

only few changes took place, and today's town centre is almost identical with the pre-industrial town. However, the economic and social development, which has taken place during the recent 100 years has left its trace.

Two distinct periods of restructuring may be identified: Firstly, a re-structuring period tied to the industrialisation and the improved transport facilities, primarily the development of the railway systems, in short a re-structuring closely related to the urbanization process. Secondly, a period tied to the post-war economic boom, with its immense changes in the social conditions as well as within housing, manufacturing, public- and private services, a re-structuring closely related to the suburbanization process.

The latter of the two periods has resulted in a spatial differentiation of production-, circulation-, and reproduction functions within the urban areas in general as well as within the urban areas as such.

### Resumé

#### *Arealanvendelsen i danske provinsbyers bymidte*

Et centralt begreb indenfor geografi er arealanvendelse. Begrebet analyseres gennem en opsplitning af ordet: areal, der repræsenterer fast ejendom og fysiske ressourcer, samt anvendelse, der refererer til den samfundsbestemte stedbundne menneskelige aktivitet.

Dobbeltforholdet mellem samfundsudviklingen og arealanvendelsen søges dernæst eksemplificeret gennem arealanvendelsens udvikling i to mellemstore danske provinsbyer: Slagelse og Herning. Det påvises, at der gennem de seneste 11-12 år er sket store forskydninger i bymidtens arealanvendelse, og at disse forskydninger er tæt knyttet til efterkrigstidens økonomiske boom, suburbaniseringen og den deraf følgende adskildelse af bolig og erhverv. Endvidere søges det påvist, at de ubenyttede (tomme) byarealer er en nøgle til forståelsen af arealanvendelsesændringer.

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## Urban industrial Areas

Hans Thor Andersen

Andersen, Hans Thor: Urban industrial Areas. Geografisk Tidsskrift 84: 50-52. Copenhagen, January 1984.

*The development of the large cities has been closely connected with industrialization. However, the decentralization of industry and manufacturing jobs has accelerated from 1970. This process has left a huge stock of old, derelict industrial buildings and a pool of unemployed workes.*

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Keywords: *Inner city decline, industrial areas, physical obsolescence.*

Manufacturing has been crucial for the transformation of the Western European countries from agricultural societies to the present industrial and service based societies. Industry produces the material base of the society and, through creation of jobs and production of commodities, manufacturing influences consumption and the conditions of living. The spatial distribution and development of manufacturing industry are important for the urban structure.

Policies towards industry have been concentrated towards physical and environmental problems, which were solved by separating industry from other urban activities. Economic factors were seen to be industry's own problem. This separation has been the basic tenet of planning (Architects Journal, 1979).

The problems of the inner urban areas in Britain have showed the importance of the economic base in relation to regeneration of inner cities: Economic regeneration is an essential prerequisite of physical and social regeneration. The realization that industry provides both jobs and service has led to policies capable of promoting urban industry. Such a realization has unfortunately not occurred among authorities in Denmark.

The urban development is integrated with the development of the society and its underlying structures, especially the accumulation of capital (Harvey, 1981): In the built environment as a whole, capital represents itself in the form of a physical landscape, created in its own image and as use values to enhance the progressive accumulation. The specific relations of the built environment -

## The making and breaking of industrial areas - a model

### Growth

Firms locate in the area on green field sites. The capital to set this up comes from profits made elsewhere. The industry expands and employment grows. All the available land is filled up.

### Maturity

Local firms remain profitable. Few firms leave the area and new growth slows. Employment remains at a fairly stable level.

### Decline

Local industry begins to decline. There is little new investment in existing plant. Employment is cut.

The traditional manufacturing sector continues to decline, providing fewer jobs - especially skilled jobs. Several firms close altogether, leaving vacant sites. No new manufacturing enterprises comparable to the traditional industries are attracted to these sites as they are relatively expensive to buy, rent and develop.

But the availability of cheap, old premises, together with a pool of low income workers, does attract an inflow of small-scale, low wage, low productivity industry.

Fig. 1. Development and obsolescence of industrial areas. After »The Costs of Industrial Change«, 1977.

