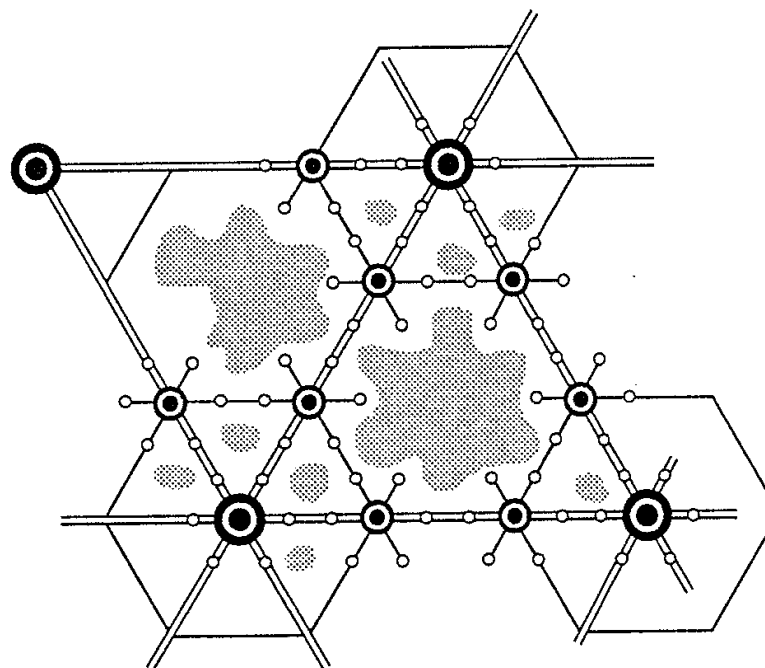




# Walter Christaller's Research on Regional and Rural Development Planning During World War II

Richard E. Preston



A Transportation Model Reinforcing the Mixed Hierarchy in Step 2 (Source: Adapted from Christaller, 1941b)

**Richard E. Preston**  
**METAR 52/2009**

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## Walter Christaller's Research on Regional and Rural Development Planning During World War II\*

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### Abstract:

The goals of this study were to describe and evaluate Christaller's research on regional and rural planning during World War II. His research was analyzed by identifying ideas from his pre-war studies that were basic to his war research, by piecing together theoretical perspectives from sources from 1940-1945, and by identifying links between those studies and his research on central places. It was shown that Christaller's research contributed to plans facilitating German Lebensraum policy and the objectives of Himmler's Reich Commission for the Strengthening of Germandom, that he built the conceptual and theoretical frameworks used in his war research on his earlier theories of central places, administrative regions, and rural settlement change, that he used his theoretical ideas to confront basic problems in planning and human geography, and that he offered innovative solutions including (1) generalization of his original theory by the addition of a mixed hierarchical principle, (2) development of normative systems of urban-centered administrative-planning regions both for the German Empire and in more detail for western Poland, (3) development of a model of metropolitan regions, and (4) development of a settlement system based theory of rural development.



## Walter Christaller's Research on Regional and Rural Development Planning During World War II

Walter Christaller's research on regional and rural planning during World War II has been neither described nor evaluated. This study starts to fill those gaps by describing his war research, identifying its main theoretical and empirical components, and assessing links with both his earlier studies and his attempts to extend his theory of central places.

This study also elaborates the discussion of Christaller's theory in regional planning in Germany during World War II in Rössler's (1990) "Wissenschaft und Lebensraum: Geographische Ostforschung im Nationalsozialismus". Continued as well, is an evaluation of two arguments regarding Christaller's contribution to the study of settlement patterns (Preston, 1985, 1992); namely, that in his post-dissertation research, he used his original theory as a foundation for theories of administrative and planning regions and the location of tourist activities, and that, in those studies, he confronted and offered innovative solutions for basic problems in regional planning and human geography.

Christaller's research during World War II was analyzed by identifying ideas from his pre-war studies that were basic in his war research, by piecing together theoretical perspectives from sources from the period 1940-1945, and by identifying links between those studies and his research on central places. Because of destruction of files of the Planning Section of

the Staff Main Office of the Reich Commission for the Strengthening of Germanism (Reichskommissariat für die Festigung deutschen Volkstums, or RKFDV) where Christaller worked during the war, the extent of his war research may never be known (Koehl, 1957, 208, Rössler, 1989). However, there are unpublished studies in the German Federal Archives (Bundesarchiv or BAK) with his signature and others in which his participation can be established. These documents, his publications, and contextual studies by Koehl, Rössler, Smit, and R. Hottes, provided a guide to Christaller's research during the war.

