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INTRAURBAN MIGRATION IN WEST GERMAN CITIES*

JOHN O'LOUGHLIN and GÜNTHER GLEBE

RESIDENTIAL segregation of foreigners in large cities has become a major social issue in West Germany since the late 1950s. West Germany currently has approximately 4.7 million foreign residents, 40 percent of whom live in the thirty-one cities that have a population in excess of 200,000. For many years the prevailing pattern of migrants matched West German preference: migrants returned to their homeland after a period of employment in West Germany. Now, however, 57 percent of the foreigners living in the country have been there for eight or more years. Governmental policy and citizen expectations of temporary importation of foreign laborers to meet short-term employment needs have become unrealistic, and an important debate has emerged about the acceptability of long-term or permanent residence for foreigners.

Most West Germans now accept that their country has and will continue to have a large proportion of immigrants.[1] Agreement among the important political parties generally allows for a dual strategy for immigrant policy. The Social Democrats and the Liberals hold strongly that foreign immigrants should be allowed the choice of becoming West German citizens and acculturating themselves or of maintaining their foreign citizenship with the security of permanent residence in the federal republic. The Christian Democrats, however, emphasize financial inducements for voluntary return to homelands and strict controls on future immigration.

Housing segregation is one of the most visible and widely discussed aspects of the immigrant issue. There is general agreement that the development of immigrant ghettoes must be prevented because this type of sep-

* Mr. O'Loughlin received support through a Rockefeller Fellowship in International Relations. Mr. Glebe received a research grant from the Deutsche Forschungsgemeinschaft.

[1] K.-H. Meier-Braun, Die neue Völkerwanderung: werden aus Gastarbeiter Bürger, *Bild der Wissenschaft*, Vol. 9, 1982, pp. 104–119.

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aration of West Germans and foreigners would hinder future integration. Nevertheless, a low, but slightly increasing concentration of immigrants in poor inner-city neighborhoods has been recorded.[2] Whether this concentration results from natural population change or from intraurban migration has yet to be determined. Because spatial segregation on the basis of age or family status is not as pronounced in West German cities as in Anglo-Saxon ones, the neighborhood pattern of population change caused by the natural increase or decrease of West Germans should not be as important as the differences in rates of in-migration and out-migration for West Germans and foreigners. An examination of the pattern of intraurban movement by the two groups is an essential step toward an explanation of the trend in residential segregation and would provide a base to predict future settlement patterns.

The primary focus of this article is an analysis of intraneighborhood movements of West Germans and immigrants in Duisburg and Düsseldorf, two of the large West German cities. This study examines five specific questions, although overlap inevitably exists among them. Firstly, the issue of spatial segregation of West Germans and foreign immigrants was studied by origin and destination of their intraurban moves. If both groups leave and enter the same wards proportionately, the low level of residential segregation for immigrants is not expected to rise rapidly in the foreseeable future. If the converse exists, increased segregation of immigrants is inevitable. In order to evaluate the extent of similarity between the two migration patterns, two comparisons are necessary: the ratio of in and out moves by West Germans and immigrants for each area to gauge citywide levels of discrepancy; and the ratio of in-migration and out-migration to existing populations in each subarea for both groups. A null hypothesis suggests that the ratios should be similar: significant differences suggest avoidance (differing rates of in-migration) or flight (differing rates of out-migration).

The second question is the distribution of movement distance for each immigrant group. The distances of intraurban moves tend to be short for all social and economic groups.[3] We computed the proportion of moves in the same subarea to all moves for each group to measure the extent of locality of migration. We estimated the overall influence of distance on movement by a gravity-modeling procedure. Formation of a ghetto involves not only concentration of immigrant populations in already settled blocks

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[2] Paul Gans, Bevölkerungsgeographische Veränderungen in der westlichen Unterstadt Mannheims zwischen 1970 und 1976, *Mannheimer Geographische Arbeiten*, Vol. 2, 1978, pp. 41–84; John O'Loughlin, The Distribution and Migration of Foreigners in German Cities, *Geographical Review*, Vol. 70, 1980, pp. 253–275; Lutz Holzner, The Myth of Turkish Ghettoes: A Geographic Case Study of West German Responses toward a Foreign Minority, *Journal of Ethnic Studies*, Vol. 9, 1982, pp. 65–85; and P. N. Jones, Ethnic Population Succession in a West German City, 1974-80: The Case of Nuremberg, *Geography*, Vol. 68, 1983, pp. 121–132.

[3] Population Mobility and Residential Change, *Northwestern University Studies in Geography No. 25* (edited by W. A. V. Clark and Eric G. Moore; Evanston, Ill.: Northwestern University, Department of Geography, 1978), pp. 99–148.

but also movement to adjoining locations. Significant differences between the two groups in the distance moved obviously has consequences for residential segregation.

The third question is the relationship between ecological urban structure, measured by housing, demographic, and socioeconomic indicators, and intraurban migration of West Germans and foreigners. Previous studies indicated that movements tend to occur between neighborhoods of similar socioeconomic status and housing quality.[4] If the likelihood of socioeconomic continuity in choice of neighborhood can be linked to distance-decay explanations of intraurban movements, a researcher can make accurate projections for neighborhoods on the basis of immigrant populations. The widespread viewpoint that West Germans are attracted to suburban environments and immigrants to inner-city locales by reasons of discrimination and economy provides a model for a comparison of the results of our ecological analysis.

The fourth question is the appropriateness of the invasion-succession model to explain the replacement of indigenous population by newcomers in inner-city neighborhoods. In this study, the rate of out-migration by West Germans is related to the percentage of the population that is foreign and to the rate of foreign in-migration.

The fifth question focuses on a puzzling aspect of foreign settlement in West German cities: sites of initial residences were more dispersed throughout a city than patterns resulting from secondary and subsequent moves.[5] This pattern suggests the hypothesis that the longer an immigrant is in a West German city the more segregated his residential choice becomes. We tested this hypothesis by comparing the distributions of primary, or initial, urban residence with secondary, or intraurban, choices for immigrants.

On the basis of previous research certain generalizations can be made about the intraurban migration of West Germans and foreigners. The former moved longer distances, moved to similar or better neighborhoods, exhibited no clear pattern of avoidance of certain types of neighborhoods, and generally moved outward in the city or urban area.[6] Foreigners in West German cities display the converse of these generalizations and are severely limited in housing choices by economic constraints, by discrimination, and by self-segregation. These trends can be compared with documented intracity migration of middle-class residents in North American cities. Comparison with disadvantaged groups in North American cities is obvious: whether the

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[4] John S. Adams, Directional Bias in Intra-Urban Migration, *Economic Geography*, Vol. 45, 1969, pp. 302–323; Alden Speare Jr., Sidney Goldstein, and William H. Frey, Residential Mobility, Migration and Metropolitan Change (Cambridge, Mass.: Ballinger, 1974); and W. A. V. Clark, Migration in Milwaukee, *Economic Geography*, Vol. 52, 1976, pp. 48–60.

