

EFFECTS OF INDUSTRIALIZATION ON THE ECONOMIC AND SOCIAL CHANGES IN VILLAGE AREAS ON THE SOUTH HUNGARIAN PLAIN

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As a consequence of the rapid industrial development in the past few decades, the South Hungarian Plain, which accounts for nearly 20% of the area of the country and 14% of the population, has undergone a radical economic and social transformation, affecting both the town and the village settlements. The dynamic change to be observed in the village settlements is naturally inseparable from the other factors acting on the process: the reorganization of agriculture on socialist lines, the use of modern technological methods, the development of transport, and the tremendous increases in the specialist knowledge and cultural level of those working in agriculture are not only consequences, but also causative factors of the process of transformation.

The economic and social transformation of the village areas is proceeding in a regionally differentiated manner, depending on the strengths of the local effects and the economic centres. In the following we wish to deal with the effect-connections originating from the industrial development of the economic centres.

Some aspects of the industrial development of the South Hungarian Plain

Before the Second World War, the industry on the South Hungarian Plain was undeveloped and strongly decentralized; each town possessed a few smaller food-industry (mainly milling, meat, sugar or preserving) or light-industry (hemp, textile, shoe or wood) works, which were generally located with regard to the raw material and the cheap labour force. A larger industrial centre could not develop. Only Szeged comprised a more significant industrial focus.

At the turn of the century, Szeged was the second most highly-populated Hungarian town. Its development was promoted by certain favourable features: it was a railway junction, it had the possibility for water-transport, it was a centre for the emerging light and food industries, it possessed a wide-ranging sphere of attraction, and it was a marketing centre. As regards the population and the number of industrial workers, it stood out from among the other settlements of the South Hungarian Plain: in 1941, 9% of the inhabitants of the region and 25% of the industrial workers were concentrated in the town.

Up to the end of the Second World War, the industrial development of the area was extremely slow; it is true, however, that the situation was similar in the whole country, and thus there was no significant difference in tendency.

In the nineteen-fifties, the industrial development of the country as a whole was extremely fast, but the South Hungarian Plain continued to remain in a disadvantageous situation because of a number of unfavourable factors:

a) The main directive of the first 5-year plan prescribed the development of heavy industry, and within this, the mining, the basic materials, the machine and

the chemical industries. The realization of this was connected to areas possessing energy and raw-material sources, and consequently the decentralization of industry materialized in the relation of Budapest and some areas possessing raw materials (Borsod and Central Transdanubia).

b) The agricultural raw material necessary for the major development of the food industry of the South Hungarian Plain was not available.

c) In this period, unlike the other regional centres, Szeged was in a disadvantageous position. The new national boundary created as a result of the First World War deprived the town of its favourable transport situation and of a considerable proportion of its area of attraction. The transit traffic fell off appreciably. The then strained political relations with Yugoslavia slowed down the development not only of the industry, but of the town too.

Of the conditions for industrialization, the South Hungarian Plain possessed primarily a labour force, which proved insufficient for the establishment of more significant objects. The rate of industrial development of the area was below the national development of the area was below the national average, and consequently the difference compared to the industrially more developed regions did not decrease, but rather became even more marked. The migration away of the labour force continued at an enhanced rate, and became a tendency the effects of which are still felt even nowadays in the reproduction of the population, in the development of the towns, in the lag in communal investments, and in other areas.

The situation of the South Hungarian Plain progressively improved from 1957, and in the following decade became favourable. The industrial development of the region is favourably influenced by the following national and local tendencies:

a) At the beginning of the nineteen-sixties the aims of the economic policy were modified. In place of the one-sided development of heavy industry, the light and food industries and the labour-demanding branches of heavy industry came into the foreground. Besides the concentrated industrial investments, great care was devoted to the development of local industry. The less industrialized areas received support centrally too. This tendency brought the South Hungarian Plain into a favourable position; the labour force became one of the most important industry-settlement factors, but by this time the labour force reserves of the industrially developed regions had already been exhausted.

b) The socialist reorganization of agriculture released a considerable labour force, which came forward as a primary industry-settlement factor.

c) The socialist transformation of agriculture meant a solid basis for the elevation of the technological standard, for the reorganization of the crop structure, and for the constant increase of production. This permitted an appreciable development in certain branches of the light and food industries.

d) With the improvement of international relations, there was a considerable increase in the transit and tourist traffic on the South Hungarian Plain.

e) With the discovery of the hydrocarbon fields, the energy supply improved significantly, and this gave a further impulse to the industrial development.

f) The situation of Szeged was modified, and, as a regional centre, its high rate of development influences the entire area.

The changed conditions led to an acceleration of the industrial development of the region, and in the past 15 years the rate has exceeded the national average.

The purposeful policy of industrializing the region has brought spectacular results. In 1963 the five industrially most developed counties (together with Budapest) employed 70% of the industrial workers of the country; in 1969 the corresponding proportion was 62.5%, and in 1976 56%.

The economic indices for the South Hungarian Plain point to an even faster development than in the other less industrialized areas. The achieved investment increased six-fold between 1960 and 1976, and its national proportion from 8.1% to 10.8%. The increase of the industrial investment was even more marked than this. There were corresponding changes in the number and proportion of industrial workers, and the technical indices too were modified. In the above period, the number of those working in industry rose from 120,000 to 195,000, and the overall value of the fixed stock from 8.6 milliard Ft to 38.8 milliard Ft. The national proportion of the South Hungarian Plain changed considerably; for example, in the overall value fixed stock it rose from 4.5% to 8.2%.

In the past 15 years, the branch of industry that has developed most dynamically in the region is heavy industry, and consequently the proportions of the branches have changed. In 1963 heavy industry employed 22% of the industrial workers, and in 1976 37.7%. The change was primarily brought about by the exploitation of mineral oil and natural gas. The South Hungarian Plain yields 84.7% of the mineral oil and natural gas production of the country. In addition to the development of mining, numerous heavy-industrial plants too have been created.

Correlations of industrial development and urbanization

The close connection of industrial development and urbanization is well known, but it is worth turning to some characteristic features in the case of the South Hungarian Plain.

The rate and manner of industrial development varied, depending on the size of the towns:

a) The rate of increase of the number of those employed in industry is inversely proportional to the size of the town. The correlation coefficient between the two factors has a value $r = -0.61$; i.e. the change in industrial occupation was influenced by the number of the inhabitants in 37% of the cases. In the upper category the rate of increase is 1.5 times, while in the lower category it is more than 3 times.

b) The driving force increase is directly proportional to the size of the town; the correlation coefficient between the town; the correlation coefficient between the two factors has a value of $r = 0.74$. The connection can therefore be said to be a close one. The driving force per employed person has increased by a factor of three in Szeged, while it has remained unchanged in the small towns.

c) Correlations can also be demonstrated between the size of the town and the electrical energy utilization per worker, and the size of the town and the increase in the overall value of the fixed stock ($r = 0.58$ and 0.34 , respectively), but these correlations are somewhat weaker than that for the driving force.

The rate and manners of industrial development of the towns and the increases in the populations were visibly different in the towns of different sizes (Table 1). The increase in population was the most intensive in Szeged. However, the number of those employed in industry varied to the lowest extent in Szeged too; indeed, in the nineteen-seventies a decrease can be observed in every respect. (The strong fall

Table 1. Increases of the number employed in industry and the driving force in the urban settlements of the South Hungarian Plain, with the towns classified according to size

Population group. (1000 inhab.)	Year	Population	%	Number employed in industry	%	Number of industrial workers per 1000 inhab.	%	Driving force per workers	%
100-180	1960	98,942		32,225		230		1,2	
	1965	113,594	114.8	29,534	127.1	266	115.6	1.7	145.9
	1969	118,490	104.3	34,230	115.9	288	108.3	2.6	150.3
	1976	170,355	143.8	33,715	98.5	198	68.8	3.7	142.3
Total	(1960-76)		172.2		145.2		86.1		308.3
50-100	1960	170,546		24,313		143		1,4	
	1965	177,813	104.2	32,898	135.3	185	129.3	1.8	123.8
	1969	185,689	104.4	44,220	134.4	238	128.6	2.1	115.3
	1976	208,329	112.2	48,683	110.1	234	98.3	2.0	95.2
Total	(1960-76)		122.2		200.2		163.6		142.9
30-40	1960	157,330		15,205		96		1,3	
	1965	159,281	101.2	22,200	146.0	139	144.8	1,7	131.2
	1969	164,422	103.2	31,255	140.7	190	136.7	2,3	137.7
	1976	171,074	104.1	36,592	117.1	214	112.6	2.5	108.7
Total	(1960-76)		108.7		240.7		222.9		192.3
16-30	1960	104,098		10,068		96		1,3	
	1965	106,536	102.3	16,426	163.7	154	160.4	1,5	105.7
	1969	110,526	103.7	22,668	138.0	205	133.1	1.4	95.9
	1976	149,130	134.9	31,232	137.8	209	102.0	1.3	92.9
Total	(1960-76)		143.3		310.2		217.7		100.0

in the number of industrial workers per 1000 inhabitants is due primarily to the integration of 5 village settlements into Szeged.) The machine capacity has increased more than three-fold. It follows clearly from the data that the nature of the industrial development in Szeged underwent a change at the beginning of the decade, passing over from the extensive to the intensive stage. (The increase of production is achieved by the elevation of the productivity.) The further increase in the urban population in recent years was brought about primarily by the development not of industry, but of the tertiary branches. Szeged has developed more rapidly than the other regional centres, but in spite of this the indices of the infrastructure of the town (with the exceptions of education and health) show a more unfavourable picture; i.e. the lag dating from forty years ago has by no means been made up for as yet. Of the 5 similar large towns, Szeged is in first place in the fields of health, education and adult education, but in fourth place as regards housing and communal facilities, transport, trade and sports facilities.