### Status of Research on Christaller's Contribution

Christaller published regularly between 1933 and 1969. He produced at least fifty articles and chapters, four monographs, three review articles, twenty-four book reviews, several comments, six travel books, one textbook, two atlases, and seven unpublished manuscripts. Review of this material suggested five themes. Four are related, conceptual in nature, and deal with the development and application of theoretical approaches to the study of (1) central places (1933-1969), (2) administrative areas (1933-1939, 1945-1949), (3) regional planning (1940-1969), and (4) the tourist trade (1955-1969). The fifth theme includes travel

books, atlases, and a text book (1958-1969) and does not have a theoretical orientation.

Christaller is well known for his theory of central places and the body of research that it inspired (1993a, 1968, Berry and Pred, 1961, Barnum, Kasperson, Kiuchi, 1965, Beavon, 1977, King, 1984, Berry, et. al., 1988; Palomaki, 1992). Beyond the rich collection of studies related to his basic work, however, knowledge of his overall contribution to the study of settlement patterns has grown slowly. There are brief overviews of his life and work (e.g., 1968; K.H. Hottes and Schöller, 1968, Berry and Harris, 1970, Carol, 1970, Meyer, 1970, Binder-Johnson, 1978, Wirth, 1982, K. H. Hottes, R. Hottes, and Schöller, 1984, Preston, 1993), and R. Hottes (1981/1982, 1983) has produced a valuable biographical sketch. Recent studies have clarified the structure of his original theory, his attempts to modify it, and his theory of administrative areas (Preston, 1985, 1991, 1992); there are at least three analyses of his approach to the location of the tourist trade (von Böventer, 1968, Butler, 1980, Preston, 2002), and path-breaking studies by Rössler (1982, 1987, 1988, 1989, 1990) and Smit (1983) clarify the political context and objectives of the offices where Christaller worked before and during the war. However, these sources provide only brief comments on the studies he undertook during World War II and do not consider their role in his cumulative scholarship.

for Greater Germany (Reichsraum) and for a new settlement pattern for the part of Poland annexed by Germany. This research contributed directly to plans facilitating German Lebensraum (search for living space) policy, on the one hand, and Himmler's RKFDV (Himmler, 1942a, 1942b, Koehl, 1957, Kamenetsky, 1961, Smit, 1983, 73-96, Freeman, 1987, Rössler, 1987, 1989, 1990), on the other.

## **Objectives of Christaller's Wartime Research**

The principal thrust of Christaller's war research was theoretical. His main task was to develop a theoretical foundation and plan for a hierarchical system of urban-centered administrative and planning regions that facilitated the centralized control of political and socioeconomic planning programs sought by the Nazis. In that context, he developed theoretical bases and regional settlement plans

## IDEAS FROM HIS PREWAR RESEARCH

Key ideas in Christaller's wartime studies appear in his dissertation, habilitation, and in his publications on administrative areas, rural population change, and regional planning.

### Ideas from his Dissertation

Christaller's (1933a) dissertation on central places focused on theory construction and verification. Its influence on his later projects cannot be overstated because it is where he established the interpretation of urban systems that guided his research throughout his life. Moreover, in a brief consideration of administrative geography and regional planning, he presented ideas that fed into his war research (1933a, 125-129).

He stated that there was no acceptable theoretical base for the division of Germany into new administrative or economic regions. He argued that efficiency in the organization of the national economy and strengthening the administrative structure of the state should be the goals of a new set of regions, and that they could be achieved by applying a theoretical framework based on his theory of central places. He suggested that a national system of administrative-planning regions should (1) be based on the principle of highest rationality in the location of settlements and functions, (2) consist of a nested hierarchy of urban-centered regions organized around system-forming (most important) central places and laid-out according to his threshold and nearest center locational controls, (3) have common administrative and planning boundaries, and, (4) that this approach should be complemented by theoretically based locational policies for agriculture and types of manufacturing falling outside the domain of his theory. [1]

