Lecture 16: New Divisions of Labor
The Changing Nature of Work
Modern industry has changed (new divisions of labor)
- A key dimension of industrialization/productivity
- More complex & smarter labor

Clearing up basic confusions
- Exaggeration of services vs. goods

Expansion of office work
- Managerial & auxiliary labor
- Key inputs beyond the factory

What labor counts most?
- Fetish of creative class
Complex & Creative Labor

I. • Goods & Services
II. Managerial Labor
III. Auxiliary Labor
IV. Creative Labor
I. Goods & Services

A. Goods vs. Services
B. Goods Industries
C. Service Industries
D. Occupations
Goods & Services

- Horribly confused in popular discourse

- Two different kinds of OUTPUT
  - Tangible vs. intangible (independent vs. attached)
  - Both are sold as commodities
  - Hence, *two different kinds of industries*

- + Confusion between OUTPUT & INPUTS (labor)
  - “service labor” = new types of occupations
  - Subcontracting service labor & products
    - Feed into other industries
Typical Mess

- Census definition
  - Services = non-manufacturing or non-production
- Wikipedia:
  - services = 78.5% of output
- An incoherent category !!
More Sensible Division

In this chart, services do NOT include distribution, construction, finance and government.
Tradables vs. Non-Tradables

- Tradables vs. non-tradables
  - 1990-2008, US added 27M jobs of which almost all were non-tradable ‘services’ (Harvard study)

- Non-tradables:
  - Health, education, retailing, govt.
  - <20% of services move across borders (EU study)

- Tradables:
  - Goods + finance, architecture, design, etc.
Traditional vs. Modern Services?

- **Traditional services**
  - Trade, hotels, restaurants, and public admin (govt)

- **Modern services**
  - Software, call centers, medical records, insurance claims, etc.
  - Can be outsourced
  - Key to growth in South Asia

- Ejaz Ghani, World Bank economist
I. Goods & Services

A. Goods vs. Services
B. Goods Industries
C. Service Industries
D. Occupations
Goods

- Tangible objects
  - Even if very small
- Most production » goods
  - Why?
- Advantages of goods
  - Moveable & own-able
  - Tangible & reproducible
  - Mass production & labor productivity
Goods Production

- Production sectors
  - Mining + Agriculture
  - Manufacture + Construction
  - [+ Utilities]

- Declining share of US economy
  - From 40% to 22% of GDP
    - Manufacturing = 25% to 13%
    - (1945-2005)
    - Mining & Agl = 4%
    - Construction = 5%

- GDP vs. jobs
  - Rising labor productivity

**Chart 2.10**
Manufacturing's Share of GDP in Selected Countries

*Average of the first 11 months of 2007.*

**Chart 2.9**
G7 manufacturing, 1970=100

Sources: Thomson Reuters DRI; The Economist
Goods Circulation

- Mass production » mass circulation of goods
  - Rising productivity » rising output

- Hence, distribution + retail larger
  - = 8% + 12% = 20% GDP

- Goods production + circulation = 42% GDP
  - Bigger than most people think
  - Still an underestimate
I. Goods & Services

A. Goods vs. Services
B. Goods Industries
C. Service Industries
D. Occupations
Real Services = no tangible product
- Output not an *independent* thing
- Working *directly* for/on someone

True services
- Haircut, performance, health care, teaching, etc.

NOT services
- Retail, restaurants, hotel rooms, car repair, design, accounting, etc.
What’s Left?

(The Other 58%...)

✦ Service sectors = 35%
  ✦ Business services = 15%
  ✦ Consumer services = 20%
    ✦ Entertainment + domestic + personal services = 5%
    ✦ Health & education* = 15%

✦ Not Services = 23%
  ✦ Finance (‘financial services’) = 8%
  ✦ Government = 15%

We won’t discuss consumer services & government work in this course
Geography & DOL

Different mix in different places

- Different shares of manufacturing, transport, business services, etc. in different countries, regions, cities
- E.g. Holland vs. Germany
I. Goods & Services

A. Goods vs. Services
B. Goods Industries
C. Service Industries
D. Occupations
Occupational Mix

- Output ≠ Occupations (jobs)
  - Industries vs. jobs
  - Jobs = detail division of labor

- Complex (social) labor
  - Most production is complex
    - ‘production systems’
  - Most labor makes nothing by itself
    - i.e., no final good or service

- Tweeners (source of confusion)
  - When part of DOL becomes an intermediate product
    - Either a good or service
    - E.g. business services (see below)
Basic & Non-Basic Labor

- Basic/non-basic labor
  - Work directly on good or service
  - Indirect labor inputs
    - Managerial labor
    - Auxiliary labor
  - Shorthand: blue/white collar

- Growth of complex labor
  - Key to industrialization
    - Not just machinery & automation
  - Hence, growth of non-basic labor

  Hence discussion of managerial & auxiliary labor, below
Geography of Detail DOL

- Occupational differences among places
  - Countries, cities, regions, etc.