[5] Maria Borris, Ausländische Arbeitnehmer in einer Großstadt: eine empirische Untersuchung am Beispiel Frankfurt (Frankfurt: Europäische Verlagsanstalt, 1973).

[6] O'Loughlin, footnote 2 above.

outcome will be similar ghettoes on both sides of the Atlantic Ocean is a focus of the current West German debate.

Housing Submarkets and Intraurban Migration

Important considerations in intraurban migration in West German cities are the institutional controls on the housing market, the large proportion of residences owned or subsidized by governmental agencies, and the restrictions on the housing market from landuse controls, financial constraints, technology and style, and historical shortages that were worsened by wartime damage. Generalizations based on the better-known North American patterns must be modified to encompass the unique aspects of the West German situation and urbanization. Settlement forms in West German cities fall between the Mediterranean pattern of densely settled, apartment-dominated cities and the British pattern of low-density, single-family arrangements.[7] Both patterns are found in West German cities: the majority of households is rental, and approximately 35 percent of the housing stock is government subsidized. One-family and two-family privately owned houses are generally found at the city limits. With the cost of unsubsidized apartments at approximately $4.00 per square meter, some one-third of the households with an above-average income spends 30 percent of their income on rent. Private houses in urban areas cost $180,000 on average, and households with double the countrywide average income would have to allot 50 percent of their income if two-thirds of the house price were mortgaged.[8] The majority of West German households is economically confined to the rental market, and with the 75 percent reduction in construction of apartments from 1975 to 1980 and the underinvestment in the rental units the demand for public-subsidized and private-rental housing increased. The overall outcome of these trends is a severely constrained housing market and a high proportion of "compulsory immobile" households.[9]

The average citywide proportion of movers to total population is much lower in West German cities than in North American ones, but the difference becomes even more intense when national origin is considered. Approximately 10 percent of the West German population moves every year; the proportion for immigrant groups is 30 percent. The difference is readily explained by the marginal position of foreign workers in the West German economy and society. More than one-half of the intraurban moves of each group are to other residences in the same ward.[10] Most cities are losing population to their suburbs. Pre-1918 wards are losing their German population faster than foreigners so that general trends of a concentration of

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[7] Elizabeth Lichtenberger, The Changing Nature of European Urbanism, *in* Urbanization and Counterurbanization (edited by Brian J. L. Berry; Beverly Hills: Sage Publication, 1976), pp. 81–107.
[8] V. Kreibich and A. Petri, Locational Behavior of Households in a Constrained Housing Market, *Environment and Planning A*, Vol. 14, 1982, pp. 1195–1210.
[9] Kreibich and Petri, footnote 8 above.
[10] O'Loughlin, footnote 2 above, p. 270.

immigrants in the core, of housing infill by high-income inhabitants in the outer-city wards, and of a decrease of population in the central city replicate North American characteristics.[11] Not surprisingly, more than one-half of all movers in West German cities who leave their home ward go to areas with similar or slightly improved socioeconomic and familial status.[12]

An examination of the reasons for intraurban movement in West German cities tends to de-emphasize the importance of household immobility caused by frustrated aspirations for improved housing. Approximately 60 percent of moves in West German cities are related to the familial life cycle; 10 to 20 percent to inadequacies of current residence (size, location, or facilities); approximately 10 percent are forced moves caused by private landlords and concentrated in inner-city areas; and approximately 4 percent are related to employment.[13] Relocation means a sizable increase in rent for similar accommodations, because rent controls do not usually apply to new occupiers. Subrenting is common, accounting for approximately 10 percent of all renters, and minorities like foreign workers, the elderly, large families, one-parent families, and recipients of social welfare are constrained mostly by the expensive, but small number of available units. Only a tiny proportion of West German urban residents meets their housing aspirations. Two-thirds of a sample in Munich took the first apartment offered, and 89 percent of this sample had no choice of alternative accommodations.[14] West German policy views the provision of housing as essentially a free-market enterprise, but landuse controls and finances of housing dictate a high cost for residential units.

The intraurban settlement and migration patterns of foreigners have been consistent on the bases of their choice of neighborhood, aspirations for housing, and the social and economic constraints on residential behavior. In the early 1970s relocation of foreign immigrants was almost always a function of job change, for example, 90 percent of the instances in the Ruhr.[15] The frequency of residential change was directly proportional to the length of residence in West Germany and was inversely proportional to the socioeconomic status of the immigrants and to the age of the head of household. Foreign men moved more often than women, and single persons more often than families. Little difference was evident among groups by national origin in frequency of relocation in samples from the Ruhr or Frankfurt.[16]

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[11] Johann Jessen and others, Untersuchungen zur Mobilität der Wohnbevölkerung in Stadtregionen: eine Kritik anwendungsorientierter Sozialforschung, *Leviathan*, Vol. 6, 1978, pp. 519–535; Gans, footnote 2 above; and Paul Gans, Bevölkerungsentwicklung und Wanderungsverflechtungen Ludwigshafen seit 1970, *Mannheimer Geographische Arbeiten*, Vol. 10, 1981, pp. 105–115.

[12] G. Braun and H. Müller, Analyse innerstädtischer Wanderungen, *Demographische Planungsinformationen*, 1978, pp. 239–277.

[13] V. Baehr and others, Bevölkerungsmobilität und kommunale Planung (Stuttgart: Karl Kramer Verlag, 1977), pp. 94–111.

[14] Kreibich and Petri, footnote 8 above, pp. 1204–1205.

[15] Karl-Heinz Hottes and P. Michael Pötke, Ausländische Arbeitnehmer im Ruhrgebiet und im Bergisch-Märkischen Land (Paderborn: Ferdinand Schöningh, 1977), pp. 66–70.

[16] Borris, footnote 5 above, pp. 33–34; and Hotte and Pötke, footnote 15 above, p. 66.

Although foreign immigrants lived in apartment buildings that were occupied predominantly by other immigrants, the preference was to reside in buildings and neighborhoods with a mixed population of Germans and non-Germans.[17] The foreigners lived in smaller, inferior residences but paid more for the dwellings than did Germans.[18] No significant difference in the quality of housing existed between foreigners grouped by length of residence in a city, a condition that was interpreted to be evidence of discrimination.[19] In spite of the general assumption that foreigners were being victimized, a survey in 1978 concluded that they were relatively content and attributed the circumstance to their accurate perception of housing options and a passive attitude toward an unpleasant situation.[20]

The consequences of these external economic factors and the internal mechanisms of choice on the intraurban movement of foreigners can be understood by the use of the concept of a housing submarket.[21] In Mannheim the highest rents are in the second-best category of housing. Ethnic discrimination is more important than household choice in the allocation of housing. Little movement exists among three submarkets identified for Mannheim. Foreign immigrants are confined to the submarket of poor-quality housing with high mobility rates and rents that were higher than expected.[22] The primary intraurban movement of foreigners and poor Germans is to alternatives in this confined submarket. Resigned to acceptance of socioeconomic barriers to their mobility, foreigners limit their search to a small area, usually the wards where they currently reside and in which they see the greatest opportunity to improve the quality of their housing.[23] Evidence from a countrywide survey and empirical studies from Mühlheim am Main and several other cities confirm the submarket constraints on foreign-immigrant mobility and particularly point to a complex, but weak relationship between length of residence in West Germany and social integration.[24] The evidence from these studies also indicates the strengthening of barriers to intraurban mobility and the increasing spatial concentration

[17] Leben als Gastarbeiter (edited by Karl Bingemeyer, Edeltrud Meistermann-Seeger, and Edgar Neubert; Opladen: Westdeutscher Verlag, 2nd ed., 1972).