He supported state sponsored political, economic, and social settlement planning, and

suggested that the state should reinforce efficiency-based settlement patterns by assigning administrative functions to appropriate hierarchical levels and by sponsoring: (1) urban-centered region based land and economic planning, (2) national revenue and tariff policies favourable to the emergence of particular central places, (3) national transportation route planning to reinforce an optimal settlement pattern, and (4) an annexation policy for integrating suburban communities into urban-centered administrative regions. Also pertinent to his war research, was his view that (1933a, 129, Baskin's translation, 1966, 126):

*"Naturally, in colonial or less developed regions, planning might extend to several further measures, because in these regions the systems of central places are still unstable and imperfect. Therefore, in these cases, the knowledge of the theoretical optimum in the distribution of central places is of the greatest practical importance."*

Finally, he argued that his theoretical approach was politically neutral because the efficient distribution of public and private goods was a goal shared by all political systems (1933a, 135-136).

### Ideas from his Research on Administrative Areas

Between 1933 and 1940, Christaller worked on a theory of administrative areas based on his theory of central places (Preston, 1992). Links between this research and his planning studies are clear. He believed that planning was an administrative function that was best organized hierarchically. He suggested that because consumers travel and look to dominant central places for higher order goods and services, such places and their regions should be designated as administrative centers and

units. He argued that administrative and planning regions should have the same boundaries, and that, wherever possible, should coincide with the market area of the dominant central place. He suggested that, overall, the spatial organization of administrative activities should consist of hierarchical systems of nested but undivided spatial units. He called those regions "Anthropo-geographical" units and "Zwecklandschaften" (applied regions), the formation, internal organization, and territorial extent of which reflected the economic and political behaviour and goals of both regional inhabitants and the national government. He also suggested naming administrative units after their key central places to enhance territorial identity. Finally, he argued that frequent contact between population and officials was fundamental in a strong administrative system, and that the basic building block should be as small as possible. He (1933b) suggested an area of approximately 400 square kilometres and a population of approximately 27,000 (24,000 in the complementary region and 3,000 in the central place) as the smallest viable administrative unit.

Christaller argued that application of his theory of administrative areas would result in the efficient provision of public goods (administrative, institutional, cultural, etc.). To achieve these goals, however, he concluded that hierarchical systems of administrative centers and regions should not be laid-out according to his original administrative principle alone, but according to a combination of his administrative and marketing principles. In his pre-war research he was unable to produce a mixed marketing-administrative model of central place organization that met the undivided complementary area requirement of his administrative principle. This breakthrough came in 1940, facilitated his war research, application of his theory of administrative areas after the war, and post-war descriptions of his theory of central places.

## Regional Planning and Geography

Christaller believed that regional planning was a natural extension of geography and that geographers should be in the forefront in its development (1938a). He argued that this was the case because much of regional planning was applied geography. He (1938b, 1940a, 1941b) also argued that a normative perspective was vital in both regional planning and human geography and that both fields should rest on theoretical frameworks comprised of principles (laws) of spatial organization [2]. Christaller suggested that his theoretical work on central places and administrative areas could contribute to the development of theory in both fields. His position was based on an awareness of key studies on the theory of settlement patterns and settlement planning (1933a, 1938c). This background was demonstrated in "Spatial Theory and Spatial Patterns" (1941a), in which he recognized, among others, the contribution of August Lösch to spatial theory and planning and compared aspects of Lösch's theory with his own theory of central places. It is notable that Lösch's (1954, 344-359) ideas on regional planning in general and on settlement planning in lightly settled agricultural areas, in particular, are strikingly similar to Christaller's. In a more general vein, Christaller (1938c) argued, that, if geography was to develop along with the other social and physical sciences, it had to be more theoretical and interdisciplinary in its approach, address a broader range of problems, and, at the same time, be more applied; i.e., to demonstrate its theoretical and empirical value by contributing research on practical problems.

## Ideas from his Habilitation

Christaller's habilitation dealt with rural settlement types and their relation to community organization. It contributed to his war research in two ways. First, he (1937a, 179-181) attempted to conceptualize and illustrate an ideal rural settlement unit. He recognized



that agriculture was changing rapidly in terms of both production and specialization with the result that the traditional German farming community based on the nucleated village was dying out and being replaced by individual farms without the binding community ties of the traditional village. He argued, however, that the coming of the Third Reich provided an opportunity to reorganize rural settlements based on a system of strong central places and a reinvigorated concept of community. His ideal rural settlement unit consisted of individual farms, organized in rings around hamlet-village agricultural settlements, which, in turn, were organized in rings around the lowest order central places. He suggested that this settlement unit should comprise the basic community/ municipal unit of the nation. Second, he began to formulate a model of metropolitan structure (1937a, 124-126, 1937b). After considering the development of metropolitan regions, the role of emerging, specialized, suburban communities in that process, and several types of city-suburb interdependency, he suggested that, regardless of their function, suburbs should be linked administratively to the cities with which they were integrated by the largest flows of people and goods. The result was a concept of metropolitan structure consisting of a built-up urban core and belts of specialized suburbs, all functioning as a single administrative unit.