In the category of towns with a population of between 50,000 and 100,000, the increase in the number of inhabitants has accelerated in recent years; the number of those employed in industry has also increased, but its proportion has decreased, indicating that in these towns too the tertiary sector has come into the foreground.

In the category of settlements with a population of 30,000—40,000, the increase in the number of inhabitants is slow; the number employed in industry has increased appreciably, and the industrial development has remained unchangingly extensive in nature. The significant change of the driving force is not characteristic of every settlement, since the considerable increase can be attributed to the Glass Works in Orosháza.

In the lowest category, the population per settlement has not altered essentially; at the same time, the number of those employed in industry has increased dynamically; the driving force per worker has remained unchanged for 15 years. The extensive nature of the industrial development is obvious here too.

The changes in the proportion of the urban population on the South Hungarian Plain followed the stages of development of industry. Up to 1965 the rate of increase remained below the national average; it then accelerated and overtook the other regions. Nowadays the tempo has become more uniform, and essentially conforms to the national tendency (Fig. 1).

The differences to be found in the rate and the nature of the industrialization, depending on the size of the town, are supplemented by the differences in the demographic indices (Table 2).

In the nineteen-sixties, the birth rate in Szeged was extremely low; the death rate exceeded it by 0.11%. The situation has progressively improved, and nowadays the natural population increase in Szeged stands out from among those of the town of the South Hungarian Plain; it exceeds the national average. A substantial improvement has similarly occurred in the medium-sized towns. Apart from minor fluctuations, the demographic indices of the smaller towns have shown an unvaryingly unfavourable picture in the past 15 years: in addition to the low birth rate, the death rate is very high (appreciably exceeding the national average).

The demographic situation of the towns is also connected with the historical course of industrial development. In the nineteen-fifties, the slow industrial growth could not keep pace with the released labour force, and there was a significant migration away from not only the village settlements, but the towns too. The

Table 2. Demographic indices of towns of the South Hungarian Plain

Population group (1000 inhab.)	Population total (1000 inhab.)			Birth statistics						Death statistics					
				1960		1969		1976		1960		1969		1976	
	1960	1969	1976	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
100-180	99	118	170	1014	10.2	1684	14.2	3071	18.1	1122	11.3	1345	11.3	1972	11.6
50-100	171	186	208	2261	13.2	2827	14.2	3903	18.8	1812	10.6	2103	11.3	2461	11.8
30-40	157	164	171	1904	12.1	2274	13.8	2793	16.3	1970	12.5	1997	12.1	2302	13.5
16-30	104	11	149	1353	12.9	1503	13.5	2619	17.6	1242	11.9	1522	13.7	2221	14.9
Total	531	579	698	6532	12.3	8288	14.3	12386	17.7	6146	11.6	6976	12.0	8956	12.8

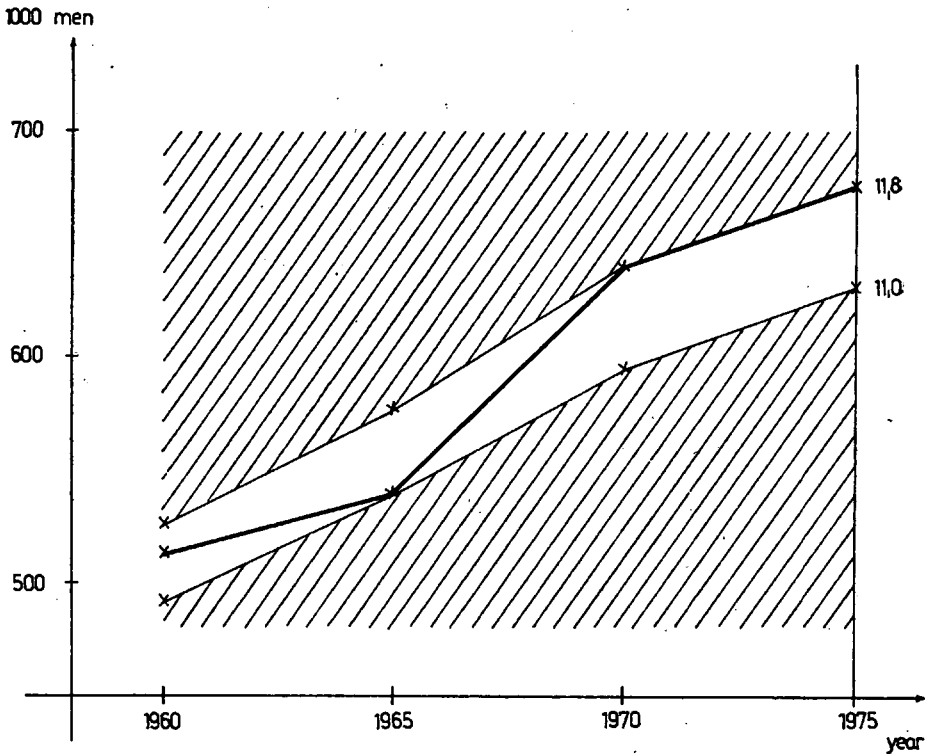


Fig. 1. Number and national rate of the urban population of the South Hungarian Plain

development of industry primarily occurred in the larger towns, and this soon showed up in the rapid increase of the immigration into these towns. The plants in the smaller towns could not even fully employ the internal labour force reserves, and therefore their ability to absorb the population was slight in the nineteen-sixties. This role has begun to grow stronger in recent years, but it has not been able to change the distortions appearing in the reproduction of the population. As a consequence of the migration away, the proportion of elderly people is very high. This has the effect that the death rates is unfavourable, and the natural growth is slight. The development of the smaller towns continues to be very slow, and there is practically no change in the number of the inhabitants. This supports the principle that development of industry is in itself not enough for urbanization; in addition, there is a need for the development of the tertiary branches and the infrastructure, and also the strengthening of the urban functions. In the larger towns the unity is beginning to materialize and, after the industrialization, this will give new impetus to their development.

The differences outlined in the urbanization process are not only important as regards the towns themselves; they also have an effect on the surrounding settlements. Those economic centres the industrial development of which began earlier and was more intensive, are the richer in function, and have more intensive, are the richer in

function, and have stronger effects radiating out to the surrounding settlements. The general developmental scheme is the same everywhere. In the nineteen-fifties, the towns initially utilized their own internal labour force reserves, their ability to absorb the population was slight, and the proportion of those commuting from the surrounding settlements was relatively low. Subsequently, as a result of the rapid industrialization, the number of commuters quickly increased and the commuting area progressively expanded. This phenomenon can be observed extremely well in the case of Szeged (Fig. 2). Between 1960 and 1975 the number of commuters increased four-fold. In 1968 72% of the commuters lived within 20 minutes' travelling distance and only 15% of them travelled for more than 1 hour. In 1975 35% of the commuters lived within 30 minutes' travelling time, and nearly 22% of them were forced to travel for more than 1 hour. In the past decade there has been a rapid increase in the number of settlements from which more than 30 people commute to Szeged to work. In 1960 19 settlements were connected to the town in this way, compared to 45 in 1975. In this connection, the average travelling distance of the commuters has increased too: in 1960 it was 13 km, and in 1975 24 km.

The commuting area expands until it attains the rational limit; the spheres of attraction of the individual towns overlap one another, and the number of commuters subsequently rises only moderately. The industry concentrated in the towns, however, can be developed further by expansion and by elevation of the productivity.

The outlined process may be found in each of the towns on the South Hungarian Plain, but there is a sequence with a phase shift in time, depending on the size of the town. In a study of the effects of the economic centres on the country settlements, attention must definitely be paid to these differences.

Determination of traffic-geographical situation of settlements

The effects of the economic centres on the surrounding settlements are extremely diverse: they affect the migration of the population, the composition of the occupations of the population, the decrease in the agricultural population, the structure of agriculture, the morphological transformation of the settlements, etc. In brief, therefore, they act on the process of transformation of the country settlement. In general, the proportion of commuters from settlements close to the towns and in a favourable situation as regards transport is very high, while the proportion of agricultural workers is low; the transformation of such villages is in a more advanced stage than for peripheral settlements. It must be emphasized that this is only one variant of the effect-connections. In addition it is necessary to reckon with a number of other factors which influence the development of the regional differences, e.g. the sizes of the village settlements, their functional connection, the degree of development of the local industry, the structure and developmental level of agriculture, the proportion of the peripheral population, etc. From the economic areal structure, therefore, we wish to deal only with the effect of one factor: the state of the transport conditions of the settlements.

By the traffic-geographical state of the settlements we understand the connection to the economic centres and the ease of access to the centres. For determination of these, the following factors were taken into consideration:

- a = density of road traffic,
 b = density of bus traffic to the centres,
 c = proportion of the population commuting as workers from the settlement,
 x = time necessary to reach the centres, taking the most favourable solution as regards the vehicles running according to time-table.

