Lecture 9

Localization: Places of Production
Localized Industry

I. Sites
II. Places
III. Clusters
IV. Districts
I. Sites

A. Industries
B. Locations
C. Multiples
D. Dispersal
Industries

- **Sectors (Products)**
  - Vehicles: cars, trucks, buses, aircraft
  - Clothing: shoes, women’s, men’s, etc.
  - Electronics: computers, phones, games, etc.

- **Components (parts)**
  - Cars: axles, motors, tires, tailpipes, etc.
  - Clothing: cloth, sewing machines, threat, buttons, etc.

- **General groupings (simplified)**
  - Capital goods vs. consumer goods
  - Capital-intensive vs. labor-intensive
  - Heavy industry vs. high tech
Factories

- Basic production unit
  - Breakthrough of industrial revolution

- Basic locational unit
  - One factory, one site

- Workshops
  - Small production units
  - Craft labor

- Workplaces take different forms in non-manufacturing...
  - Offices, warehouses, etc.
I. Sites

A. Industries
B. Locations
C. Multiples
D. Dispersal
Where to Locate?

- Basic location
  - Placing new factories
- Optimum location?
  - Classic location theory
    - Alfred Weber
Cost Minimization

- Inputs
  - Materials (ore)
  - Energy (power)
  - Labor (cheap or skilled)

- Transport costs
  - Near ports, rail, highways
Spatial Divisions of Labor

- Different industries » different locations
  - Different parts of industries » location pattern/field
- Differing calculus
  - Products
  - Material & energy inputs
  - Labor skills & pay
I. Sites
   A. Industries
   B. Locations
   C. Multiples
   D. Dispersal
One Industry, Many Sites

- Same product, many factories
  - Many firms & competition
    - No firm/factory dominates
    - Many input sources
  - Market areas
    - Limits competition
    - Transport costs & regions
    - National boundaries & champions

Source: Dicken (2003) Figure 11.1
One Industry, Many Parts

- Variety of products
- Many components
  - Different logics of parts
  - Assembly points

Figure 3. Distribution of establishments in the computer, electronic equipment and instruments industries by county, China, 1995. Figure based on four-digit data from the 1985 Industrial Census provided by the State Statistical Bureau, People’s Republic of China. Note: Counties in which the number of establishments is less than 0.06 percent of all computers, electronic equipment and instruments establishments in China are excluded.
Giant Factories & Their Limits

- Why not one giant factory for each product? For the world?
  - River Rouge
    - Detroit 1920
  - Fox Conn
    - Shenzhen, 200
Small Workshops, Repetitive Locations

- Many places, same product
  - Craft production (workshops)
  - Small market areas

- Why market areas?
  - Perishable goods
  - Personal services
  - Local tastes

- Increasingly rare in hard goods (e.g. cars, furniture, cast iron)
I. Sites

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Factory Dispersal

- Diminishing constraints on location
  - Less bulk (inputs & outputs)
  - Energy widespread
  - Transport improved
  - Labor surplus

- Self-contained factories

- Greenfield locations
Many Peripheries

- Urban
  - Suburbs & satellites
- National
  - US sunbelt, Mex. North, Japan’s countryside
- Continental
  - So Europe, Ireland, E. Europe
  - Japan to SE Asia
  - US to Mexico, Caribbean
- Global
  - Shift to Asia & within Asia
Limits to Dispersal

- Lack of infrastructure
  - Energy, transport, water
    - (see Part VI)
- Poor quality labor
  - Higher cost
    - (see Part IV)
- Clustering effects
  - (see below)
I. Places

A. Making Place
B. Capital Moves
C. Declining Places
Industry Creates Places

- Capital investment
  - Factories, infrastructure

- Attract suppliers
  - Who build more factories

The playing field does not always preexist the location decision
Labor Influx & Making Cities

- Factories attract labor
- Workers need home
  - Industry built vs. open market
- Workers spend wages & retail business arises
I. Places

A. Making Place
B. Capital Moves
C. Declining Places
New Industrial Geographies

Industry often jumps to entirely new places
- New industries create new places

Notable shifts
- beef vs. pork
- cars vs. carriages/ships
- single-wing aircraft
- semiconductors vs. tubes
- biotech vs. big pharma
Why New Places?