## Rural Decline and Regional Development

Christaller was interested in changing relations between urban and rural areas. He developed theoretical interpretations of the influence of rural population growth and decline on central place systems in his dissertation (1933a, 89-91 and 118-121), considered rural settlement reorganization in his habilitation, and examined relations between rural population decline and regional and rural planning in a paper at the I.G.U. (1938b). He suggested that rural population decline would transform

settlement patterns into systems comprised of fewer central places, that the smaller and weaker places would decline first, in some cases losing their central place status, and that the survivors would be the larger, economically more diversified places with relatively healthy central place functions.

Christaller also suggested that decline in the rural way of life diminished German society and called the flight from the land a cultural and psychological crisis. He argued that rural outmigration was not caused primarily by the pull of cities and industry with higher pay and cultural stimulation. Perhaps naively, given current understanding of rural decline, he suggested that deficiencies of rural life were largely to blame (1938b, 134, author's translation):

*"The social and cultural deficiencies, the long working hours, the hard physical work of the farmers, the excessive workload for the farmers wives, the lack of help, the meagre returns, and the difficulties in participating in cultural, religious, intellectual and social life create the push. ... The rural village is too small to meet the cultural and social expectations of its inhabitants."*

The Nazis also saw the decline of rural farm villages as a problem (1938b, 1942a). Moreover, they appeared to accept Christaller's explanation of the situation, and to see in his ideas a possible solution. It was a short step between Christaller's interpretation of rural decline and a theory of rural development. He argued for a reversal of rural to urban migration by enhancing the role of key central places in a new rural settlement pattern (1938a, 1938b). Building on ideas from his dissertation and habilitation, he called for a reorganization of agricultural settlements based on coordinated spatial policies for agriculture, industry and central places. The proposed result was an integration of rural settlement units in viable (stabilized, rejuvenated, or new) central place systems. In this environment farm families could participate in a fuller

community life and would be more satisfied with rural life.

He (1938b) argued that state directed rural industrialization was feasible and essential for rural development. He suggested that industrialization should accompany the reorganization of rural settlements and that factories and worker settlements should be located separate from, but nearby, key central places. He concluded that a combination of settlement reorganization and rural industrialization would help stabilize and stimulate rural areas by absorbing surplus farm labour, reducing outmigration, and providing markets for local agricultural products and natural resources.

### Pre-War Links with Regional Planning

In 1933, the Nazis placed the development of a coordinated plan for national and regional development in the forefront of their program (Dickinson, 1964, 539-541). The spatial reorganization project (die deutsche Raumordnung) began in 1935 with the first Reich Office for Spatial Planning (Reichsstelle für Raumordnung) (Rössler, 1989). This office was headed, albeit indirectly, by Hitler himself, and its tasks encompassed the centralized control of all planning and related research. By 1936, this work was spread over several research organizations and universities. Moreover, the Nazis sought a theoretical foundation for a new system of administrative-planning regions, and it appears that Christaller's theory of central places contributed substantially to the achievement of that goal (1941b, Meyer, 1970, Rössler, 1989, Smit, 1983, 73-96). While the Nazi overall planning objective was spatial efficiency in the organization of governance and the economy, their political objective was to simultaneously implement those functions and increase national consciousness by concentrating control in Berlin and administering social and economic planning programs through a centralized hierarchical system. The nature of Christaller's post-

dissertation research suggests that he was aware of those objectives, as well as other national planning goals like the incorporation of eastern regions into Germany, slowing rural to urban migration, and reorganization of the Reich's settlement pattern. While the extent to which he adopted the National Socialist German Workers Party's (NSDAP) philosophy is unknown, his party membership in 1940 (Berlin Documents Center, Christaller file) and subsequent actions suggest that he was at least prepared to work on a theoretical base for Nazi spatial planning. In this regard, Smit (1983, 74) and Hottes, Hottes and Schöller (1984, 13) suggest that Christaller considered his theories not only as a basis for further development of spatial theory but as bedrock for the implementation of plans.