[18] Borris, footnote 5 above, pp. 153–154; and Detlev Ipsen, Wohnsituation und Wohninteresse ausländischer Arbeiter in der Bundesrepublik Deutschland, *Leviathan*, Vol. 6, 1978, pp. 558–573.

[19] Ispen, footnote 18 above, pp. 569–570; and Ausländer in der Bundesrepublik Deutschland und in der Schweiz (edited by H. J. Hoffman-Nowotny and K. O. Hondrich; Frankfurt: Campus Verlag, 1982).

[20] Ispen, footnote 18 above, pp. 565–566.

[21] Detlev Ipsen, Segregation, Mobilität und die Chancen auf dem Wohnungsmarkt: eine empirische Untersuchung in Mannheim, *Zeitschrift für Soziologie*, Vol. 10, 1981, pp. 256–272.

[22] Ulrike Schöneberg, Bestimmungsgründe der Integration und Assimilation ausländischer Arbeitnehmer in der Bundesrepublik Deutschland und in der Schweiz, *in* Ausländer, footnote 19 above, pp. 449–568.

[23] Ipsen, footnote 21 above, pp. 262–269.

[24] Peter de Riz, Mobilität und Integrationsverhalten ausländischer Arbeitnehmer (Frankfurt: Waldemar Kramer Verlag, 1979); W. Heller, Komponenten räumlichen Verhaltens von Gastarbeitern in der Bundesrepublik Deutschland, *Berichte zur Deutschen Landeskunde*, Vol. 53, 1979, pp. 5–34; Hartmut Esser, Aufenthaltsdauer und die Eingliederung von Wanderern: zur theoretischen Interpretation soziologischer Variablen, *Zeitschrift für Soziologie*, Vol. 10, 1981, pp. 76–97.

of foreigners in a submarket. Because the distribution of types of housing stock is a major factor in decisions about residence and consequent patterns of migration, we focus on locational patterns of movement by aggregation of housing styles and neighborhood options.

DATA

To avoid the possibility that a single city might not be representative of large West German cities, we selected two adjacent, but contrasting ones for analysis: Duisburg and Düsseldorf. Duisburg is a typical heavy-industrial city of the Ruhr valley with approximately 56 percent of its work force engaged in secondary activities. Its other dominant role is that of an important inland port at the junction of the Rhine and Ruhr rivers. Duisburg has a stereotypical image of a working-class, industrial, polluted, and declining city. Düsseldorf, the capital of the state of North Rhine-Westphalia, has a secondary industrial work force that accounts for 43 percent of employment in the city. Its mixture of secondary and tertiary occupations provides a good representation of the economic structure of cities such as Hamburg, Munich, Frankfurt, Stuttgart, and Hannover.

Duisburg and Düsseldorf in 1980 were similar in size, population turnover, and number of foreigners. Duisburg had a total population of 558,089, of which 72,232, or 13 percent, were foreign. The population of Düsseldorf was 590,479, of which 71,825, or 12.2 percent, were foreign. An important difference between the two cities was the distribution of foreign residents by country of origin. Foreigners in Duisburg were overwhelmingly Turkish (45,105 persons, or 61.8 percent of the foreign residents), while Düsseldorf had a more even spread with Turks, Greeks, Yugoslavs, Italians, and nonguestworkers, including exiles from East Africa and South Asia, each accounting for more than 10 percent of the foreign population of the city. Intraurban migration in Duisburg involved 42,540 persons, or 7.6 percent of the city population; in Düsseldorf 43,338 persons, or 7.2 percent of the total population, participated in intraurban migration.[25]

We obtained data on migration from the statistical offices of the two cities. The data were compiled from registration forms that were completed when a household moved. The similarity of population statistics from the federal census and those from the registration forms suggests that the data at the ward scale are accurate information about origin and destination of intraurban movements. We were able to obtain unpublished interward migration data for 1978, 1979, 1980, and 1981 for West Germans and foreigners in both Duisburg and Düsseldorf as well as figures for foreigners by country of origin in Düsseldorf. Additional data by ward on migration to and from locations outside the city were obtained for Düsseldorf to test the hypothesis

[25] Statistisches Jahrbuch Deutscher Gemeinden 1982 (Cologne: Deutscher Städtetag, 1982), pp. 286–305; and Statistisches Jahrbuch der Landeshauptstadt Düsseldorf 1982 (Düsseldorf: Stadt Düsseldorf, 1982), Table 19.

of initial dispersal and later concentration of foreigners. Each sample year was analyzed, but only the results for one year are reported here because of the limitations of space and the similarity of annual flows.

The ward is the basic areal unit in this study. Wards vary greatly in size. There are forty-nine in Düsseldorf and forty-six in Duisburg. A ward not only is the basic statistical unit in West German cities but also is equated with a community in everyday use and in planning. Unlike statistical units in non-German cities that are defined solely for data-gathering purposes and have boundary shifts, the area of a West German ward does not change except for delimitation of new wards on the city periphery. The name of a ward conjures the image of a certain type of housing, age, class, social environment, and financial investment in much the same manner that real-estate advertisements in North American newspapers classify houses by subdivision or suburb. The close relationship between community and statistical unit allows for more confidence in the validity of research results than is normally the case in analyses of aggregate census data.

Intraurban Migration

The analysis of intraurban migration by West Germans and foreigners in Duisburg and Düsseldorf was completed in three stages. The pattern of movement, especially origins and destinations, for each group was examined by factor-analytic, entropy, and distance-decay methods. The ecological correlates of out-migration for each group by country of origin were studied to account for current residential change in neighborhoods and to predict future flows. Two specific research questions were posed: how valid is the invasion-succession model to explain the segregation of foreigners in West German cities, and are foreign newcomers more dispersed than long-term resident immigrants?