- New conditions of production...
  - Old places = old ways
  - New place = fresh start

- High profits
  - Greater freedom to build in new places (beyond existing infrastructure & cities)
I. Places
A. Making Place
B. Capital Moves
C. Declining Places
Why Places Decline

- Declining industry
  - Obsolete products & tech

- Declining companies
  - Outcompeted by better managers

- Cost
  - Old factories
  - High wages

- Disinvestment & closure
Localized Industry

I. Sites

II. Places

III. Clusters

IV. Districts
III. Clusters

A. Industrial Clusters
B. Transport & Infra.
C. Access & Markets
D. Labor & Capital
E. Clusters & Places
A World of Industrial Clusters

- Cluster = group of factories in one area
- Big factory clusters
  - Pittsburgh steel
  - Louisiana oil & chemicals
- Small factory (workshop) clusters
  - Qiaotou, Zhejiang Province
    - 700 factories, 15 billion buttons
    - Big market with 1,300 button merchants
  - Yiwu = socks
  - Hang Ji = toothbrushes
  - Sheng Zhou = ties
Industrial Clusters of Guangdong

- Foshan = tiles
- Zhongshan = lights, lamps
- West of Pearl River = white goods, TVs
- East of Pearl river = computers
- Northeast = auto plants
A Single-Firm Cluster

- **BASF in Mannheim**
  - Chemical company
  - 36K workers, 250 factories, 8,000 products

- **Advantages**
  - Lower transport costs
  - Direct production links
    - outputs & residuals as inputs
  - (Management oversight)

- **Competitors**
  - Separate divisions & factories
  - High transport costs from China etc.
Why Cluster?

- Economies of agglomeration
  - Collective logic vs. individual calculus

- High costs of clustering
  - Rents (land), taxes, wages
  - Aren’t greenfield sites cheaper?
    - Not if you can’t get the inputs/labor/transport you need
III. Clusters

A. Industrial Clusters
B. Transport & Infra.
C. Access & Markets
D. Labor & Capital
E. Clusters & Places
External transport

- Transportation hubs
  - Airports
  - Ports
  - Rail yards
  - Highway nodes

- See also lecture 11
Shared Infrastructure

- Electricity & Gas
- Water & Sewers
- Phone & Internet
Building reuse
III. Clusters

A. Industrial Clusters
B. Transport & Infra.
C. Access to Markets
D. Labor & Capital
E. Clusters & Places
Market Access

- Access to consumers
  - Market thresholds
- Access to suppliers
  - Variety of inputs
- Access to wholesalers
  - Intermediaries (Lec. 11)

Total distance minimization = lowest total transport cost
Comparison & competition

- Keeps business on its toes
II. Industrial Clusters

A. Clusters
B. Transport & Infra.
C. Access & Markets
D. •Labor & Capital
E. Clusters & Places
Concentration of workers

- Access to workers
  - Attracts more firms

- Access to jobs
  - Attracts more workers
More variety, more skills

- For firms: can find specific labor skills
- For workers: can find right job for skills
Access to capital

- Banks
  - Investment loans
  - Commercial loans

- Venture capital
  - Specialists in new firms
III. Clusters

A. Industrial Clusters
B. Transport & Infra.
C. Access & Markets
D. Labor & Capital
E. Clusters & Places
Clusters Create Bigger Places

- Pittsburgh & steel
- Detroit & cars
- Osaka steel & metals
Making Clusters

- Industrial parks
  - Land + infrastructure + transport
  - Prepared by developers, local governments
- Export zones
  - Common national strategy
- Cities provide the substrate...
  - Urban agglomerations allow industry to cluster
    - E.g. 25,000 factories in Shenzhen, China
Localized Industry

I. Sites
II. Places
III. Clusters
IV. •Districts
Industrial Districts > Clusters

- Beyond agglomeration economies
  - i.e., cost minimization

- External economies of collective action
  - i.e., higher productivity & innovation