- Old industrial cities
  - Lots of basic labor (blue collar)

- New city centers
  - Lots of indirect labor (white collar)
  - Talk of “Creative class”
    - We’ll return to this later....
Complex & Creative Labor

I. Goods & Services
II. •Managerial Labor
III. Auxiliary Labor
IV. Creative Work
II. Managerial Labor

A. •Managers
B. Business Services
C. Offices
D. Offshoring
Managers & Co.

- **Executives**
  - Top execs & layers of ‘mid-management’

- **Supervisors**
  - Bosses of work units/teams

- **Specialists/technical**
  - Accounting, legal, operations, personnel, IT, PR

- **Clericals**
  - Secretaries, typists, file clerks, mail room, etc.
Charting Management

Managing Director
(Ashok Kapasi)

Production & Planning
(Arun Kapasi)
(Vishwanath Pradhan)

H/R.
(M Vaghela)
(Neha Sharma)

Q.C.
(Ashok Kapasi)

Finance
(Vikram Kapasi)
(Mrudula Jain)

Marketing
(Arun Kapasi)
(Vikram Kapasi)

Director
(Atul Paizada)

Chemical Testing
(Rajat Tyagi)

Spectro Analyzer
Positive Material Identification

Destructive Testing
(Raj Chaudhry)

Tensile Testing
V Charpy Impact Testing
IGC Testing
Micro Testing
Macro Testing

Non Destructive Testing
(Vinod K. Parekh)
(Basant Pradhan)
(Kanu D. Parmar)

Ultrasonic Testing
Dye Penetration
Magnetic Particle Testing
Dimension Inspection
Marking / Stamping
Hardness Testing
Documentations
II. Managerial Labor

A. Managers & Friends
B. Business Services
C. Offices
D. Offshoring
Make or Buy...Management

- Internal (corporate)
  - Management employees
- External (subcontract)
  - ‘Business services’
  - Business services growing rapidly

Figure 1 Employment growth trends in the financial- and business-services sector

Source: Cambridge Econometrics (1994)
Big 3 Biz Services

By census data

- Accounting
  - Keeping the books
    - Deloitte&Touche, KMPG, etc.
- Management consulting
  - Advice to top managers
    - McKinsey, Bain, etc
- Information Technology (IT)
  - Technical services in computing & communications
    - IBM, Oracle, etc.
Your critical business challenges didn’t come to you in a package. That’s why we don’t offer you "pre-packaged" solutions.

Our commitment to our clients is that we will:

- Listen to you.
- Understand your short and long-term objectives.
- Understand your culture.
- Understand your products and services.
- Recommend and design a strategy that addresses challenges and root causes.
- Implement that strategy with you.
- Quantify success with you at critical points along the way.
- Be nimble and suggest tactical changes as appropriate.
- Focus on results, not "feel good" metrics.
- Help you grow your business.
II. Managerial Labor

A. Managers & Friends
B. Business Services
C. •Offices
D. Offshoring
Offices

- Management workplace
  - Emergence > 1900
  - Dominance > 1950

- Specialized buildings
  - Skyscrapers
  - Campuses

- Location
  - Downtown or suburban
Business Services & Office Clusters

- Business services clusters
  - Attorneys, advertisers, accountants, designers, etc.
  - Foundation of big city Downtowns

NB: Consumer ‘business services’
- Small lawyers, tax preparers, real estate agents, etc.
- Like retail, near residences
Office Districts

- Same logic as industrial districts
  - Interaction/access
  - Labor pool
  - Shared infrastructure
  - Face-to-face contact

- First noted in 1950s study of New York
  - Hoover & Vernon, Anatomy of a Metropolis
II. Managerial Labor

A. Managers & Friends
B. Business Services
C. Offices
D. Offshoring
Sending Business Services Abroad

Offshore services as a percentage of business sector material and service inputs, by type

- Business services
- Financial services
- Software and computer services
Offshore or Onshore?