We used factor analysis to reduce the complexity of 49×49 flows of origin and destination for Düsseldorf and 46×46 such flows for Duisburg. The factor-pattern matrices showed consistently high loadings on the same factors by contiguous wards, an indication that movement was nonrandom and predominantly of short distances. These salient flows, that is, greater than expected, between wards with similar housing and demographic characteristics occurred both for structural or geographical reasons. The former was primarily the housing market, while the latter was chiefly the decline of information about housing with increased distance. The trend was exaggerated for large wards, so that interaction between densely populated inner-city wards stood out as the most important and consistent element of intraurban migration in West German cities. It held true for both cities and for both the German and non-German study groups. A second, though less obvious, generality was the regional interaction among peripheral wards. Links among the four wards on the western bank of the Rhine in Düsseldorf demonstrated this point, while the western-bank wards in Duisburg were

consistently grouped in two clusters to produce a subregional north-south flow structure (Figs. 1 and 2).

Canonical correlation analysis of the factor scores, derived from both the original matrices (origin-destination) and transposed matrices (destination-origin), showed that few salient links existed between subregions of the two cities for either Germans or foreigners. We were unable to confirm suggestions, based on research on North American cities and West Berlin, that sectoral movement predominated in intraurban migration.[26] Movement from inner to outer city was random in pattern and almost matched in relative importance by shifts within the outer city and from outer to inner city. The only consistent canonical correlations related factors measuring intraregional interaction for inner-city and west-bank wards in both cities. Furthermore, no differences in the dispersed pattern of movement of Germans and foreigners existed in either city for 1978, 1979, or 1980. In comparison with North American cities, West German intraurban migration displays fewer salient links between noncontiguous wards, more dispersed movement, nonsegregation of Germans and foreigners in movement patterns, stronger intraneighborhood ties, and a larger degree of temporal stability.

A clustering of the factor scores for each city in 1979 illustrates these points (Figs. 1 and 2). For purpose of comparison, each set of wards was grouped in ten classes by use of CLUSTAN. The dominant feature in all eight maps is contiguity. In all parts of each city, geographical clustering appears. A simple measure of contiguity—number of wards noncontiguous to the main cluster of other group members—reveals that the patterns in Duisburg are more concentrated than those in Düsseldorf. Both of the matrices for West Germans in Duisburg (A and C in Fig. 1) show complete contiguity of clusters, while the matrices for foreigners (B and D in Fig. 1) show only minor deviations from complete clustering: two noncontiguous wards for the original matrix and four for the transformed one. By contrast, the number of noncontiguous wards within groups in Düsseldorf ranges from eleven to seventeen, with German movers displaying slightly more spatial contiguity (twelve and eleven noncontiguous wards) than the foreigner movers (seventeen and fourteen noncontiguous wards).

The dual regularity—the movement of foreigners being more dispersed than that of Germans, and the maps of Düsseldorf revealing more dispersal than those of Duisburg—is not surprising when one considers the hypothesis that a positive relationship exists between the proportion of workers in industrial employment and the segregation of socioeconomic groups in a city.[27] The original empirical evidence to support this hypothesis came from British cities, and later studies that were based on North American and West

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[26] Adams, footnote 4 above; and Braun and Müller, footnote 12 above.

[27] B. S. Morgan, The Segregation of Socio-Economic Groups in Urban Areas: A Comparative Approach, *Urban Studies*, Vol. 12, 1975, pp. 47–60.

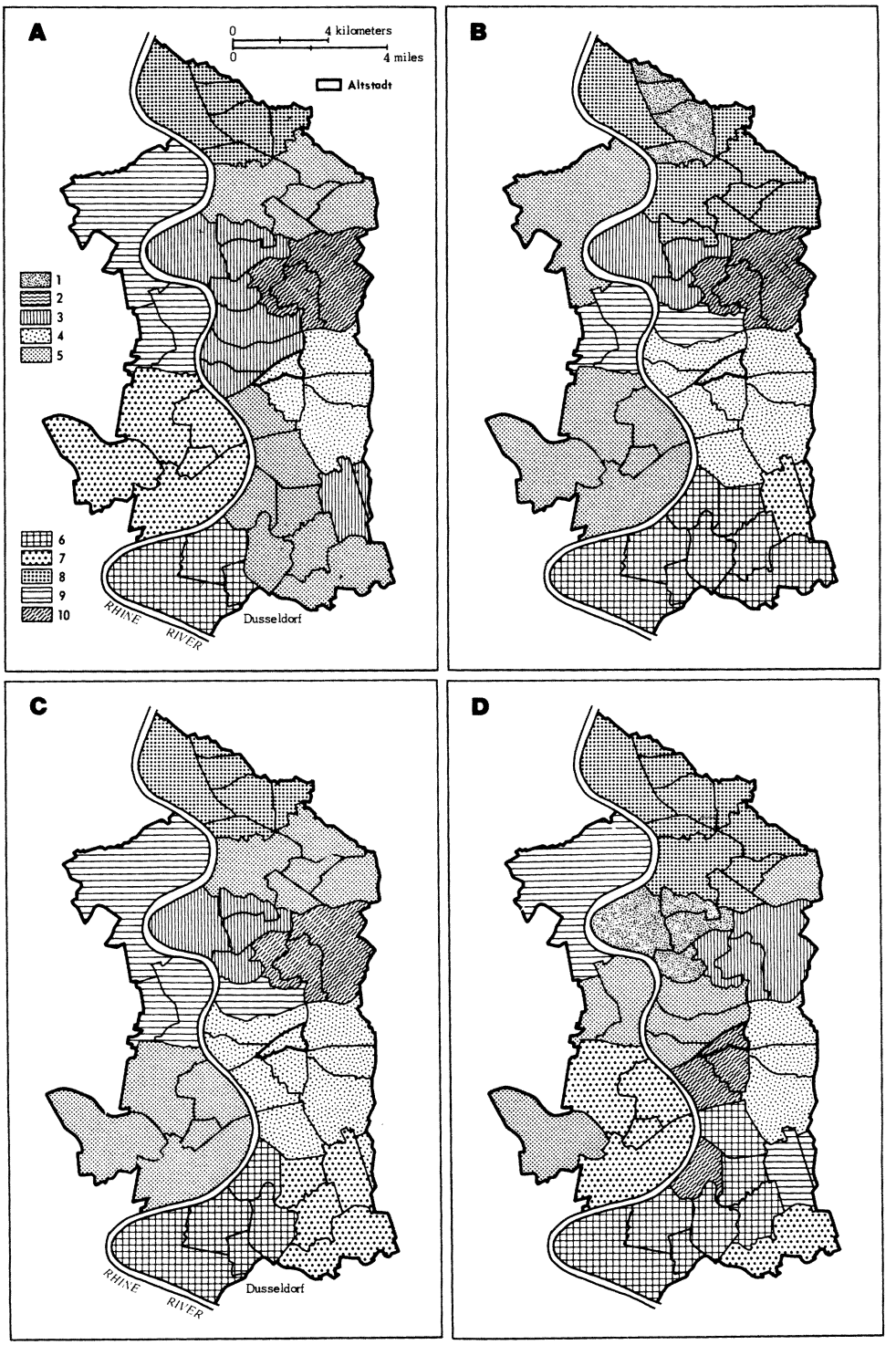

FIG. 1—Clustering of migration flows for Germans and foreigners in Duisburg: **A** German out-migration; **B** foreigner out-migration; **C** German in-migration; **D** foreigner in-migration.