Fig. 1. Industriområders udvikling og forældelse.

fixed capital is immobile, is used over a long period and cannot easily change productivity - leads to a paradox. The physical structures become themselves barriers to further accumulation. In capitalist societies there is a perpetual struggle in which capital builds a physical landscape at one moment in time, only to have to destroy it at a later point. This process is enforced by the technological advance, making new physical structures more productive than existing structures. The exchange value in the old structures are devalued.

## OBSOLESCENCE IN INDUSTRIAL AREAS

Obsolescence is a normal feature of all parts of the built environment - housing areas, inner cities and industrial areas. The latter are a complex mix of different functions and physical structures, containing the physical and spatial organization of the production: Communication systems, buildings, infrastructure, economic units, means of production etc.

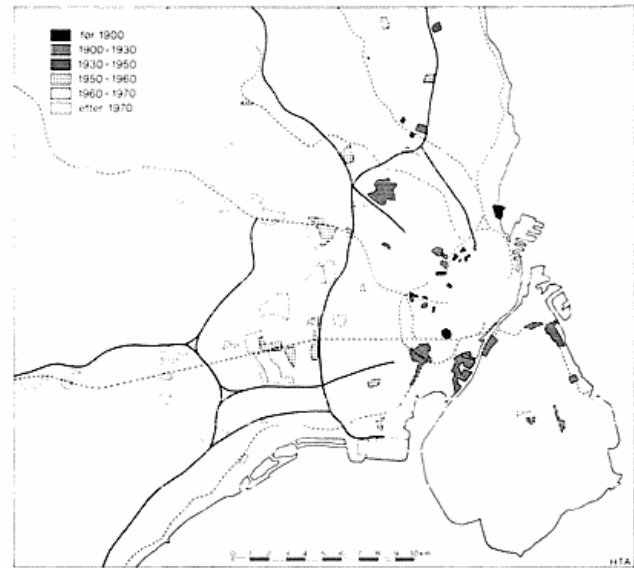


Fig. 2. Industrial areas in Greater Copenhagen, year of establishment.

Fig. 2. Storkobenhavnske industriarealer fordelt efter etableringsperiode.

Obsolescence within this system is well known: Economic growth has presupposed a successive renewal of the technology of production, distribution and consumption of the products. As single firms are unable to renew the physical structures of a whole industrial area, obsolescence thus becomes a social problem.

The creation of a whole physical landscape for production purposes has, in periods, occurred in different geographically limited parts of the larger cities. In the same periods other production areas have received few or no investments. This creation of fixed capital, unbalanced in space and time, leads to historically specific phenomena: The establishment of industrial areas in many cities has taken place in the 30s, the 40s, the 50s etc. Every area is characterized by a production environment which - in both physical structures and land-use - reflects the development of the society, especially the technological use and advance. The unbalanced development and obsolescence of industrial areas leads to a concentration of firms with low productivity, low wage and an out-dated means of production (see figure 1).

## THE COPENHAGEN CASE

Urbanization and the associated industrialization formed a dense urban structure with dwellings mingled with factories. The establishment of real industrial areas 1900-1930 took place along railways and at ports (see figure 2); these areas constitute the inner industrial zone. After 1950 the suburbanization and the »Fingerplan« (Egnsplanrådet, 1947) directed urban growth and localization of industrial areas along the new suburban railways. During the 50s

Table 1. The distribution of industrial employment in Greater Copenhagen 1958-81, per cent.

Tabel 1. Industribeskæftigelsens fordeling 1958-81 i Storkøbenhavn, procent.

	1958	1972	1981
Core	78,8	55,2	44,9
Inner suburbs	16,7	26,3	28,0
Outer suburbs	4,3	18,4	26,9
Total	99,8	99,4	99,8
N	203.981	128.252	86.530

Notice: 1958-numbers include industry and handicraft. 1972- and 1981-numbers include industry only. Source: *Erhvervstællingen 1959 og Industristatistik 1972 og 1981*.

and the 60s, an outer industrial zone was established in the west Copenhagen suburbs. The industrial decentralization was closely connected to technological advances, especially the improvement of motor transportation. The newest industrial areas are all located in the western part of Copenhagen – mostly far from railines, but close to motorways – about 15 km from the central urban areas.