IT subcontracting to India

Biggest companies are Wipro, InforSys & Tata Consultancy

Paradoxically, Wipro setting up a center in Atlanta in 07.

“Falling dollar pushing up costs of outsourcing to India”

Sam Zuckerman, Chronicle Staff Writer

Tuesday, October 2, 2007
Complex & Creative Labor

I. Goods & Services
II. Managerial Labor
III. Auxiliary Labor
IV. Creative Work
III. Auxiliary Labor

A. **Auxiliary Work**
B. Design & Engineering
C. Marketing
D. Maintenance & Repair
Types of Auxiliary Labor

- **Preparation**
  - Design & engineering

- **Support**
  - Repair & maintenance of machinery & workplaces

- **Finishing**
  - Packaging & testing

- **Marketing**
  - Mkt. Research & advertising

- **Post-production**
  - Repair & maintenance

- All have grown relative to basic labor
III. Auxiliary Labor

A. Auxiliary Work
B. •Design & Engineering
C. Marketing
D. Maintenance & Repair
Long History of Design

- Starts with Wedgwood in 1780s
- Function over form in 19th century
- Systematic by 1920s
- Clothing, autos, household machines, etc.
- Still crucial today
- Even in ‘High Tech’

A. Forty,
Objects of Desire
Italian high fashion
- Gucci, Versace, Genarra etc.
- Centered in Milano

Production offshoring, but not design
- 50% of Italian production now done abroad
- Shrinking textile districts
- Silk @ Como, wool in NE Italy @ Biella
- Cotton @ Varese, west of Milan
  - “the Manchester of Italy”
  - Employment fell by half, 1981-2001,
    - 54,000 to 27,000

BUT: Italy still runs an export surplus of $10-12B in textiles & clothing
Engineering

- Process engineering
  - Designing machinery & factories
  - Materials & labor flow

- Product engineering
  - Not just for consumer
  - Shape, materials, components etc.
  - E.g. computers
    - Precast plastic cases
    - Simpler circuit boards
    - Preassembled components
System Design & Engineering

- **Electronics SOC (system on a chip)**
  - Eliminates components, assembly
  - Demotes board & computer design
  - Cadence & Applied Materials
    - software for system chip design

- **Ikea furniture**
  - Simple pieces, little assembly
  - Elegant solutions & functionality
  - Easy Self-Assembly
    - The magic bolts
  - Flat packages for transport & storage
Design & engineering

...as business services (subcontracted)

FROM RAW MATERIALS TO THE LAB
FROM THE LAB TO FINISHED PRODUCTS
WE SERVE INDUSTRY DAILY

About Us - Who We Are
  Aroma Chemical Industry
  Specialty Chemical Industry
  Turpentine and Tall Oil
  Upgrading
  VOC Control - Printing Industry
  VOC Control - Building Products
  Technology Transfers
  Engineering Drawings
  Contact Us

Our services include chemical process design, simulation and process control, and finally technology transfer and other chemical engineering support.
Designing Cities

- Los Angeles, Silicon Valley, Paris & Milan
  - Designers & engineers for everything
  - E.g., 80% of chip design worldwide in SV

- Usual logic of industrial districts
  - Labor pool
  - Sharing ideas & action
  - Face-to-face contact

Allen Scott, The Cultural Economy of Cities
Harvey Molotch, Where Stuff Comes From
III. Auxiliary Labor

A. Basic Labor
B. Design & Engineering
C. Marketing
D. Maintenance & Repair
Marketing - key elements

- Product (Quality & Price)
  - Product as function & image
  - Integrating marketing with production

- Branding & advertising
  - Image & desire
  - Affinity & loyalty

- (Retailing & sales system)
Integrating Design & Marketing

- Problem of time & coordination
  - How to work together?
  - How to move quickly into production?

- Solutions
  - Sashimi model
  - Project team model
  - Listening Post model

- Motorola's RAZR
  - 'consumer experience design groups'
    - teams of designers, engineers, marketers & accountants
Toying with desire

Consuming life

Brands & identification

Get ‘em young

Loyalty
Advertising Industry

- Subcontracting ad campaigns
- Specialist firms

- Advertising districts
- Madison Ave., Bangkok, Paris, SF, LA
III. Auxiliary Labor

A. Basic Labor

B. Design & Engineering

C. Marketing

D. Maintenance & Repair
Repair ‘services’

- **Misnomer**
  - Not a direct labor service to a person

- ‘Follow-up’ labor on durable goods
  - Keep them in working order
  - Keep them clean & usable

- **Kinds of durable goods**
  - Office machines
  - Automobiles
  - Buildings
  - PCs
Geography of M&R – highly dispersed

- **On-site @ business**
  - Inside workers
  - Outside workers
    - Vendor rep (IBM, Xerox, etc.)
    - Contract maintenance (Cleaning services, factory repair)

- **Repair & cleaning shops**
  - Cars, clothing, TVs, etc.