FIG. 2—Clustering of migration flow for Germans and foreigners in Düsseldorf: **A** German out-migration; **B** foreigner out-migration; **C** German in-migration; **D** foreigner in-migration.

German examples tend to confirm it.[28] Social groups are more segregated in Duisburg as a consequence of the clustering of factory housing near plants. Neighborhoods in Duisburg therefore are more clearly defined along socioeconomic, housing submarket, and physical characteristics than in Düsseldorf. Flows between wards cluster more readily in Duisburg than in Düsseldorf because of the dominance of movement among wards of similar socioeconomic character.[29] Wards in Düsseldorf frequently contain a variety of housing and associated populations. In numerous cases, a group of wards in Düsseldorf with common environmental, social, economic, and housing characteristics that are situated at a similar distance from the city center is clearly defined.

The complementary interaction of wards in well-defined neighborhoods can be analyzed in detail by coefficients of congruence between the ten most important factors for the original and transposed matrices. The matrix of congruence coefficients allows a comparison of the overall factor structure. In Duisburg, eight of the ten factors defined for the original German matrix (origins along the rows; destination the columns) had a coefficient of congruence of greater than +.90 with a factor derived from the transposed matrix. By contrast, only one factor in the original matrix for the foreigners reached this level of congruence. For Düsseldorf, the congruence matrix for Germans showed only two values greater than +.90, while the matrix for foreigners had only one coefficient that reached this threshold. In summary, origin-destination factors for Duisburg showed a one-to-one relationship with transposed matrix factors, while in Düsseldorf the congruence was much more complex. These frequencies of coefficients of high congruence can be interpreted as a relative index of neighborhood complementarity. In Duisburg, Germans enter and leave the same sets of wards, which are clearly defined in geographic and social space. The foreigner population in Duisburg is much less predictable. This lack of pattern is also the case for both German and non-German groups in Düsseldorf. The distinction must be explained through a detailed analysis of the pattern of movement as well as through an examination of the ecological correlates of migration.

Entropy Analysis of Migration

The use of entropy-maximizing procedures has been advocated for the analysis of migration. Entropy increases as the distribution of flows among subunits becomes more homogenous. The measure of entropy, H, is the uncertainty of the distribution of flows among the wards or probabilities,

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[28] John O'Loughlin, Spatial Inequalities in Western Cities: A Comparison of West German and North American Urban Areas, *Social Indicators Research*, Vol. 13, 1983, pp. 185-212; and John O'Loughlin and Günther Glebe, Residential Segregation of Foreigners in German Cities, *Tijdschrift voor Economische en Sociale Geografie*, Vol. 75, 1984, forthcoming.

[29] Kreibich and Petri, footnote 8 above, pp. 1199-1200.

TABLE I—ENTROPY AND RELATIVE HOMOGENEITY SCORES FOR INTRAURBAN MIGRATION IN DUISBURG AND DÜSSELDORF 1979

CITY & GROUP	ENTROPY			HOMOGENEITY			ASYM-METRY
	Row	Column	Joint	Row	Column	Joint	
Duisburg							
Germans	1.58	1.59	2.67	33.3	30.1	77.8	2.8
Foreigners	1.47	1.48	2.32	36.6	35.1	90.3	38.8
Düsseldorf							
Germans	1.51	1.54	2.78	34.7	29.9	74.7	1.5
Foreigners	1.46	1.47	2.62	42.0	40.6	82.7	35.0
Turks	1.37	1.36	2.26	53.2	54.4	92.2	
Greeks	1.39	1.36	2.10	50.9	54.4	94.8	
Yugoslavs	1.40	1.39	2.33	49.8	50.9	91.1	
Italians	1.36	1.38	2.23	54.4	52.1	93.0	
Others	1.45	1.49	2.58	43.4	37.1	84.1	

Source: Calculated by authors.

p_i, as $H = -k \sum_{i=1}^{n} p_i \ln(p_i)$ whose k is constant. When one ward contains all the flows, H becomes zero, and when flows are completely uncertain, H reaches its maximum of $\ln(p_i)$. A matrix of flows can be examined in its joint, row, and column versions. Joint entropy measures the heterogeneity of the entire matrix of probabilities or flows (p_{ij}). Initial-state entropy is the homogeneity of the total flows from all origins (row entropy), and final-state entropy is the homogeneity of the total flows to all destinations (column entropy). The joint entropy is always less than the sum of the row and column entropies. For comparative purposes, we converted the raw entropy scores to a relative measure through the use of a limitator of homogeneity: the relative homogeneity scores are percentages that vary between 0 for maximum homogeneity and 100 for minimum homogeneity.

The distribution of moves among wards was more dispersed for Germans than for foreigners in Duisburg and Düsseldorf (Table I). For initial-state, final-state, and joint entropies, the values for foreigners were consistently smaller than for Germans, and the homogeneity scores were consistently larger. This pattern matches the hypothesized relationship between minority group status and the concentration of moves in certain housing submarkets that were located in inner-city areas. The connection has been documented for British and North American cities.[30] Though not explicitly examined in a citywide context, the concentration of moves by foreigners in certain industrial and inner-city areas in West German cities has been validated in other studies.[31]

The more abundant data on movement in Düsseldorf allows further examination of the effect of country of origin on overall patterns of mobility.

[30] R. M. Pritchard, Housing and the Spatial Structure of the City (Cambridge, U.K.: Cambridge University Press, 1976); and Speare and others, footnote 4 above.
[31] Borris, footnote 5 above; Gans, footnote 11 above; and Ipsen, footnote 21 above.

The moves of each group of foreigners by country of origin were more concentrated than the total moves by foreigners, a major finding in view of the often emphasized distinction between segregation of guestworkers and other foreigners.[32] In Düsseldorf, other foreigners showed less concentration of movement among wards than any single group by country of origin, but their homogeneity index was larger than the foreigner total, an indication that high economic status allowed regional options in relocations. As with scores for residential segregation, Greeks were most concentrated with Italians, Turks, and Yugoslavs farther down the scale of concentration. Despite the perceived ghetto status, Turks were neither the most residentially segregated group of foreigners nor the group with movement among the narrowest choice of wards. In spite of such evidence of the relative deconcentration of Turks both in terms of residential locations and interward migration, a popular belief, based on size and appearance of the Turkish population, continues to hold that ghettoes with Turks are large and expanding.[33]