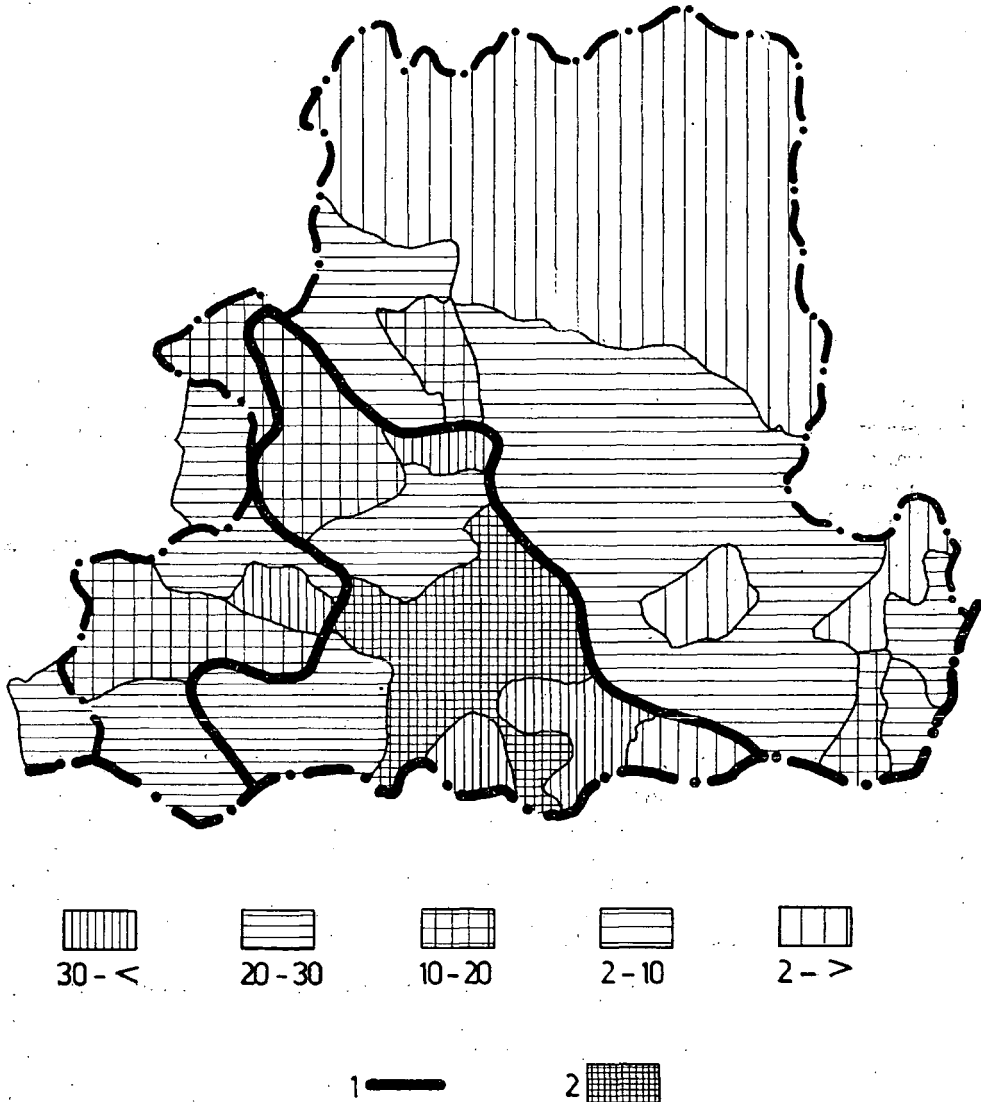


Fig. 2. Manpower attraction of Szeged, 1975.
 (Percentage of employees working in Szeged)
 1: the boundary of the attraction region in 1960
 2: Szeged

In accordance with the above factors, the settlements were classified in 4 categories, and the factors were then used to determine the transport state from the following formula:

$$K = \frac{a+b+c}{x}$$

where **K** is the state of the transport.

With the aid of the indices, the settlements may be categorized as follows:

Serial number	Situation of settlement	Points obtained
1	unfavourable situation	0-2
2	less unfavourable	2-4
3	medium	4-6
4	favourable	6-8
5	very favourable	more than 8
6	centres	

The Figure prepared with the outlined method gives a very good reflection of the belt of settlements with favourable transport characteristics, situated closely around the centres, together with the other extreme, the villages in an unfavourable peripheral position. The majority of the country settlements on the South Hungarian Plain can be classified here. The difference between the centres is also striking. This is understandable, since the more complete and stronger a centre's economic and social influence, the larger the number of settlements it connects to itself (Fig. 3).

These numerical values of the traffic-geographical situation may be utilized for purposes of further research; e.g. a close correlation may be found on comparison with the stratification of the population and with the migrant-accommodation.

Correlation between the mobility of the population and the transport-geographical situation

The rapid industrial development of the towns has significantly increased the proportion of workers commuting from the villages. The extent of the change is strongly differentiated regionally and according to the settlement type (Fig. 4). It is quite natural that the proportion of commuters from settlements possessing favourable transport conditions and in the vicinity of the towns should be very high. The commuter belts which have developed around the larger centres (Szeged, Kecskemét and Békéscsaba) are generally much more extensive than those around the smaller towns.

The tabulated data clearly show the correlation between the proportion of commuters and the transport-geographical situation of the settlement (Table 3). At the same time, it must be stressed that other arrangement principles too prove effectual; mainly in recent times there has been a significant increase in the labour force attraction of the lower-order centres, and as regards the village settlements the number of those commuting from one to another is appreciable.

The proportion of workers commuting systematically is one of the most important indices of the village settlements, since it reflects the state of the village,

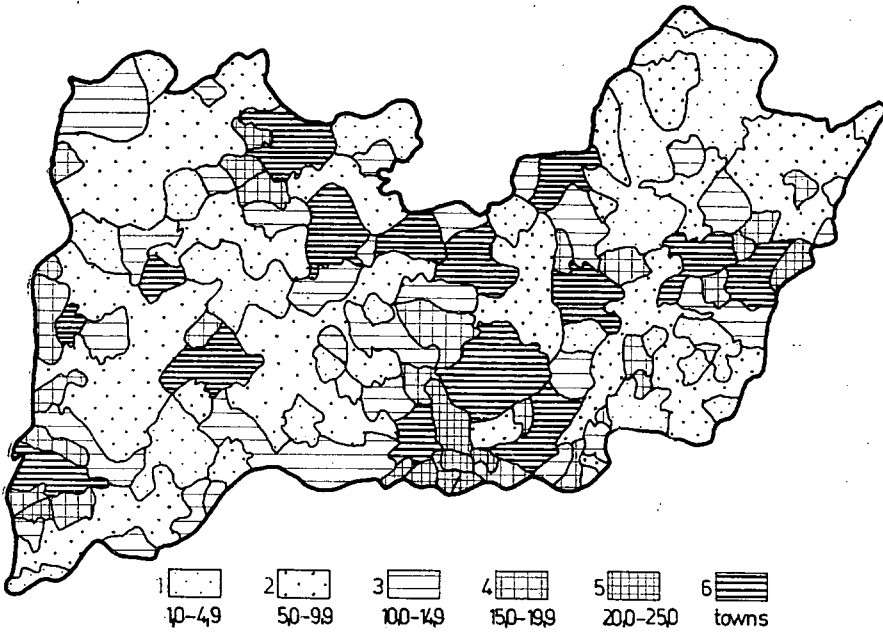


Fig. 3. The rate of outgoers at a rate percent of the population of the South Hungarian Plain in 1970.

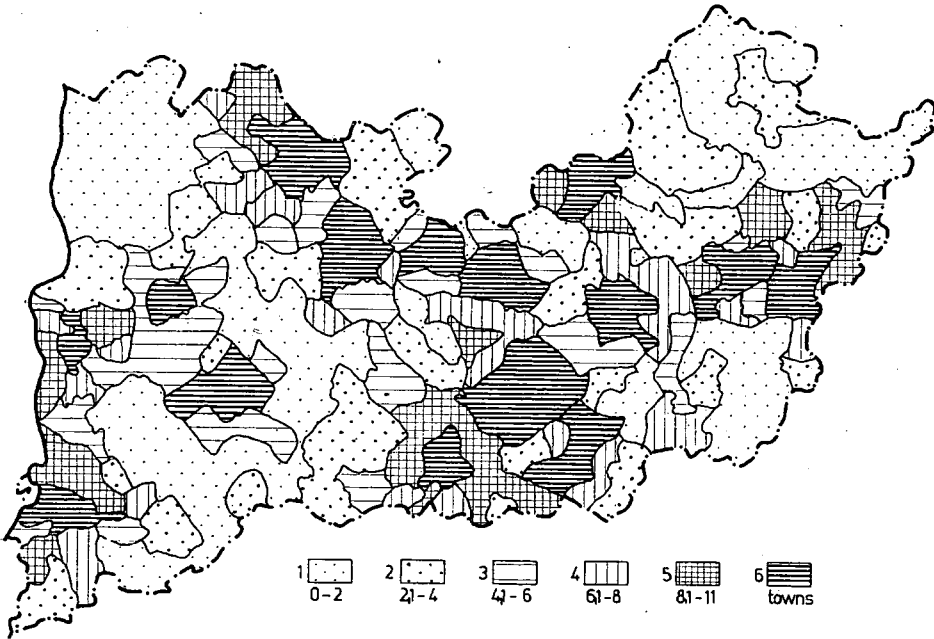


Fig. 4. The traffic-geographical situation of the settlements
 1: very disadvantageous 2: disadvantageous 3: middling 4: advantageous 5: very advantageous

Table 3. Number of commuters and their proportion compared to the population (1970), according to the traffic-geographical situation of settlements

Category	Number of settlements	Number of commuters	
		No.	Proportion % of population
1	80	18,393	6.9
2	60	16,991	7.9
3	37	11,845	9.2
4	34	12,950	12.1
5	24	13,941	13.9
6	16	16,668	2.6
Total	251	90,788	6.2

influences the extent of its transformation, and has effects on both the migration of the population and the occupational stratification. It follows from this that these factors are in synchrony with one another.

Table 4. Migration balance 1949–1959; 1960–1969
(according to traffic-geographical situation of settlements)

Category	Number of settlements	1949–1959		1960–1969	
		number	as % of pop.	number	as % of pop.
1	80	-47,468	-16.0	-49,657	-18.8
2	60	-34,651	-14.5	-37,931	-17.6
3	37	-18,089	-13.2	-18,607	-14.5
4	34	-17,064	-15.0	-15,186	-14.2
5	24	-10,529	-10.0	-9,154	-9.2
6	16	12,319	2.1	42,750	6.7
Total	251	-115,382	-7.8	-87,785	-6.0

Besides numerous other factors, the transport-geographical situation is an essential motive in the development of the migration (Table 4). The value of the correlation between the two factors varies depending on the micro-region:

Region	"r" values of the transport and migration indices
Szentes	0.95
Békéscsaba	0.65
Szeged	0.63
Kecskemét	0.46
Orosháza	0.45
Baja	0.44
Kiskunhalas	0.44

It emerges from the correlation values that there is a close correlation between the two factors, and that this varies from region to region. The tendency shows up clearly that the larger the economic centre and the more complete its function, the stronger its regional irradiation and the more markedly its effect is manifested, particularly on the near-lying settlements. It also follows from this that the effects of the local factors are essentially more expressed in the settlements located farther from the centres, i.e. the effects of the local factors are inversely proportional to the transport-geographical situation.