Spatial proximity still the critical factor
Examples of Districts

- **Historic**
  - Jewelry (Providence)
  - Guns & clocks (Connecticut River)
  - Fine furniture (Grand Rapids)

- **Current**
  - Wine & tourism (Napa)
  - Hollywood (LA)
  - Fashion garments (Paris & Milan)
  - Electronics (Silicon Valley)
  - Banking (New York, London)
IV. Districts

A. Internal Specialization
B. Startups & Spinoffs
C. Innovation & Learning
D. Culture & Institutions
E. Districts & Places
Internal Division of Labor

- Specialization within an industry
- ‘vertical disintegration’
Economies of specialization

- Specific know-how, equipment, skilled labor

- External sourcing
  - Don’t reinvent the wheel
  - Shared suppliers (economies of scale)
  - Optimal size (economies of scope)

- Shared wholesalers (merchants)
  - Shared auxiliaries (lawyers, bankers, etc.) – Lec. 13
IV. Districts

A. Internal Specialization
B. Startups & Spinoffs
C. Innovation & Learning
D. Culture & Institutions
E. Districts & Places
Startups

- Birth of new firms brings...
  - More specialization (DOL)
  - New innovations
  - New energy (entrepreneurism)
Divide & Conquer

- **Vertical disintegration**
  - Hollywood & decline of the studios
- **Reintegration**
  - Cisco, Oracle and other monsters
- Into the mix
  - Large & small firms

**Great Expectations**

The valuations of some technology companies are often based on intangibles and projections.

- **Google**
  - Company Value: $192.3 bil.
  - Employees: 10,674
  - Age of Company: 9 years

- **Apple**
  - Company Value: $147.5 bil.
  - Employees: 17,787
  - Age of Company: 31 years

- **Facebook**
  - Company Value: $15 bil.
  - Employees: 300
  - Age of Company: 3 years

- **Right Media**
  - Company Value: $850 mil.
  - Employees: 225
  - Age of Company: 4 years

- **Ning**
  - Company Value: $214 mil.
  - Employees: 42
  - Age of Company: 2 years

**Lofty Values**

Fast-growing market capitalization is about equal to combined value of Time Warner, Disney and News Corporation.

Source: Bloomberg Financial Markets, the companies
IV. Districts

A. Internal Specialization
B. Startups & Spinoffs
C. •Innovation & Learning
D. Culture & Institutions
E. Districts & Places
Innovative Milieux

- Massing of technical competence
  - Many firms, many capabilities
- Sharing knowledge & know-how
  - Many skilled workers & flow of workers
- Continual interaction
  - Working together - with & for each other

- ‘Secrets of industry are in the air’ - Alfred Marshall

Innovation as a collective process
Learning Regions

- Learning by doing (experience)
- Problem solving
- Upgrading of skills
- Upgrading of equipment

Innovation as learning & doing

German model as SOP
IV. Districts

A. Internal Specialization
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C. Innovation & Learning
D. •Culture & Institutions
E. Districts & Places
Districts Are More than Markets

‘Frameworks of action’
‘Regional worlds of production’

New Institutional Economics & Geography
Local Cultures of Production

- Rules & expectations
- Personal relations & trust
- Shared values & beliefs
- Cooperative competition

Facilitate interaction & innovation
Local Institutions of Coordination

- **Business**
  - Industry/trade associations
  - Business clubs & meetings
  - Regional leaders

- **Government**
  - State & local aid agencies
  - State & local planning
  - Politicians & state-business pacts

- **Labor**
  - Technical schools
  - Temp & labor agencies
  - Unions
IV. Districts

A. Internal Specialization
B. Startups & Spinoffs
C. Innovation & Learning
D. Culture & Institutions
E. •Districts & Places
Hollywood – Before & After
Grow Your Own Silicon Valley?

- Everyone tries, most fail
  - Difficult to create an industrial district
    - More than a university
    - More than an industrial park
    - More than government aid…

Russia sets up its own Silicon Valley
Topic: Russian ‘Silicon Valley’
Universities & Industrial Districts

- Component not cause
  - Research & new tech
  - Train skilled labor
- The Stanford Myth
  - Created Silicon Valley?
  - Or the reverse?