Although the different number of wards in each city suggests a cautious interpretation of the values, it appears that intraurban migration in Duisburg is more concentrated than in Düsseldorf for Germans and non-Germans. This pattern conforms to previous findings of segregation of foreigners in Duisburg and relates to the strong spatial definition of housing submarkets and the strong delimitation of class-based neighborhoods in that city.[34] The relative gap between the indexes of entropy for the German and non-German groups is greater in Duisburg than in Düsseldorf. Partly because of diverse backgrounds and partly because of the ecological structure of the city, foreigners in Düsseldorf showed a spatially dispersed range of relocations. The logical extension of this argument is that ghetto development is more likely to occur in Duisburg than in Düsseldorf. The fact that 62 percent of the foreign population in Duisburg is Turkish combines with the strong class basis of the urban ecological structure to produce a stereotype. Its elements are a foreign population that occupy structures built before 1918 in inner-city areas adjoining the steelworks. Rapid transition occurs when Germans die or leave and foreigners fill the inexpensive, vacant apartments. Finally, by the measure of asymmetry, Germans in both cities showed similar flows for origins and destinations, while foreigners had marked differences in the location of wards that they entered or left.[35] The low indexes of asymmetry for the Germans suggest that predictions of their flight from and their avoidance of certain wards are premature.[36]

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[32] O'Loughlin, footnote 2 above.
[33] Holzner, footnote 2 above; and O'Loughlin and Glebe, footnote 28 above.
[34] O'Loughlin and Glebe, footnote 28 above.
[35] W. Tobler, Migration Fields, *in* Population Mobility, footnote 3 above, pp. 215–229.
[36] Gans, footnote 11 above.

TABLE II—RELATIONSHIP BETWEEN DISTANCE AND MIGRATION RATES IN DUISBURG AND DÜSSELDORF 1979

CITY & GROUP	b		BETA		r^2	
	Inner-city	Outer-city	Inner-city	Outer-city	Inner-city	Outer-city
Duisburg						
Germans	−1.111	−.892	−.587	−.479	.344	.230
Foreigners	−.639	−.703	−.461	−.498	.212	.247
Düsseldorf						
Germans	−.679	−.539	−.526	−.396	.276	.157
Foreigners	−.743	−.370	−.571	−.434	.323	.189
Turks	−.651	−.214	−.491	−.288	.241	.008
Greeks	−.379	−.226	−.397	−.334	.158	.112
Yugoslavs	−.641	−.263	−.481	−.331	.231	.110
Others	−.620	−.421	−.486	−.454	.237	.207

Source: Calculated by authors.

MIGRATION FIELDS

North American and European studies indicate that almost one-half of all intraurban moves are to dwellings in the same neighborhood or to adjoining neighborhoods.[37] The distance of moves obviously has important implications for segregation. If Germans move longer distances and leave inner-city areas by choosing residences in suburban areas, spatial and social isolation of foreigners will increase. Movement over short distances by each group indicates that significant neighborhood ties are possible. A large gap in the average distance moved by both groups would demand further examination of its geographical base. Wards in both Duisburg and Düsseldorf were classified as inner or outer city on the bases of location, percentage of dwellings erected before 1918, numbers in the industrial work force, and amount of nonresidential landuse. Because a citywide equation relating distance and migration rate would conceal this dichotomy between inner and outer cities, we calibrated separate equations for each zone (Table II).

The moves of foreigners in both cities were significantly shorter than those of the Germans. The mean migration distance for foreigners in Duisburg was 2.46 kilometers, which was significantly shorter than the 2.96-kilometer figure for Germans. The same pattern existed in Düsseldorf, where foreigners moved an average of 1.97 kilometers in comparison with an average of 2.44 kilometers for Germans. The range spanned from the geographic extremes of each city to intraward movement and was equal for Germans and non-Germans. The mean distances for subgroups of the latter by country of origin were similar, approximately 2 kilometers; however, the nonguestworkers, classified as others in Table II, relocated a mean distance of 4.75 kilometers. For Germans and foreigners in both cities most moves were within three kilometers of former residences. The expectation that

[37] O'Loughlin, footnote 2 above.

moves of short distance would be more important for foreigners is partially based on information flow within ethnic communities about housing options but, more importantly, results from the constrained geographic distribution of housing options for foreigners in a specific submarket. The evidence from Duisburg lends strong support to this interpretation. The most important determinant of German intraurban mobility is the availability of affordable housing.[38] The concentration of these options in particular inner-city and industrial areas ensures that most moves by foreigners terminate in these neighborhoods.

In Duisburg and Düsseldorf, one-quarter to one-third of the total variance in the migration rate between wards can be accounted for by the interward distance (Table II). A strong distance-decay trend is evident for all groups in both cities, but, more importantly than this trend, the influence of distance on movement is strongly affected by the location of the ward of origin in either the inner or outer city. Moves beginning in the inner-city were predominantly short distance, while those starting in suburbs were longer either to the inner-city or more often to other suburban wards. Because of the dense population in most inner-city wards, they generate more moves than suburban wards. Consequently in the absence of salient links between inner and outer cities, the dominance of intraneighborhood movement continues in Duisburg and Düsseldorf.

Intraurban Migration and Social Mosaic

Because Western urban areas are defined on the basis of social class and because movement between classes is relatively infrequent, movers change residences predominantly in neighborhoods that offer affordable housing options. Each family examines a particular type of housing like mortgaged single-family dwellings or public-financed housing. The spatial distribution of residences associated with each housing submarket thus determines the geographic range of choices available to the mover. This viewpoint characterizes many studies of British and North American cities.[39] It is important to know to what extent Germans and foreigners move between or within housing areas that are defined by class status. A matching of class, ethnicity, housing submarket, and residential choices on a yearly basis provides a useful point for accurate prediction of future trends in segregation.

We analyzed by principal components a matrix of twenty variables (housing, socioeconomic status, demography, and citizenship) in order to derive the basic dimensions of social structures in Duisburg and Düsseldorf.

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[38] Kreibich and Petri, footnote 8 above, pp. 1199–1200.

[39] James W. Simmons, Changing Residence in the City: A Review of Intraurban Mobility, *Geographical Review*, Vol. 58, 1968, pp. 621–651; John S. Adams and Kathleen A. Gilder, Household Characteristics and Intraurban Migration, *in* Social Areas in Cities (edited by D. T. Herbert and R. J. Johnston; Chichester: John Wiley & Sons, 1976), Vol. I, pp. 41–79; Pritchard, footnote 30 above; Ipsen, footnote 18 above; John R. Short, Residential Mobility, *Progress in Human Geography*, Vol. 2, 1978, pp. 419–447; Ipsen, footnote 21 above; and Kreibich and Petri, footnote 8 above.

The first component for each city was clearly a measure of social status. Variables with high loadings were educational attainment, occupational skills, and quality and age of housing stock. The second component for Duisburg could not be readily interpreted and appeared to be a general summary of most variables. The second component for Düsseldorf was a measure of family status with high loadings for citizenship, religion, single-family houses, marital and age status, fertility, and population change. Both components for Düsseldorf exhibited an inner/outer-city geographical distribution. Wards for each city were divided in quintile rankings based on their scores for each component. The number of movers to and from each group of wards was then computed and converted to proportions.