- **On-site @ home**
  - Domestics (regular)
  - Contractors (intermittent)
    - Carpet cleaners, plumbers, etc.
Offshoring Repair Labor

- Technical back-up & product information
  - Self-repair with advice

- Outsourcing call centers
  - India has 450 firms, with 350K workers, $5.2B revenue
  - 70% from US
Complex & Creative Labor

I. Goods & Services
II. Managerial Labor
III. Auxiliary Labor
IV. •Creative Labor
IV. Creative Labor

A. •Smart Production
B. Smart Goods
C. Smart Workers
D. Knowledge Economy?
The long arch of technological advance (cf. lec. 3)
- Better science & engineering (knowledge of nature)
- More educated & sophisticated workers & managers

More sophisticated production systems
- Better machinery & materials
- Better work organization
- Better flow & logistics

*Also in offices, stores, warehouses, etc.*

But is this a shift to a creative or knowledge economy?
IV. Creative Labor

A. Smart Production
B. • Smart Goods
C. Smart Workers
D. A Knowledge Economy?
Smart Goods

- All goods carry information/knowledge
  - Inscribed, implicit & instructions

- Rising info/knowledge content
  - Internal to function
  - Imparted to user
  - Interactive learning

- Goods in the digital age
  - Embedded ‘brainpower’ of goods

*Maybe this marks a shift to a creative or knowledge economy?*
Are They Still Goods?

- Triumph of the intangible?
  - Vast storage & output of digital info
  - Numbers, words, music, pictures, algorithms, etc.

- Selling disembodied stuff
  - Commodification of information/knowledge

- Stubborn persistence of things (goods)
  - Laptops, CDs, iPods, cameras
IV. Creative Labor

A. Smart Production
B. Smart Goods
C. •Smart Workers
D. A Smart Economy?
Theory of the Creative Class

- The thesis
  - Smart workers are key to growth
  - ‘The Creative Class’, ‘Symbolic analysts’, etc.

  *Richard Florida, The Rise of the Creative Class*

- The geographic thesis
  - Growth comes from clusters of creative workers
First Error: An Old Divide

- Skilled elite vs. unskilled mass
  - Since industrial revolution
  - DOL is more elaborate now
  - Just renamed ‘creative labor’?

- Today’s divide
  - Technical, professional & managerial
    - College educated
  - Manual
    - In manuf, construction, retail
    - High school or less
Second Error: The Missing Middle

- What about semi-skilled, semi-creative workers?

- Pink-collar labor
  - Clericals, teachers, estate agents, nurses, etc.

- Light-blue collar labor
  - Machinists, repair, drivers, supervisors, etc.

*Is Creative Class just another devaluing of ordinary labor?*

cf. Lecture 14
Social labor needs all its parts
- Who will work under the CWs?
- Who will produce what the CWs design?
- Who will move, sell, store what the CWs create?
- Who will feed, nurture, house the CWs?
Fourth Error: Why Isn’t All Work Creative?

- Doesn’t smarter production = smarter workers?
  - YES
    - Skills: technology embodied in people
    - Education: rising level of worker knowledge
    - Working smarter: better use of labor
  - NO
    - Deskilling: technology goes to the machine
    - Dull work: knowledge goes to managers
    - Education? You must be kidding...

- Most work remains dull & limited
  - Paradox of work under capitalism noted by Adam Smith, Karl Marx, Harry Braverman, etc.
IV. Creative Labor

A. Smart Production
B. Smart Goods
C. Smart Workers
D. •A Smart Economy?
The Knowledge Economy Thesis

- A new industrial revolution?
  - Internet, computing & digital age
  - Not higher tech, but knowledge as the key to everything

- Or just a strategy for rich nations?
  - EU & US fears of Asia & NICs
Yet another capitalist fantasy?
Out, out damned spot – lec. 15

A workerless world
Golden trinity: knowledge, technology & creativity
Not more dirty, difficult ordinary workers

Somebody else’s problem
The working class is somewhere else
& we just lock up the rest....