The localization of industrial areas during the 20th century took place at the edge of the continuously build-up area of the city – the urban fringe. The total number of industrial areas in Greater Copenhagen is approximately 103, of which 60 are less than 15 ha and only 7 greater than 100 ha. The annually established area for production purposes in the period 1880-1983 in Greater Copenhagen is seen in figur 3. From 1970 the number and extent of new industrial areas have diminished considerably (see figure 2 and 3).

The obsolescence of the older industrial areas, regional economic changes and the internal development of the firms has lead to a remarkable change in industrial employment during the last 25 year. The decrease of industrial employment in the central metropolitan area (from a share of 79% in 1958, 56% in 1972 to only 45% in 1981) has accelerated in the 70s, see table 1.

The metropolitan area of Copenhagen has lost a considerable part of the jobs in industry (about 40% 1970-81). The number of industrial jobs in the core are reduced with 52% during the 70s, while the inner suburbs have lost 31% and the number of jobs in the outer suburbs have been nearly unchanged. The changing distribution of industry thus has been most marked in the core area, which contains a growing number of derelict and redundant industrial premises.

Obsolescence of the physical structures is a common feature, but unbalanced in space and time, obsolescence becomes a problem for the whole society. The old central part of the metropolitan area has lost roughly  $\frac{2}{3}$  of all industrial jobs since 1960. Today unemployment is more common in the central area than in the suburbs, and the social segregation has left in precisely this area a concentration of unskilled workers and persons outside the labour force.

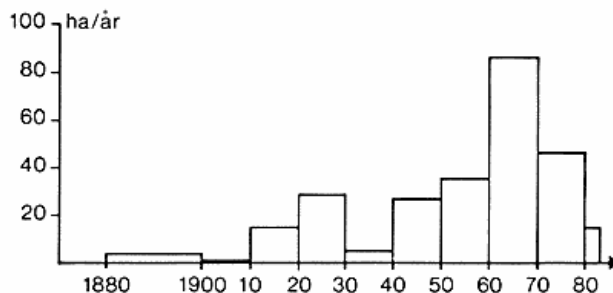


Fig. 3. Annually established industrial area 1880-1983 in Greater Copenhagen.

Fig. 3. Årligt ibrugtaget industriareal 1880-1983 i Storkøbenhavn.

### Resumé

Fremstillingserhvervene har været afgørende for de Vesteuropæiske landes transformation fra landbrugssamfund til industri- og service samfund. Den rumlige udvikling og fordeling af produktionen er afgørende for bystrukturen. Industriens økonomiske forhold har hidtil været betragtet som erhvervets problem, men studier af britiske byer viser at en social og fysisk genopretning af de ældre bydele er betinget af økonomiske forbedringer.

Kapitalen fremtræder gennem det bebyggede miljø, der er skabt efter dens eget behov og for at sikre en fortsat akkumulation. Imidlertid virker forhold ved det bebyggede miljø hindrende og begrænsende for en videre akkumulation; de ældre fysiske strukturer må fjernes. Denne forældelse rammer også erhvervsområder og fører til koncentration af lavtløns- og lavproduktive virksomheder, samt nedgang i beskæftigelsen. Storkøbenhavn har de sidste 25 år oplevet en kraftig reduktion i industribeskæftigelsen, især i de ældre, centrale bydele.

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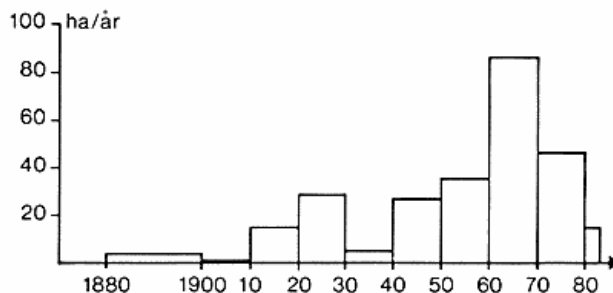


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