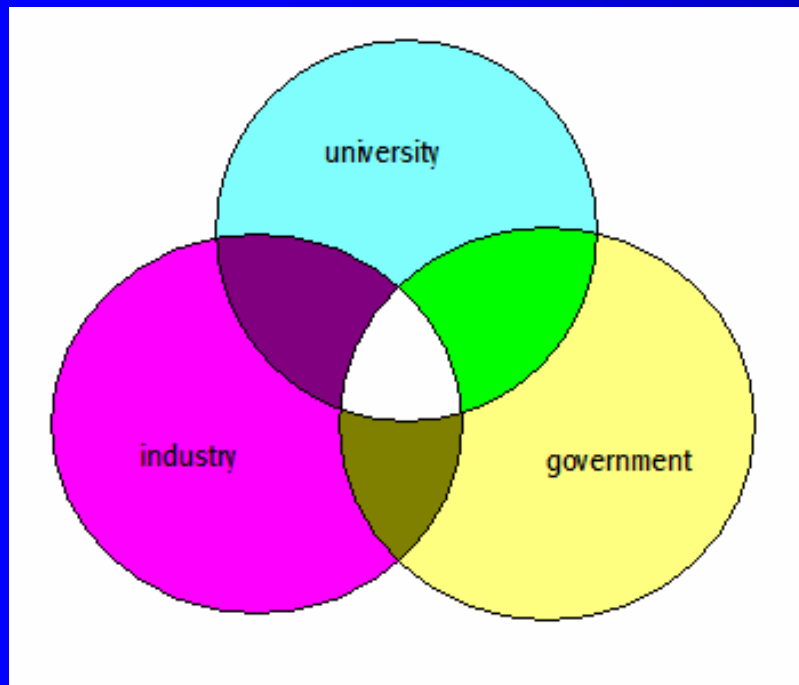
MIT President Compton's Vision

- A University Based on Research Fields with Theoretical and Practical Relevance
- Encourage Emulation of Entrepreneurial Academics like Vannevar Bush
- Move from Patents to Firm-formation
- Systematize Firm Formation and Growth
- Invention of Venture Capital Firm

Newcastle Professors of Practice

- 1/2 time Chairs to attract technical entrepreneurs (and their firms)
- Role models for faculty and students
- Conflict to confluence of interest
- Jointly funded by University and Regional Development Agency

Triple Helix Twins



The Triple Helix: University-industry-Government Innovation in Action

- London: Routledge