The proportion of the population commuting systematically and the correlation between the transport-geographical situation and the migrants are of importance from several aspects:

a) The rapid increase in the number of commuters indicates that the urbanization of the towns on the South Hungrins Plain could not keep pace with the increase in the number of work-places. The contradiction may be solved by increasing the communal investments. The increase in the population of the towns also depends on this in practice. This means that nowadays the growth of the urban population may be regulated not by further industrial installations, but mainly by the tempo of building accommodation.

b) In contrast with the industrial regions, a significant proportion of the commuters comprise an unskilled labour force; they lead a "double life", in that, depending on the agricultural work and the pay, they frequently change their working-place. This makes the labour force supply of the factories uncertain, and understandably hampers the factories' efforts for stability in the interest of the constancy of production. Settling of the workers in the vicinity of their working-place facilitates this striving, and at the same time enhances the growth of the urban population and the development of the agglomeration ring.

c) The rapid increase in the number of the population commuting regularly has also contributed to an accelerated change in the village way of life which had developed over the centuries. The attitudes and life-rhythms of the workers in the factories are no longer the same as those of the one-time agricultural labourers. Decisive contributions to the process of transformation were naturally made by the creation of collective farms and the mechanization of agriculture, but the effects of the two factors overlap.

d) The extent of migration has decreased appreciably in recent years. This tendency can be observed primarily in the settlements with favourable transport situations, lying close to the towns, and in the lower-order centres possessing local industry.

e) The differentiating effect of the transport-geographical situation on the regional distribution of migration was comparatively slight between 1949 and 1959, showing up only in the immediate vicinity of the towns. It became much stronger in the following decade, demonstrating the increase in the attracting force of the centres.

f) The proportion of commuters in time is developing in just the opposite way to the above-outlined tendency. The regional differences are disappearing, since the commuter area is extending increasingly outwards and the local effects too are becoming stronger.

As regards the regional proportions of the agricultural workers, there is similarly a striking difference between the settlements with a favourable transport-geographical situation, lying close to the towns, and the villages remote from the industrial centres.

(Table 5). This is understandable, since, mainly in the past decade, the closeness of the towns has had a strong influence on the occupational stratification of the population.

District	Correlation coefficient "r"	Measure of determination, %
Szentes	-0.59	35
Békéscsaba	-0.50	25
Orosháza	-0.50	25
Szeged	-0.49	24
Kecskemét	-0.48	23
Baja	-0.44	20
Kiskunhalas	-0.40	16

It emerges from the data that the difference between the microregions is slight, and further that the effects of the centres are expressed primarily in the close-lying settlements. This is supported by Table 6, from which it is clear that the differences between the settlements from category to category is relatively slight; the proportion of the agricultural population is lower only in the settlements with favourable transport-geographical characteristics. Thus, the effects of the other factors, such as the structure and standard of the agriculture, the sizes and hierarchical situations of the settlements, the local industry, etc., are manifested more strongly far from the urban centres.

Table 5. Number and proportion of agricultural population 1960-1970
(according to traffic-geographical situation of settlements)

Category.	Number of settl.	1960		1970		1960-1970	
		Number	as % of pop.	Number	as % of pop.	Number	as % of pop.
1	80	215613	72.7	170994	64.2	-44619	-16.8
2	60	164625	69.0	142687	66.3	-21938	-10.2
3	37	101779	74.3	81057	63.0	-20722	-16.1
4	34	82236	72.4	66508	62.0	-15728	-14.7
5	24	65415	62.3	53369	53.4	-12046	-12.1
6	16	179982	30.7	161084	25.3	-18898	-3.0
Total	251	809650	54.8	675699	46.4	-133951	-9.2

There are no essential regional differences in the individual elements of the infrastructure (the standards of water, electricity and gas supply are not influenced appreciably by the transport-geographical situation (Table 6).

There is likewise little regional difference in the proportions of new buildings, but the effects of the towns can be measured in the fact that the rate of houses building has decreased to a considerable extent in the settlements located in an unfavourable situation (Table 7.)

Table 6. Numbers of consumers of mains gas and bottled gas per 100 inhabitants, numbers of consumers of household electrical energy per 100 inhabitants, and number of houses connected to mains water per 100 inhabitants in 1975.

Category	Number of settl.	Number of mains and bottles gas consumers per 100 inhab.	Number of household electrical energy consumers per 100 inhab.	Number of houses connected to mains water per 100 inhabitants
1	80	20.3	26.77	9.51
2	60	18.9	26.4	11.2
3	37	22.3	23.3	9.5
4	34	20.1	27.9	13.0
5	24	22.8	28.9	14.5
6	16	28.3	31.6	21.5

Table 7. Proportion of men buildings as a percentage of the total buildings (1945-59, 1960-69)

Category	1045-59	1960-69
1	19.2	11.5
2	21.2	13.0
3	18.8	14.3
4	19.2	12.9
5	14.4	13.3
6	8.0	18.1

Some characteristic features of the settlement hierarchy of the South Hungarian Plain

The previously-outlined processes exerted a very great effect on the whole of the settlement network, but particularly on the development of the village settlements. The village system, which had earlier been "motionless" for centuries, having practically no horizontal and vertical connections, was characterized by the settlement-hierarchy homogeneity. The social and economic environment of the present age now permits the commencement of hierarchic differentiation of the rural settlements. Since the settlements are the frameworks of social reproduction, an important question of the long-range economic policy in Hungary (which practises a planned economy) is the influencing of the changes in the settlement network. In essence, this aim is served by the National Settlement-Network Development Conception, accepted in 1971. The governmental decision outlined the desirable changes in urbanization up to the end of this century, defined the principles of development of the settlement network, and (on the basis of the then prevailing situation and the desired development) created a hierarchic system of the settlements, in which the higher-grade and middle-grade centres were denoted. "Classification" of the village settlements, which constitute the overwhelming majority of all the settlements, was performed within regional frameworks, however: it came into the sphere of activity of the county councils (although the Town-planning Scientific and Design Institute prepared a proposal with regard to the status of every village settlement, the county councils

deviated considerably from this, with or without reason). Finally, the hierarchic classification of the village settlements was achieved with unjustifiably large differences. However, in our view the denotation of the sphere of activity of the lower-grade centres is a very important, integral question in the establishment of hierarchic sequence, and not only because the vast majority of the settlements are involved. Another, perhaps more important reason is that the actual functional strengthening of these centres is one of the basic conditions for the development of the village areas. The lower-grade centres may be those settlements which have the nature of village centres, which may perform the regional organizing and supplying functions of their environments. The possibilities for this, however, are not the same everywhere. In connection with the role of the lower-grade centres in the future, it is absolutely necessary to take certain characteristic features into consideration:

a) The number of lower-grade centres is unjustifiably high (nearly 50% of the village settlements).

b) The function of the lower-grade centres is different in the regions characterized by extensive villages with large numbers of inhabitants (e.g. the Hungarian Plain) from that in regions with small villages (e.g. South Transdanubia). We consider that on the Hungarian Plain, where two or three settlements with populations of 5000—6000 are often situated in the immediate vicinity of one among them according to any aspect can not function as a centre, but rather means only a supply level.

c) At present, scarcely any financial assistance (at most only in connection with a few branches) is provided from central or county sources for the development of the lower-grade centres. From their own resources, however, they are unable to solve the development of their central functions.

The changes that have occurred in the 6 years since the creation of the hierarchic sequence do indicate certain developmental tendencies, but far-reaching conclusions must be treated with caution, because of the strong regional differentiation of the processes. We have carried out an analysis for the period between 1960 and 1977. One attempt was made to reveal the characteristic correlations of the variations in the elements examined so that these projected the categories of the current hierarchic sequence back over the past decade, and an evaluation was also made from settlement to settlement.

It is generally characteristic of the settlement network on the South Hungarian Plain that the number of settlements taken in the settlement-scientific sense is several times higher than the number of settlements taken in the administrative sense. Even today, this area of the country is characterized by a large number of peripheral inhabited places. The number of settlements taken in the administrative sense (251) is 7.9% of the number of settlements in the country. The number of settlements per 100 km² (1.4) is substantially lower than the national average (3.4), and thus, besides the large number of peripheral inhabited places (or rather just in connection with this), the fact that on average the settlements are larger in area is typical of the South Hungarian Plain.

The overwhelming majority of the settlements (93.6%) are village settlements. In 1977 the number of towns was 16. The geographical appearance of the settlement network is uneven, thereby reflecting the contradictions of the historical development. It is characteristic that settlements with the legal status of towns have not yet emerged in the north-western and north-eastern parts of the region.