While German geographers were slow to accept Christaller's theory of central places, it captured the attention of Nazi planners shortly after its appearance in 1933, and its use in regional planning was discussed over the next decade (Meyer, 1970, Rössler, 1989, 1990, Smit, 1983, 73-96, Herrigel, 1942, Culemann, 1942). Moreover, Christaller appeared to become more interested in the application of his ideas to NSDAP planning goals. This is suggested by: (1) a broadening of his research to include both administrative and regional planning after 1933 (1938a, 1938c, 1941a), (2) his participation in Nazi sponsored regional planning discussions; e.g., he participated in, and perhaps founded, a study group on central places whose purpose was to explore the usefulness of his ideas in the achievement of Nazi planning goals (BAK R113/14, R113/25, R113/325, Isenberg, 1940, Meyer, 1970, Rössler, 1987, 1989), (3) participation in research on Südbaden for the Reich Association for Area Research (Reichsarbeitsgemeinschaft für Raumforschung) (Rössler, 1983, 78), (4) his adoption of the Nazi version of the concept of community, "Volksgemeinschaft" (the German nation as one people), as a basic planning principle (1938c, Rössler, 1983, 81-83, 1989) and (5) his recognition of NSDAP national and regional planning goals in several publications.

## WARTIME RESEARCH

Between 1940 and 1944, Christaller did research for government agencies associated with the head office of "Planning and Soil" under Himmler's RKFDV (Rössler, 1987, 1989, Meyer, 1970, Koehl, 1957, 250-251). The chief of the planning section in the Staff Main Office was a well known regional planner and veteran Nazi, Konrad Meyer (also called Meyer-Hetling). Christaller (1938a) held Meyer in high esteem and considered him to be the "Father of Regional Planning" in Germany. According to Order No. 4237 issued by Himmler (Koehl, 1957, 253):

*"The task of the Staff Main Office comprises the whole planning of settlement and development in Germany and in the territories under German supremacy as well as the realization of that planning. It includes also the cultural and administrative planning and the propaganda for the idea of settlement. The Staff Main Office is thus in charge of all questions of allocation of German people for settlement in Germany and in territories under German supremacy including all questions of an administrative and economic character connected with settlement."*

Within that context, Christaller worked on projects that contributed directly to goals of Nazi Lebensraum policy and particularly to the key component "General Plan for the East" (General Plan Ost) (Meyer, 1970, Rössler, 1987, 1989, 1990, Kamenetsky, 1961, Lösch, 1954, 133, 350-352, Golachowski, 1969, Himmler, 1942a, 1942b, Der Reichskommissar für die Festigung deutschen Volkstums Stabshauptamt, Hauptabteilung: Planung und Boden, 1942).

While the totality of Christaller's research is unknown, it is suggested that he was involved in at least four projects: namely, development of (1) a hierarchical system of urban-centered administrative-planning regions for Germany and annexed parts of its occupied territories (Reichsraum) (Meyer, 1970, BAK R49/1025. fol.1, R49/976. fol.1, R113/45), (2)

a theoretical foundation for a detailed settlement system and rural development program for the section of western Poland annexed by Germany (BAK R113/45, 1940a, 1940b, 1941b), (3) population projections for administrative areas in pre-war Germany to determine which areas could be sources of population, along with people of Germanic origin scattered throughout occupied Eastern European territories, for settlement of the new German region in occupied Poland (BAK R49/976. fol.1, Freeman, 1987, 105), and (4) a proposal for the reorganization of the settlement pattern and administrative structure of Elsass (BAK R49/275. fol.1).

Christaller's activities are also suggested by his assignments. In a statement of the "War Research Program of the National Working Group for Spatial Research (Reichsarbeitsgemeinschaft für Raumforschung 1939/1940" (BAK R113/325), Christaller was one of seven researchers assigned the problem, "Which structure and organization should the central places and complementary regions in the East have in the future?" Therein, he was assigned to examine the organization of urban-centered culture and market regions in the German East, community building, administrative organization, development of central places of lower and higher order, and to prepare a report on the area of Poland between Thorn and Krakau. By 1944 (BAK R113/25), related but more specific issues confronted by Christaller's working group on central places included: (1) relations between city size and the composition of administrative regions, (2) the formation and functional structure of new towns, (3) special problems of urban-industrial development, (4) the determination and location of central place functions by hierarchical level, and (4) the nature of complementary areas of individual cities.