The overwhelming conclusion suggested by this analysis is stability. The same proportion of movers, both Germans and foreigners, occurs in each group of wards before and after the change of residence. The only slight deviation from this generalization is a tendency toward greater than expected upward movement from the lowest socioeconomic status to the next-to-the-lowest ranking by both groups in Duisburg, a circumstance that indicates perhaps decreasing densities in the poorest neighborhoods. The similarity of the proportions for Germans and non-Germans is very remarkable. There is no evidence of a trend toward spatial segregation in the overall social mosaic of the two cities. The generalization does not preclude microlevel separation at the scale of a block or an apartment building. Within these general bounds, it is clear that both groups remain in the same neighborhood category as the ward of origin or move one quintile above or below that category. Usually more than 90 percent of movers displayed this behavior, a strong argument for the importance of housing submarkets and residential options within constraints. Foreigners seem slightly more likely to choose a new residence in their category of neighborhood in Duisburg and Düsseldorf, but this difference is probably not crucial.

Turks, the largest foreign minority in both cities, show a close adherence to the overall trends in Düsseldorf. Appropriate data are not available to make similar judgments for Duisburg. The expressed concern that Turks congregate in the poorest inner-city neighborhoods is not supported by these proportions. Turks like Germans and other groups of foreigners start and relocate in wards of middle socioeconomic status. For the concern about concentration of Turks to be valid, they should be shifting downward in the social hierarchy to the poorest wards. Our analysis of available data did not reveal such a shift. Though basically similar, movement of each group of foreigners by country of origin is more balanced in terms of family-status space. The imbalance in the quintiles of socioeconomic status is caused by the concentration of the largest wards in the middle quintile. The family status in these wards is more diverse than their socioeconomic status.

We have shown that moves among wards, grouped by socioeconomic status and family status, are predominantly to wards of the same category.

We have also demonstrated that both Germans and foreigners travel approximately the same distances in residential relocation and that distance-decay models predict the movement because of the clustering of residential options in specific submarkets of a city. In general, foreigners tend to be more confined in the areas of relocation, but no strong evidence of spatial separation of moves in a city as a whole was displayed in Duisburg or Düsseldorf. On the basis of our analysis we can reasonably conclude that Germans and foreigners, including Turks, show a strong tendency to relocate in the neighborhood where they currently reside.

Ecological Determinants

The tradition of relating rates of out-migration to the ecological characteristics of the areas where moves originated remains important in the study of intraurban migration. For this study we selected six variables, known to show important causal relationships with intraurban migration. Socioeconomic status is measured by educational attainment and occupational status because income data are not available in West Germany. This variable can have two possible, contradictory effects. High income allows flexibility in housing because a broad range of housing options is affordable. It has been demonstrated that the wealthiest households are the most mobile ones in West German cities.[40] On the other hand, studies of North American cities conclude that low-income households are the most frequent movers because of their renter status. Through its influence on stages of the life cycle, age is the most important determinant of intraurban migration. Families with young children and single persons are generally more mobile than households with grown children and elderly. Our analysis therefore isolates the ecological influence of the age category and the socioeconomic status of neighborhood residents on the rate of out-migration.

The influence of population composition on out-migration of Germans and foreigners in Duisburg and Düsseldorf is inconsistent (Table III). The variables provided the best prediction for out-migration of foreigners in Düsseldorf, but only low coefficients of determination for Duisburg. Even more confusing is the shift in the direction of the relationships from one city to another: for example, the contradictory results for the regression of percentages for foreigners and out-migration. With one exception, significant regression coefficients appear only for the rate of out-migration by foreigners in Düsseldorf. Ecological explanations of out-migration by both Germans and foreigners in Duisburg offer little insight to its causes. It appears as if both groups there respond equally to the variables, a pattern that confirms results of our previous analysis of moves in socioeconomic space. However, this result contradicts structural and income influences on both groups of movers that have been hypothesized in the relevant literature.

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[40] Kreibich and Petri, footnote 8 above, pp. 1203–1204.

TABLE III—STANDARDIZED REGRESSION COEFFICIENTS BETWEEN OUT-MIGRATION RATES AND ECOLOGICAL VARIABLES FOR DUISBURG AND DÜSSELDORF 1980

	VARIABLES[a]						
CITY & GROUP	EDUC	AGED	FOR70	YOUNG	SINGLE	BLUECOL	R^2
Duisburg							
Germans	.357	−.422	−1.590	−1.412	−.169	.104	.151
Foreigners	.307	−.290	−1.476	−1.404	−.088	.137	.132
Düsseldorf							
Germans	.520	−.779	−.058	.422	.741[b]	.170	.410
Foreigners	.594[b]	−.824[b]	.536[b]	.253	.526[b]	−.030	.889

Source: Calculated by authors.

[a] EDUC: % of population with elementary-school education or less; AGED: % of population over age 65; FOR70: % of foreign population in 1970; YOUNG: % of population under 15 years of age; SINGLE: % of unmarried adults; BLUECOL: % of employed persons in unskilled jobs.

[b] Regression coefficient significant at .05 level.

Low social status exerts a weak, but positive influence on out-migration in Duisburg, where migration rates are lower in inner-city wards with a high proportion of young families and households of foreigners.

Although social status exhibits the same direction and approximate strength of relationship on out-migration in Düsseldorf, the other variables are less consistent. Foreigners in Düsseldorf are departing wards with high proportions of foreign population and with large numbers of single and working-class households. The sum of these three factors and the negative relationship with the aged population, a group that is more heavily concentrated outside the inner-city, suggests that an important inner/outer-city difference in the rates of migration of foreigners exists in Düsseldorf. Foreigners who live in the old, industrial sections of the city are more mobile than those who live elsewhere in the city. It is difficult to conclude whether this pattern results from length of stay in West Germany or length of residence associated with distance from city center in a Burgesslike assimilation model, but it remains a hypothesis worthy of investigation.

Ecological explanation of intraurban mobility of Germans and foreigners shows that both groups move predominantly between the same types of wards, classified by social and family status. Ecological variables were inconsistent in explaining intraurban mobility. For Düsseldorf, the size of the regression coefficients was significantly greater for the mobility of foreigners than for that of Germans, but the reverse holds true for Duisburg. Thus the two groups in both cities display predictable patterns of movement in the social mosaic, but the variables measuring the population composition of neighborhoods are useful in only one of the four sets of regressions. While the sample sizes impose limitations on the use of the tests of significance, the contradiction can probably be explained by the choice of variables. It appears that ecological explanations of intraurban mobility may not be very useful for West German cities. The constraints on household mobility in the form of the shortage of affordable housing in a specific submarket, the lack

of a choice resulting from shortages of housing, and the movement of households from and to specific housing types are not measured by common aggregate predictors. As the matrices of movement in social and familial space indicated, household mobility is highly predictable within social class. A focus on an individual household and its behavior in housing submarkets is a more useful approach than the ecological method in an analysis of mobility between West German urban neighborhoods.