In spite of the fact that the decisive majority of the settlements are village settlements, on the basis of the positions in the various levels of the hierarchic sequence (in comparison with the national ratios) we may speak of the comparatively high level of the settlement hierarchy on the South Hungarian Pélain. This is indicated by the high proportion of higher-grade centres, and the low proportions of the other settlements:

	number of settlement		propn. of S. Hung. Plain %	propn. of individual levels, %	
	nationally	S. Hung. Plain		from total	from S. Hung. Plain
National centre	1	—	—	0.03	—
Accentuated higher-grade centre	5	1	20.0	0.16	0.4
Higher-grade centre	7	2	28.6	0.2	0.8
Partial higher-grade centre	11	2	18.2	0.3	0.8
Middle-grade centre	65	12	18.5	2.1	4.8
Partial middle-grade centre	41	6	14.6	1.3	2.4
Accentuated lower-grade centre	154	21	13.6	4.8	8.4
Lower-grade centre	527	65	12.3	16.5	25.9
Partial lower-grade centre	303	28	9.2	9.5	11.1
Budapest agglomeration	44	—	—	1.4	—
Other settlement	2025	114	5.6	63.7	45.4
Total	3183	251	7.9	100.0	100.0

The geographical locations of the designated middle-grade centres give the impression that an attempt was made as it were to replace the functional deficiencies of the settlement network with the designations (Kunszentmiklós, Szeghalom, Mezőkövácsháza, Kistelek, Bácsalmás). It is questionable whether each of these fills, or is at all able to fill, the role of a middle-grade centre. From our studies now in progress we hope to obtain answers to some of the questions in this field. However, our examinations have already confirmed that not all of the accentuated lower-grade centres fill this role functionally. The classification of the lower-grade and the partial lower-grade centres reflects serious unfounded situations (e.g. the area of Baja). It appears that the classification was not preceded by a comprehensive investigation; the main aspect was almost exclusively the number of the population and the proportion of the peripheral population. The merely demographic indices in themselves do not even confirm the suitability for filling the central roles at the lowest level (Fig. 5).

If the present structure of the settlement network is analyzed, other, very characteristic features too may be discerned. Some of these are products of the changes in the recent period (formation of the Szeged agglomeration, development of the central Békés urban region), while others have been characteristic for a longer time (pairs of towns competing with each other).

a) The Szeged agglomeration is the result of the very rapid and extensive development of the central functions of Szeged. However; the agglomeration is not free of stresses. These stresses mainly arise from the fact that settlements with different degrees of development (even in relation to the agglomerated settlements) are living

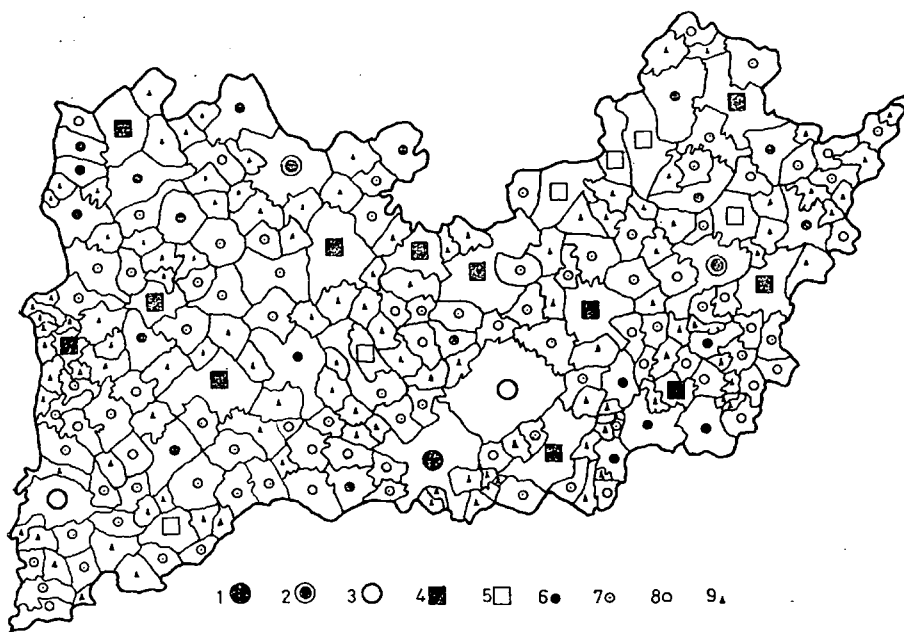


Fig. 5. The hierarchal order of the settlements of South Hungarian Plain

1: accentuated higher-grade centre 2: higher-grade centre 3: partial higher-grade centre 4: middle-grade centre 5: partial middle-grade centre 6: accentuated lower-grade centre 7: lower-grade centre 8: partial lower-grade centre 9: other settlement

in a functional unit. It is characteristic that the agglomeration is growing in area more rapidly than can be followed by the internal levelling-out.

b) The geographical closeness of Békéscsaba, Békés and Gyula, and the rapid strengthening of the urban functions, are leading to the emergence of a new phenomenon in Hungarian settlement development; the development of an urban region. Their effects on the village development in the central Békés region can already be felt today (changes indicative of the beginning of agglomeration can be observed). In the long range, the development of the urban region will lead to certain consequences as regards the administration (and clearly the hierarchy).

c) A typical example of a pair of towns in competition with each other on the South Hungarian Plain is the relation between Szentes and Csongrád. Our attraction studies show that Szentes is the stronger and more dynamically developing town; indeed, even the ring of villages surrounding Csongrád is becoming more strongly connected to Szentes.

d) Earlier (and frequently even today too), Szeged and Hódmezővásárhely were classified as a pair of towns in rivalry with each other. While Hódmezővásárhely occupied the function of the country town, there was some truth in this. Nowadays, however, the difference in rank is well-founded even as regards content. Indeed, as a consequence of the effect of Szeged strengthening in its tendency, in essence Hódmezővásárhely now no longer fills the role even of a partial higher-grade centre. In the future, it is to be expected that this ability will decrease still further.

Some characteristic effects of urbanization on the South Hungarian Plain on the village settlements

As outlined earlier, socialist industrialization began an intensive process of urbanization, as a consequence of which the rate of increase of the urban population accelerated, particularly at the end of the nineteen-sixties. The population growth was caused primarily by the considerable immigration. The possibility for this was created by the socialist reorganization of agriculture. The attraction of the urban industry exerted two substantial effects on the labour force released from agriculture:

- it enhanced the areal mobility of the population;
- restratification of occupations became widespread.

Between 1960 and 1977, after a longish period of decrease the change in the population of the South Hungarian Plain exhibited an increasing tendency:

	1960	1970	1977
Accentuated higher-grade centre	122,958	123,883	173,347
Higher-grade centre	118,488	138,136	156,826
Partial higher-grade centre	83,736	98,242	92,948
Middle-grade centre	251,540	260,055	272,243
Partial middle-grade centre	79,674	75,954	77,824
Accentuated lower-grade centre	203,099	186,417	181,600
Lower-grade centre	308,424	276,707	263,775
Partial lower-grade centre	88,696	77,436	69,886
Other settlements	229,845	196,159	173,858
Total	1,486,460	1,423,989	1,462,307

However, this trend in the change of the number of the population conceals considerable differences as regards both the town — village and the individual hierarchic levels, and even within these.

In the period in question the rate of growth of the urban population was less than the national average (but did not differ from it in its tendency). On the basis of the change in the number of inhabitants, Békés county can be characterized with the most dynamic urban development, but the leading role of Csongrád county (in absolute numbers) continues to be clear. For completeness, it must be mentioned that one settlement both in Békés and Bács counties obtained the rank of town in this period (Békés and Kiskőrös). The changes in the proportions of the urban population are well illustrated by the following table:

Year	National	South Hungarian Plain	Csongrád county	Békés county	Bács-Kiskun county
1960	41.5	35.2	53.9	22.8	29.0
1970	45.2	40.6	58.4	30.1	33.3
1972	48.2	42.6	59.8	32.3	35.9
1976	50.8	48.8	67.6	39.0	39.7

The process of urbanization appears even more intensive if we consider the changes in the populations of the settlement belonging to the individual hierarchic levels. From the middle-grade centres "upwards" the growth seems to be a tendency. The positive turn (in the direction of growth) is noteworthy in the changes in population of the partial middle-grade centres. Although the tendency of the population to decrease is unchanged in the "lower" levels, this by no means indicates homogeneity. Indeed, a very intensive differentiation can be observed in the change of the population among the lower-grade centres. A definite *population growth* is characteristic of the accentuated lower-grade centres Solt, Kiskunmajsa, Sarkad and Medgyesegyháza, and the lower-grade centres Újkígyós and Fábiánsebestyén. The *population decrease is strongly moderated* in the accentuated lower-grade centres Mórahalom, Mindszer, Kecel, Tiszakécske and Mezőhegyes, the lower-grade centres Császártöltés, Harta, Miske, Kelebia, Körösladány, Békésszentandrás, Köröstarcsa, Kiszombor, Pitvaros, Földeák, Szank and Bácsbokod, and the partial lower-grade centre Nemesnáduvvar. The process of *population decrease has stopped* in the accentuated lower-grade centres Dunavec, Iszák and Kerekegyháza, the lower-grade centres Murony, Vaskút, Jakabszállás and Csorvás, and the partial lower-grade centre Tass.

In the period 1960–1970, the population decrease or increase on the South Hungarian Plain too was given by the migration difference. After 1970, to population-increasing effect of the natural multiplication became stronger in the "higher" levels in the demographic process, and the immigration moderated. In the "lower" levels, however, the negative migration balance is unchangingly strong (Tables 8 and 9). It is interesting that, upwards from the middle-grade centres, the value of the migration balance on the South Hungarian Plain is lower than the national value, while in the lower categories it exceeds the national average and in its tendency too is in contrast to the national trend.

If the migration is examined in the town — village aspect, it is seen to be confirmed that the increase in the urban population resulting from the migration balance on the South Hungarian Plain attains the national degree. In the case of the villages, on the other hand, the value of the negative migration balance is substantially in excess of this. If it is added to this that our examinations with respect to the purpose of the migration show that accommodation exchange within the district has strengthened in the past 7 years among those migrating (the proportion of those exchanging accommodation within the district as a percentage of all those moving house has been steadily above 60%, whereas in the nineteen-sixties it was less than 50%), then it may be stated that the population-retaining ability of the South Hungarian Plain (in the village settlements too) has strengthened.

In the period in question, the values of the natural multiplication too show a low-level tendency to increase at a very slow rate. On all levels, the values are essentially lower than the national values. In fact, the population-increasing effect of the natural multiplication appears only in the accentuated higher-grade and the higher-grade centres. A striking exception is the low value of the partial higher-grade centre. This originates exclusively from the very low natural multiplication value for Hódmezővásárhely (at the same time, the migration balance is rather moving in the negative direction). This phenomenon, with a character of demographic erosion, is virtually unique among such high-level settlements. All this to some extent explains our earlier-mentioned doubts as to the sphere of activity.