## A Theoretical Perspective on the Role of Settlements in Regional Planning

An overriding goal of Christaller's war research was to develop a theoretical foundation for a hierarchical system of urban-centered regions that organized the German settlement system from rural villages to national capital and that facilitated political leadership, administrative control, and comprehensive regional planning. In that context, he consistently advanced five arguments (1938b, 1940a, 1940b, 1941a, 1941b, 1944): (1) the development of settlement patterns at all scales should follow a basic plan, the objectives of which embodied the economic and political goals of the settlements; (2) such plans should rest on principles of highest rationality (efficiency) in the provision of public and private goods, principles that were derived from theoretical understanding of forces shaping settlement patterns; (3) planning and administrative regions should be based on urban-centered regions and have common boundaries, (4) real world conditions cause deviations from theoretical patterns and must be dealt with realistically; and (5), new settlement patterns based on the combined principles of settlement formation and administrative organization should produce an orderly, cell-like system of "Communities" covering the German Empire. He stated (1940b, 498, author's translation):

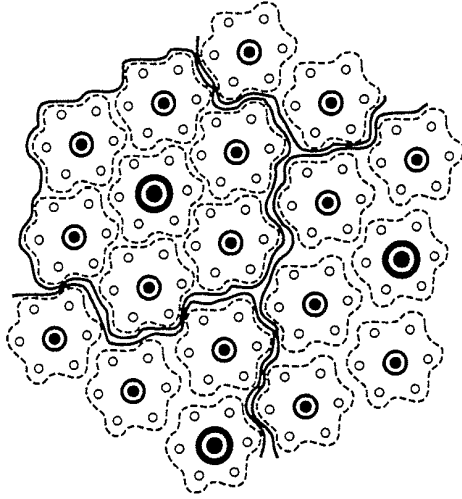
*"Every part of a nation has an organic relationship to the whole. An important task is the study of the laws of development of such a division. After we have established these laws and the politicians have been made aware of them, then we no longer need to let development go on blindly. Uncoordinated development will not result in a cell-like fabric for the state, but a comprehensive uniform plan will. Every action can be planned and systematically executed at the right point and at the right time."*

Accordingly, Christaller attempted to formulate a theoretical foundation for a national system of undivided urban-centered ad-

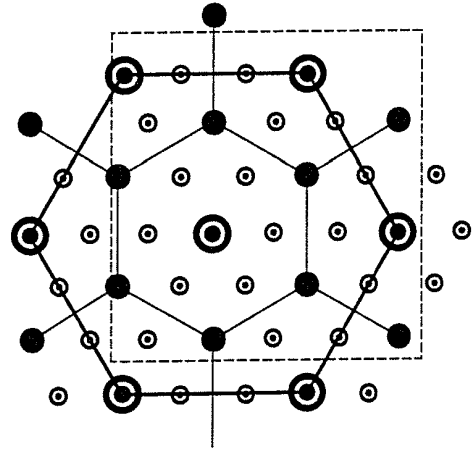
ministrative-planning regions based on an overriding efficiency criterion in the distribution of public and private goods. His approach was to build on his theories of central places and administrative areas and on his concept of an ideal rural community unit. He concluded, however, that none of his pure principles of central place organization (marketing, transportation, and administration) could, by themselves, provide an adequate basis for the new set of regions. He argued that an appropriate model should combine the advantages of his three pure principles. He sought, therefore, a mixed hierarchical model of central place organization. His goal in this case was to combine his marketing and administrative principles. This model was developed early in his regional planning research, presented first in an unpublished paper in 1940 (BAK R113/45), and published a year later in a restricted distribution document ("Nur für den Dienstgebrauch") (1941b, 1-13).