Invasion-Succession Hypothesis

The development of ghettoes of foreigners is possible under two sets of circumstances. Firstly, population change—high birth rates for foreigners and high death rates for Germans—among residents already present in a neighborhood could lead to a gradual, but profound shift in the composition of population in a ward. Secondly, in-migration by foreigners from elsewhere in the city and from outside the city in tandem with out-migration by Germans would eventually result in the creation of ghettoes of foreign migrants. In our testing for an invasion-succession sequence, we confined the analysis to the ward scale and to the question of whether Germans are leaving wards with a high percentage of either resident foreigners or in-migration by foreigners. We would expect from the hypothesis that the rate of out-migration for Germans would be higher for inner-city and industrial areas than for outer-city wards, when factors like age or formation and dissolution of households are controlled.

Preliminary evidence from the ecological analysis does not support an invasion-succession hypothesis. A simple expression of the extent to which Germans avoid neighborhoods with a high proportion of foreign residents can be obtained through the identification of wards on the basis of percentages of foreigners above or below the average. Wards in both cities with large numbers of foreigners experience larger in- and out-migration by Germans than wards with small totals of resident foreigners (Table IV). However, the difference between the two types of wards is significant only for German out-migration in both cities. The relative similarity of the rates of in-migration and out-migration suggests that wards with large proportions of foreigners are more than an overrepresentative source of German out-migration. They are inner-city or industrial areas with higher than average turnover of population where the rate of arriving Germans almost equals the rate of German departures. In this characteristic they function similarly to the zone of transition in the Burgess model.

German out-migration from inner-city and industrial neighborhoods plausibly is not a function of their high proportion of foreign population but rather is a response to negative environments that include low family status and housing of poor quality. For the question of German out-migration related to the percentage of foreigners in wards when these other elements are controlled in a regression framework, the answer is an unequiv-

TABLE IV—ANALYSIS OF INVASION-SUCCESSION HYPOTHESIS 1981

CITY	MEAN GERMAN RATE		REGRESSION COEFFICIENTS WITH FOREIGNER %	
	Wards > $\bar{x}$ foreigner %	Wards < $\bar{x}$ foreigner %	No control	Controlled[a]
Duisburg				
Out-migration	8.34	5.73[b]	.16[c]	.12[c]
In-migration	7.41	6.03	.09	.04
Düsseldorf				
Out-migration	6.19	4.46[b]	.13[c]	.12[c]
In-migration	4.29	3.52	.04	.03

Source: Calculated by authors.
[a] Controlled for housing quality and life cycle.
[b] Significant at .05 level.
[c] Coefficient greater than twice its standard error.

ocal yes. By comparison, the rate of German in-migration is not significantly related to the percentage of foreigners in a ward. The regression results for both cities suggest a cautious acceptance of the invasion-succession hypothesis. We tentatively state that preliminary evidence does indicate the beginnings of an invasion-succession process by supporting one of its crucial elements, the overrepresentation of German out-migration from wards with large foreign populations.

Earlier in this article we referred to a study of foreign workers in Mülheim am Main. The author determined that they initially settled in a dispersed pattern as a consequence of the institutional housing associated with the recruitment process and later moved to a portion of the city where their compatriots were congregated. The latter move was associated with increased knowledge of residential options that came with length of stay in the city. Taken to an extreme, the process would culminate in a ghettolike concentration of foreigners, grouped by country of origin. Data required to test this hypothesis for our study were available only for total foreign population in Düsseldorf. We correlated the distribution of Germans and foreigners from outside the city as well as the intraurban redistribution of both groups, and we calculated a relative entropy score for each migration.

If this hypothesis is accurate, the relative entropy of foreign immigrants from outside the city should be greater than that of foreigners who relocate within the city. Relative entropy scores of .890 for foreign immigrants and .865 for intraurban moves by foreigners support the hypothesis. The scores are repeated for data from 1979 and 1981, so the three-year pattern is not an aberration. The patterns suggested by the entropy scores of both Germans and foreigners may be summarized as follows. Foreigners are more concentrated than Germans in relocating in the city and in moving to and from the city. However, because all correlations between the movements are positive, the same wards experience high levels of in- and out-migration as well as high rates of interward mobility by both Germans and non-Germans.

This finding is the most consistent theme in our study. Although the primary residences of foreigners are more concentrated than their later dwellings, and although foreigners seem to move in a more restricted set of locations than Germans, the differences are not substantial and do not lead to ghetto formation in the short or intermediate term. The geographical pattern identified for Frankfurt in 1973 is less evident in Düsseldorf. It is likely that this city is at one end of the scale of segregation for foreigners in West German cities. Concentration of foreigners is more advanced in industrial cities like Duisburg. Because family association is the principal mode of entry for foreigners into West Germany and because the birthrate for foreigners is three times that of Germans, existent concentrations of foreigners can be expected to expand and to intensify. Whether the intensification reaches a level identifiable as a ghetto is still problematic.

Closing Comments

A public opinion poll in 1983 found that 79 percent of the interviewed West Germans felt that too many foreigners resided in the federal republic. Attitudes toward foreigners, especially Turks, hardened when economic recession produced record postwar unemployment rates and a decline in real prosperity. Originally intending only to import workers, West Germany is now faced with a massive social problem that is most visibly expressed in education, employment, and housing. The expansion and the seeming permanence of the foreign groups have thrust policies for them to the forefront of West German social, economic, and political debates. Most foreign workers now plan to stay indefinitely in West Germany and wish to integrate on their own terms. The latter process involves a slow, intergenerational adaptation to West German cultural norms.

In terms of the social isolation of the foreigners and their slow adoption of West German cultural norms and language, spatial segregation of Germans and non-Germans is surprisingly low. Housing vacancies in West Germany are extremely limited, and the constraints imposed by this limitation accounts for the lack of correspondence between social and spatial isolation of Germans and foreigners. The geographical pattern of intraurban residential mobility suggests either that the foreign elements in the West German population are still in the primary stages of settlement and segregation will occur later or that ghettoes will not develop because the similar mobility of Germans and non-Germans in response to housing shortages prevents intensified segregation.

The stability of settlement by foreigners during the past decade in all large West German cities indicates that ethnic ghettoes are not developing as they did in North America. A comparison of 1970 and 1983 patterns shows that the small expansion of foreign groups in certain wards is not so much the result of an invasion-succession process as it is the consequence of population growth caused by family reunification and increased birth-

rates. The ward is the basic unit of our study, the results of which do not support the thesis of a developing ghetto of foreigners as many social commentators have posed. Both Germans and foreigners are responding to the same strong institutional controls on the selection of housing, and ghetto development, if it should occur, will consequently proceed very slowly.