Table 8. Migratory balance per 1000 inhabitant

	1972		1973		1974		1975		1976	
	country	South Great Plain	country	South Great Plain	country	South Great Plain	country	South Great Plain	country	South Great Plain
State-centre	6.0	—	3.3	—	2.4	—	4.9	—	3.7	—
Accentuated higher-grade centre	11.0	14.0	8.7	9.2	10.9	7.8	10.2	10.5	11.8	11.0
Higher-grade centre	15.8	7.8	15.9	7.5	16.3	11.5	20.5	18.9	16.8	7.8
Partial higher-grade centre	14.3	8.5	12.7	2.3	15.0	7.0	17.1	1.4	15.6	6.7
Middle-grade centre	6.5	4.8	6.2	4.1	7.5	5.1	10.8	7.5	8.4	2.7
Partial middle-grade centre	3.0	1.3	2.9	0.5	1.6	-0.3	3.8	1.6	1.2	7.0
Accentuated lower-grade centre	-4.3	-6.5	-2.8	-1.6	-3.4	-5.9	-6.1	-7.6	-6.2	-8.4
Lower-grade centre	-7.4	-7.8	-6.3	-5.6	-7.1	-6.2	-9.3	-6.1	-8.9	-6.1
Partial lower-grade centre	-11.5	-11.4	-10.5	-9.2	-11.1	-14.1	-12.9	-14.5	-12.2	-12.8
The agglomeration of Budapest	18.8	—	12.1	—	15.3	—	14.3	—	11.0	—
Other settlement	-17.7	-16.6	-15.1	-21.6	-16.3	-18.6	-21.2	-27.5	-16.9	-20.8
Towns	8.8	7.3	7.1	5.8	7.6	8.1	9.9	10.6	8.6	6.7
Villages	-8.1	-8.7	-7.0	-8.0	-7.6	-9.3	-9.9	-11.9	-8.8	-9.2

Table 9. Migratory balance per 1000 inhabitant

	1972			1973			1974			1975			1976		
	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád
Accentuated higher-grade centre	—	—	14.0	—	—	9.2	—	—	7.8	—	—	10.5	—	—	11.0
Higher-grade centre	12.8	2.8	—	7.6	7.4	—	14.3	8.7	—	25.1	12.7	—	1.8	13.8	—
Partial higher-grade centre	8.5	—	0.0	6.8	—	2.2	9.4	—	4.7	3.1	—	0.3	15.0	—	-1.6
Middle-grade centre	4.3	9.0	1.1	3.6	6.3	2.5	4.4	8.4	2.6	10.0	9.3	3.2	6.3	4.3	-2.4
Partial middle-grade centre	-6.4	-0.3	10.7	-6.7	2.0	6.1	-9.9	5.5	3.4	0.9	2.1	2.0	-1.4	4.1	18.3
Accentuated lower-grade centre	-3.1	-14.6	-2.0	-0.3	-3.9	-0.6	-1.7	-8.9	-7.5	-5.4	-10.2	-7.4	-2.0	-9.7	-13.7
Lower-grade centre	-9.6	-8.1	-5.7	-5.8	-8.0	-3.0	-3.6	-10.0	-5.2	-9.1	-7.8	-3.9	-6.1	-7.2	-4.9
Partial lower-grade centre	-9.8	-16.2	-8.4	-4.3	-12.3	-11.0	-6.9	-20.5	-13.0	-7.9	-16.4	-19.3	-8.5	-17.7	-12.2
Other settlement	-12.3	-27.9	-9.6	-16.3	-34.3	-14.2	-18.1	-27.1	-10.7	-24.0	-38.8	-19.7	-18.4	-33.6	-10.5
Total	-2.0	-6.1	1.7	-2.3	-3.8	1.3	-1.1	-3.9	1.3	-1.3	-3.9	0.9	-2.6	-3.7	1.1
Towns	8.6	6.0	7.2	5.8	6.5	5.3	9.5	9.7	5.3	15.2	10.1	6.6	5.8	9.2	5.2
Villages	-7.9	-11.8	-6.5	-7.4	-10.1	-6.6	-7.8	-12.3	-7.8	-12.1	-12.8	-10.9	-8.2	-12.1	-7.4

When the natural multiplication is analyzed, another surprising phenomenon can be observed among the settlements without a sphere of activity. The natural multiplication in these settlements is more intensive than in the lower-grade centres (Tables 10 and 11). It must be added, however, that the negative migration balance is substantially higher in the other settlements.

From the changes in the migration and the natural multiplication between 1972 and 1976, it may be stated that the very characteristic process for the past decade had scarcely weakened: the sources of the population growth are unchangingly to be found among the settlements without a central role, and the partial lower-grade centres

Urban attractions

Our attraction studies (performed for every town on the South Hungarian Plain*) served the purpose of revealing the characters and extents of the areal radiations of the towns. We were also interested in what levels of the settlement hierarchy are concealed by the urban attraction areas (of different strengths). This can throw light on many important questions of the current situation, and is also a significant factor as regards the further development of the settlements involved. Our investigation (in 1976—77) was of a complex nature. The strength types (*hegemonic, dominant, transitional, outer belt*) of the attraction spheres were determined on the basis of several factors: labour force, free market, educational, public health and cultural attractions. The individual factors were categorized on the basis of the strength of the attraction. The complex (general) attraction areas were defined on the basis of the developed categories after summation of the individual factors. The results obtained will not be evaluated in detail here (they may form the theme of an independent study); primarily the features of the hegemonic attraction areas are of importance for us now (at least 75% of the attraction connections are realized in the town in question), since the spatial extents of the hegemonic attraction areas (Fig. 6) reveal very interesting correlations:

a) Very large areas are omitted from the hegemonic attractions (well illustrating the deficiencies of the spatial arrangement of the town network). At the same time, for the same reasons, the dominant attraction areas repeatedly cover one another.

b) Three accentuated lower-grade centres (Tótkomlós, Mindszent and Kerekgyháza) are to be found in a hegemonic attraction area. It follows from this that, in all probability, the strengthening of the regional organizing functions of these three settlements is very limited.

Our investigations prove that the attraction of the settlements belonging to the hegemonic belts is strengthening. In addition to the fact that the connections with the towns of the settlements on the borders of the dominant and the transitional belts, but rather in the transitional and outer belts, are not strengthening, in some cases even the direction of the regional connections has been modified and (as will be demonstrated later) they are connected to the village settlements with a strengthening regional organizing role. This change is extremely well illustrated by the developments in the main trends of the *labour force commuter migration*. The changes in the extent of commuting at the settlement level can be brought into correlation with the change in

* In the defining of the sphere of attraction of the Békéscsaba—Békés—Gyula urban region we have relied on the research results of J. Tóth et al.

Table 10. The natural increase and decrease per 1000 inhabitant

	1972		1973		1974		1975		1976	
	country	South Great Plain	country	South Great Plain	country	South Great Plain	country	South Great Plain	country	South Great Plain
State-centre	-0.7	—	-0.8	—	1.9	—	2.6	—	1.5	—
Accentuated higher-grade centre	4.8	2.0	5.1	3.5	8.0	6.4	9.1	8.0	7.8	6.3
Higher-grade centre	6.2	4.7	6.5	4.8	10.5	8.6	10.7	9.2	9.8	8.1
Partial higher-grade centre	5.3	0.3	6.0	0.6	9.6	3.1	10.3	3.2	9.7	2.3
Middle-grade centre	4.9	1.5	4.8	1.1	7.8	4.5	8.4	5.0	7.1	3.1
Partial middle-grade centre	4.7	-0.9	5.0	0.4	7.8	2.5	7.9	3.1	6.4	1.7
Accentuated lower-grade centre	4.6	1.2	4.2	0.8	6.7	3.0	6.0	2.7	5.4	1.1
Lower-grade centre	3.7	0.3	3.3	0.4	5.5	2.2	5.1	1.6	4.1	1.4
Partial lower-grade centre	1.6	-0.8	1.7	-0.2	2.9	1.1	3.1	2.4	2.6	1.6
The agglomeration of Budapest	7.8	—	7.2	—	10.9	—	11.1	—	9.3	—
Other settlement	3.1	2.0	2.4	0.7	4.2	3.7	3.7	3.0	3.1	3.0
Total	3.3	1.4	3.2	1.5	5.8	4.1	6.0	4.4	5.0	3.4
Towns	2.8	2.2	2.9	2.3	6.0	5.5	7.3	6.4	5.6	4.8
Villages	3.8	1.0	3.4	0.6	5.6	2.6	5.3	2.5	4.5	1.9

Table 11. The natural increase and decrease per 1000 inhabitant

	1972			1973			1974			1975			1976		
	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád	Bács-Kiskun	Békés	Csongrád
Accentuated higher-grade centre	—	—	2.0	—	—	3.5	—	—	6.4	—	—	8.0	—	—	6.4
Higher-grade centre	6.2	3.3	—	6.7	3.0	—	8.7	8.6	—	10.0	8.4	—	9.5	6.7	—
Partial higher-grade centre	0.7	—	-0.1	0.9	—	0.4	2.5	—	3.8	3.9	—	2.5	2.1	—	2.5
Middle-grade centre	3.4	1.1	0.0	3.1	-0.3	0.7	6.5	4.5	2.5	7.3	5.5	2.1	5.1	3.0	1.2
Partial middle-grade centre	-1.9	0.0	-0.8	1.2	0.6	-0.7	4.9	2.8	-0.1	5.1	4.3	-0.1	3.1	2.1	-0.2
Accentuated lower-grade centre	2.1	1.1	0.5	1.6	1.2	-0.5	2.4	4.8	1.7	2.3	4.4	1.3	2.6	1.2	-0.5
Lower-grade centre	-0.1	0.9	0.2	0.7	0.6	-0.1	2.5	3.2	0.9	1.8	3.2	-0.1	1.5	2.1	0.6
Partial lower-grade centre	-2.3	2.6	-2.8	-1.6	2.7	-1.6	0.5	4.3	-1.4	2.0	3.9	1.3	0.4	3.9	0.4
Other settlement	0.3	2.8	2.9	0.1	0.1	-1.0	1.9	6.3	2.8	1.7	4.0	3.3	2.4	4.8	1.8
Total	1.9	1.5	0.9	2.0	1.2	1.2	4.0	4.8	3.6	4.4	4.8	4.1	3.9	3.2	3.1
Towns	4.4	1.2	1.0	4.1	0.5	2.2	6.6	5.0	4.9	8.0	5.8	5.4	6.4	3.7	4.3
Villages	0.5	1.6	0.8	0.8	1.6	-0.7	2.4	4.6	1.0	2.0	4.2	1.2	2.2	2.8	0.7