He introduced his new principle and geometrical model of central place organization in four parts or steps. First, he presented a schematic model illustrating a  $K=7$  settlement pattern that combined his administrative and marketing models, one that retained the hierarchical efficiency of the marketing model and the undivided complementary areas of the administrative model (Figure 1A). Next, he identified the section of a marketing model ( $K=3$ ) to be transformed into a mixed model (Figure 1B). Then, he developed a geometrical model that combined his administrative and marketing models (Figure 1C). This was achieved by suppressing urban development in the center of the triangles focussing on the second order centers in Figure 1B (shaded in Figure 1C). He suggested that this could be accomplished by regional planning measures. The result was a combined administrative-marketing central place system that provided both hierarchical efficiency and undivided complementary areas. Finally, he developed a theoretical traffic network that reinforced his mixed hierarchical

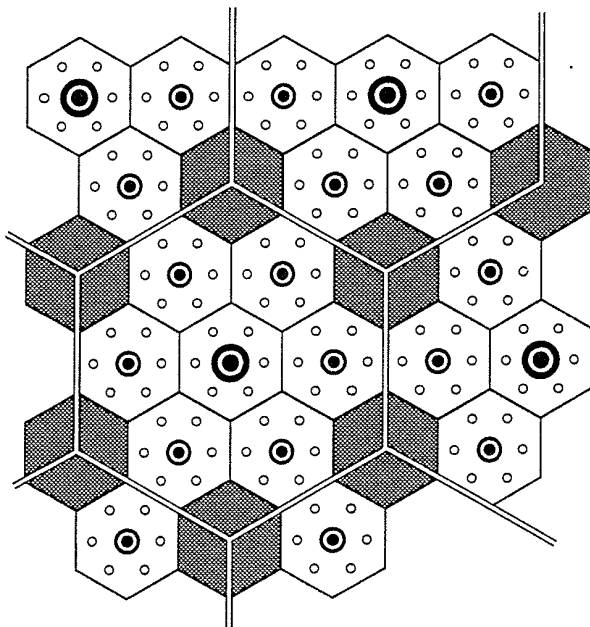




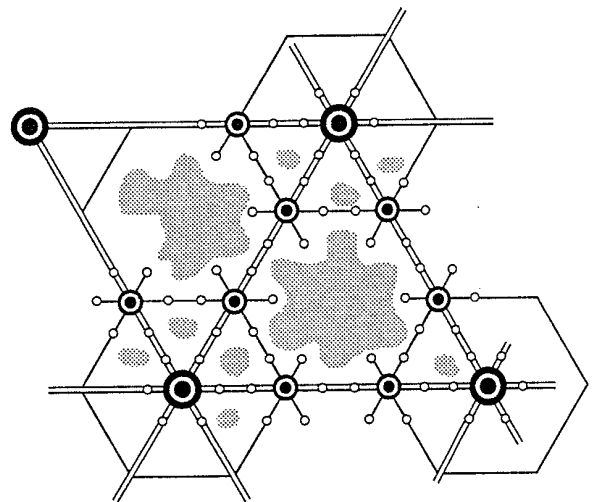
A: A Conceptual model combining the administration and marketing principles



B: The section of a marketing model to be modified



C: The Marketing and Administrative Principles Combined ( Suppressed Triangle Centers )



D: A Transportation Model Reinforcing the Mixed Hierarchy in Step 2

Source: Adapted from Christaller, 1941b

Figure 1: Christaller's system of central places based on a combination of his marketing and administrative principles (Source: Adapted from Christaller, 1941b)

settlement system (Figure 1D), one that ensured that the areas of suppressed development were not crossed by long-distance transportation routes. While this model was based on planning intervention and lacked the mathematical elegance of his original models, it, nevertheless, provided the foundation for the systems of administrative-planning regions in Christaller's wartime studies. Moreover, his new model expanded the domain of his original theory by adding a new (fourth) mixed hierarchical principle of central place organization, rendered his original theory more flexible, and helped bridge the gap between its abstract-normative perspective and real-world settlement patterns (Preston, 1985, 1991, 1992).

In the same publication (1941b, 14-22, foldout map), Christaller applied his new principle and model to a section of occupied Poland. He presented population and trade area estimates, descriptions and examples for each hierarchical level and illustrated his results on a map showing a planned settlement pattern.

### **A System of Urban-Centered Administrative-Planning Regions for Greater Germany**

Christaller's system of administrative-planning regions embraced all settlements from individual farms to the capital of the German Empire. His approach was based on his mixed hierarchy model and featured, at every level, a dominant center and trade area surrounded by a ring of approximately six uninterrupted trade areas focussing on centers of lower rank. His normative hierarchy consisted of six orders of central places supported by two levels of dependent non-central places and their complementary areas. This hierarchy was developed over three stages and represented a synthesis of several studies (Table 1).