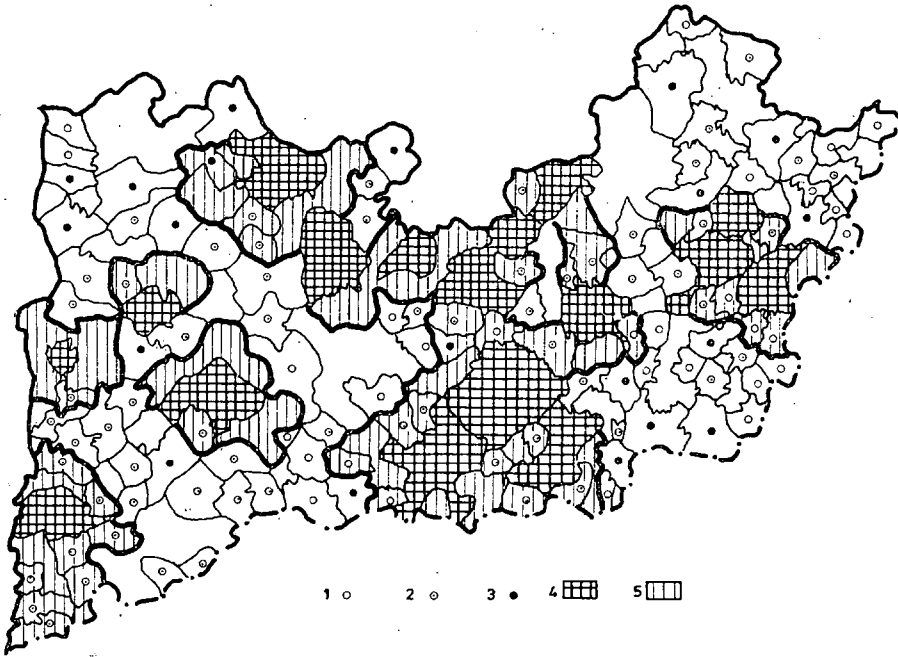


Fig. 6. The hegemon attraction regions of the towns

1: partial lower-grade centre 2: lower-grade centre 3: accentuated lower-grade centre 4: town 5: hegemon attraction region

the economic functions of the settlement in question. These changes occur in manners differentiated not only by the individual hierarchic levels, but also areally, and thus the variations in the movement of the labour force can be used to distinguish characteristic types among the lower-grade centres too. The typization was carried out on the basis of the data at a settlement level for the years 1960, 1970 and 1977:

1. *Labour force releasing*: the proportion of commuters (compared to the active wage-earners) has shown an increasing tendency since 1960, exceeding 30% in 1977.
2. *Transitional (with a labour force releasing character)*: the proportion of commuters has shown an increasing tendency, but did not exceed 30% in 1977 (between 25% and 30%).
3. *Transitional (with a labour force retaining character)*: the rate of increase of the proportion of commuters has slowed down, being 20–25% in 1977.
4. *Labour force retaining*: the proportion of commuters shows a decreasing tendency, already being below 20% in 1977.
5. *Labour force attracting*: the proportion of commuters shows a strongly decreasing tendency, being below 15% in 1977, while the number of those commuting in to work exceeded 200.

The bulk of the settlements belonging to the first type are to be found in the immediate vicinity of middle-grade centres or centres at a higher level than this. On the

basis of the tendency to date, it may be expected that there will not be a substantial decrease in the future either in the number of settlements with a labour force releasing character. The large labour force releasing character of the North Békés region is of interest, indicating among others the deficiencies of the economic structure. In contrast with this, as it were, the lack of the first type points to the strengthening of the local economic functions in the northern part of Bács county.

During the past 17 years, the strengthening of the local employment of the labour force has become a characteristic process in those settlements of the South Hungarian Plain which play the role of lower-grade centres. This is indicated by the difference in the proportions of the two transitional types in comparison to one another, and also by the fairly high number of settlements classified into the labour force retaining type. A very important new phenomenon in the development of the village regions is the occurrence of fact attracting the labour force (16 settlements, i.e. 14% of the lower-grade centres, can be characterized with a more significant labour force attraction). Besides the settlement development, the development of the economic areal structure of the South Hungarian Plain is also indicated by the fact that these facts (with one exception) were formed in the counties of Bács and Békés. As regards the future, the strengthening of the sphere of activity in this direction is particularly noteworthy for Dunavecse, Izsák, Kecel, Kiskunmajsa, Mezádberény and perhaps Tótkomlós (Fig. 7).

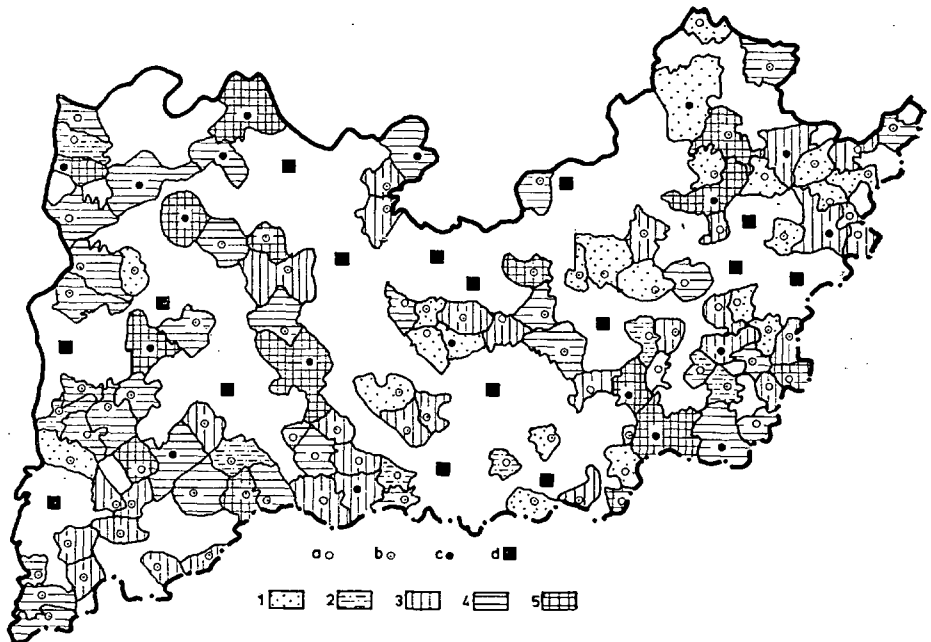


Fig. 7. Types of the migration of labourforce

a: partial lower-grade centre b: lower-grade centre c: accentuated lower-grade centre d: town
 1: labourforce realising 2: transitional (with a labourforce realising character) 3: transitional (with a labourforce retaining character) 4: labourforce retaining 5: labourforce attracting

If the data on the commuter migration of the labour force for only one year (1977) are examined, a more static picture is obtained, but as regards its essence this is not in contradiction with the foregoing:

a) The labour force attraction is most characteristic of the accentuated lower-grade centres.

b) There is a high proportion (above 40%) of labour force release only in one accentuated lower-grade centre.

c) The bulk of the settlements studied are characterized by a medium proportion (15—30%) of commuting and a low extent (fewer than 100 individuals) of labour force attraction (we shall return to this question later).

Occupational restratification

One of the most striking effects exerted on the village regions by the main economic and social processes (listed in the introduction) characteristic of our socialist development can be followed via the changes in the occupational structure. It is well known that the restratification accelerated particularly after the socialist reorganization of agriculture. The generalization and strengthening of the socialist agricultural collectives broke up the rigid agricultural-occupational framework of the "family farms" typical of the earlier village-occupational structure. This was paralleled by an explosion-like increase in the labour force demands of industry.

The change in the village occupational structure during the past 15 years on the South Hungarian Plain occurred in at least two stages; it is perhaps difficult to differentiate concretely between these in time, but they can be well distinguished as regards their tendencies. The first stage is characteristic of the nineteen-sixties. The restratification was not then accompanied by a change in the workplace and branch structure of the village (commuting and migration away increased rapidly). The second stage emerged at the beginning of the nineteen-seventies, and its complete development is typical of the present day: changes are taking place in the economic-branch structures of the village settlements (mainly those with the role of accentuated and lower-grade centres) and this is giving local possibilities of work for a wider scale of the occupational structure (the industrial nature of the agricultural work is strengthening, as is the village industry, and the development of the tertiary branches) This process is proved by the development of the above-mentioned fact attracting the labour force.

The changes in the occupational structure in the village and urban settlements on the South Hungarian Plain proceeded in the same way as the national trend. The proportion of agricultural workers decreased both in total and in all types of settle- and in parallel with this the proportion of industrial workers increased (Table 12.).

It appears from the data that a definite process is involved here, which is unambiguous at every level. On the basis of our examinations, however, it seems advisable to exercise care in dealing with generalizations. It is not a question that there are contradictory tendencies here. Between 1970 and 1977 the main tendency of the occupational restratification of the settlements fulfilling the role of lower-grade centres does not differ overall from the national tendency:

Data for 1977	Agri- culture	Industry	Building ind.	Trans- port	Trade	Supply	Others
Accentuated lower-grade centre	44,2	29,0	6,3	3,6	6,6	4,9	5,3
Lower-grade centre	58,4	17,7	6,6	3,6	7,1	7,4	4,0
Partial lower-grade centre	58,6	19,6	6,9	3,7	3,5	4,0	4,5

The reason why conclusions should be drawn with care is rather the large regional differentiation of the process of restratification. Accordingly, we tried to obtain a picture of the change and the regional differences on the basis not of a static condition, but of the characteristics of the process of restratification. Characteristic types can be recognized in the changes of the occupational structure over more than 15 years, particularly if the changes in the occupational structure are brought into correlation in certain cases with the spatial mobility of the labour force. In this way the following types can be distinguished:

1. *Agricultural* (stagnating): The proportion of agricultural workers did not change essentially between 1960 and 1977. Even in 1977 it was above 70%. The proportion of commuters does not attain 10% of the active wage-earners.
2. *Agricultural* (mobile): The proportion of agricultural workers did not change substantially. Even in 1977 it was above 70%. The proportion of commuters is increasing, however, exceeding 10% in 1977.
3. *Agricultural* (industrializing): The proportion of agricultural workers is showing a decreasing tendency. In 1977 it was 50–70%. The proportion of industrial workers is showing an increasing tendency. In 1977 it was already 20–25%.
4. *Transitional* (agricultural, industrial): The proportion of agricultural workers is showing a decreasing tendency. In 1977 it was 40–45%. The proportion of industrial workers is showing an increasing tendency. In 1977 it was 26–35%.
5. *Transitional* (differentiating): The proportion of agricultural workers is showing a decreasing tendency. In 1977 it was 40–55%. The proportion of the branches outside industry is increasing. In 1977 it exceeded 30%.
6. *Industrial*: The proportion of agricultural workers is showing a decreasing tendency. In 1977 it was below 40%. The proportion of industrial workers is increasing strongly. In 1977 it exceeded 40%.

The geographical locations of the types well indicate the regionally differentiated process of restratification (Fig. 8). The number of settlements belong in the first type is negligibly low (seven); it is to be noted that none of them are accentuated lower-grade centres. They are situated peripherally. However, the number of settlements classified in the second type is fairly high. It is characteristic that these are partially situated peripherally, and partially belong to urban spheres of attraction. The industrializing character is a definite developmental trend. This is also indicated by the fact that the industrializing lower-grade centres approximately coincide with the settlements attracting the labour force, while at the same time a fair proportion of them may be characterized by a significant number of commuters too. A new phenomenon of the village regions can be discerned in this: in addition to the commuting in the village — town direction, attention must also be paid to the “cross-commuting” between the lower-grade centres.

Table 12. Change in the occupational structure
(as percentages of the active wage-earners)

	1960						1970					
	Agricul- ture	Industry	Building ind.	Trans- port	Trade	Other	Agricul- ture	Industry	Building ind.	Trasn- port	Trade	Other
Accentuated higher-grade centre	33.6	27.2	8.4	8.6	3.7	18.5	26.7	38.3	6.5	8.6	5.7	14.2
Higher-grade centre	33.2	25.1	5.3	7.8	7.6	21.0	24.4	35.8	7.6	7.2	7.8	17.0
Partial higher-grade centre	28.8	26.2	6.4	6.3	6.6	25.7	25.5	35.9	8.5	8.1	6.5	14.1
Middle-grade centre	49.0	15.5	6.4	6.0	5.1	18.0	40.6	25.5	7.0	6.5	6.4	13.9
Partial middle-grade centre	55.3	12.1	10.0	5.3	5.1	12.2	44.0	20.6	11.5	6.2	5.9	11.7
Accentuated lower-grade centre	65.4	12.4	7.1	3.9	3.2	7.5	54.0	20.7	7.2	4.7	4.4	8.9
Lower-grade centre	75.1	7.7	5.4	3.4	3.2	5.2	67.5	12.5	5.5	4.1	4.2	8.0
Partial lower-grade centre	76.1	7.4	5.1	3.1	2.4	5.9	68.6	11.7	5.4	4.0	2.7	7.4
Other settlement	78.1	5.7	4.1	2.5	2.1	7.5	73.0	9.5	4.3	3.5	2.5	7.2
Total	53.3	15.5	6.5	4.5	4.6	15.6	46.9	22.4	7.0	5.8	6.5	11.4

It is noteworthy that the accentuated lower-grade centres can essentially be characterized by the two transitional types (which is indicative of the development or the tertiary branches).

The number of lower-grade centres classified as industrial on the basis of the change in the occupational structure is fairly high. In some places this means an actual industrial function too (Nagylak, Csanádpalota, Mezőberény, Sarkad and Dunavecse), while elsewhere the high proportion of industrial workers does not mean their local employment. The proportion of commuters is very high in these settlements.

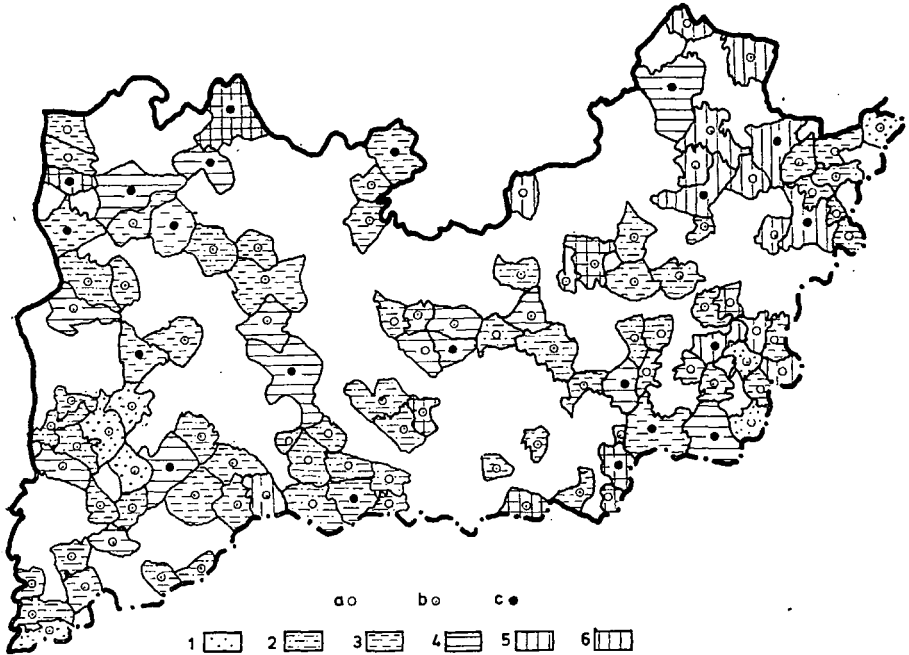


Fig. 8. Changing of the occupational structure

- a: partial lower-grade centre b: lower-grade centre c: accentuated lower-grade centre
 1: agricultural (stagnating) 2: agricultural (mobile) 3: agricultural (industrialising) 4: transitional (agricultural, industrial) 5: transitional (differentiating) 6: industrial

The spatial dimensions and characteristics of the changing of the occupational structure may be illustrated even better if the above types are projected back to the state in 1960, with the modification that thus a static condition is recorded (Fig. 9). It follows from this that it is advisable to make slight amendments in the nomenclature of the types; retaining the above percentage characteristics, it is perhaps more correct to speak of: 1. *Agricultural (exclusively)*; 2. *Agricultural (varying)*; 3. *Agricultural (industrializing)*; and 4. *Industrial types*.

On comparison of the two analyses, or even only the two maps, the greatest transformation of the occupational restratification structure is definitely outlined in Bács county; more exactly, it occurred in the agricultural areas with unfavourable natural properties.

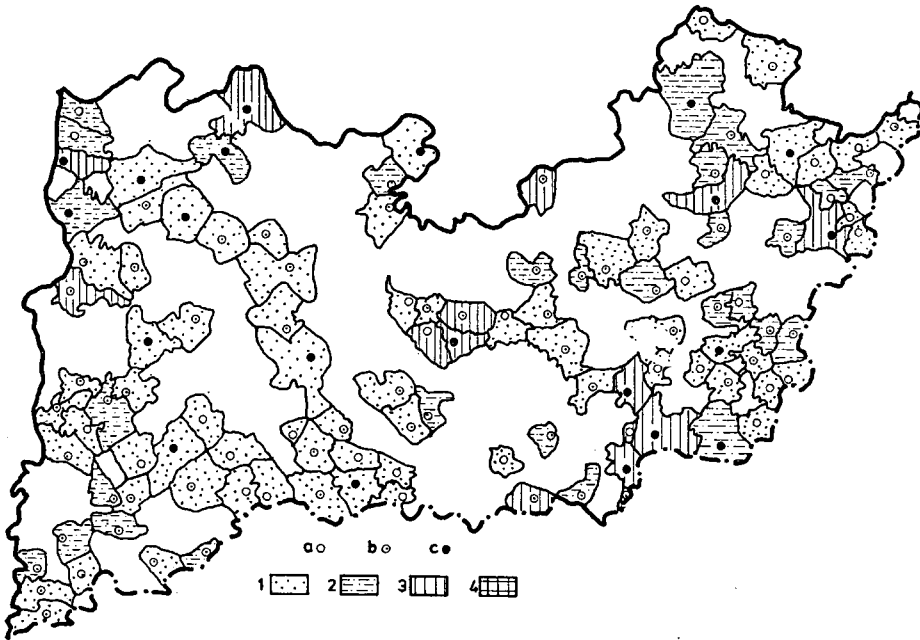


Fig. 9. The occupational structure in 1960.

a: partial lower-grade centre b: lower-grade centre c: accentuated lower-grade centre

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