In the first stage, he presented discrete hierarchical classes and an ideal settlement

pattern for each of the lower and middle orders (1940a). After experimentation with different hierarchical structures, (1940b, 1941b) the second stage embraced both the original discrete classes and developmental (transitional) classes within most hierarchical levels (fold-out map in 1941b). The developmental classes reflected his attempt to embrace more effectively in his theoretical approach both the complexities of the real world and the requirements of the planning process. In the third stage he (BAK R49/976 fol. 1, R49/1025 fol. 1) placed the hierarchical pattern developed in the first two stages in the context of the spatial structure of the three highest levels of his hierarchy. While the estimates of population size for particular hierarchical levels vary somewhat in the different sources, it is suggested that Christaller's perspective on the hierarchical dimension of regional planning is clear.

Christaller's work on this project was reported in a document of March 17, 1944 (BAK 113/25) that indicates he had developed a plan for central places and their complementary areas for each hierarchical level from main village to provincial capital, that this information was plotted on maps of 1:200,000, and that along with explanatory material the results covered 2,000 pages.

Before considering Christaller's approach further, several points are emphasized. First, his detailed research on hierarchical structure included neither the national capital, Berlin (Reichshauptstadt), nor key regional capitals like Munich, Frankfurt, and Hamburg (Reichsteilstädte). It began with the fourth level in his hierarchy, the smaller provincial regions and provincial capitals hierarchy, the smaller provincial regions and provincial capitals (Reichsgaue and Gauhauptstädte) (Table 1). In Germany the term "Gau" referred to a key administrative unit of the NSDAP, but in the context of the annexed eastern territories, Gau was the official term for the civil administrative region; e.g., Warthegau (Koehl, 1957, 243, Freeman, 1987, 193).

Central Place Order	Stages of Development		
	STAGE 1	STAGE 2	STAGE 3
Non-Central Place	Farm		
Non-Central Place	Neighborhood		
Non-Central Place	Village-Hamlet		
1	Group Village Main Village	Group Village Main Village Elevated Main Village	
2	Large Administrative Settlement Administrative Center	Administrative District Administrative Center Elevated Administrative Center	
3	Large County County Town/Main City	County Region Main County Town Elevated Main County Town	
4	Small Province Provincial Capital	Provincial Region Provincial Capital	Urban Centered Region Provincial Capital
5			Major Region Regional Capital
6			German Empire National Capital

Sources: Stage 1, Christaller, 1940a; Stage 2, Christaller, 1940b, 1941b; Stage 3, BAK R49/476 Fol. 7.

Table 1: Evolution and structure of Christaller's planning hierarchy (Sources: Stage 1, Christaller, 1940a; Stage 2, Christaller, 1940b, 1941b; Stage 3, BAK R49/476 Fol.7.)

Second, following the argument in his dissertation (1933a, 26-27) that not all settlements are automatically central places (i.e., settlements can be central places, auxiliary central places, or deficit or non-central places depending on the magnitude of their centrality), the "Main-Village" (Hauptdorf) was designated both as the smallest full-fledged central place and as the key settlement in his approach to regional and rural development planning (Table 1). Accordingly, the three lowest levels of his theoretical settlement system: farms (Hufe), neighbourhoods (Nachbarschaften) and hamlet-villages (Dorfweiler), and specialized rural industrial settlements were classed as dependent, auxiliary or deficit (non-central) places. This perspective on settlement function and interdependence demonstrated the significance of his original concept of centrality in his theoretical approach to planning.

Christaller appeared to be enthusiastic about his theoretical model (1940a, 306, author's translation):

*"This is a diversified, hierarchical building of communities; each is a part of a higher community and each has its own leading*

*community. We only have to determine in space this political-cultural system of communities, from farm to village to Gau to Empire with all of it's in between steps, then we will have the basis of the settlement and administrative hierarchy of our time. The leadership of the communities will be expressed spatially by the core settlement serving as the center of a group of settlements."*

To facilitate application of his framework on a consistent basis across the range of settlement size, Christaller developed descriptions based on several factors to support and exemplify his suggestions for the size, spacing, and character of each hierarchical order (Table 2). He also continued to emphasize industrialization as a key component of his rural settlement reorganization scheme (1938b, 1940a). He argued that all system-forming central places should be located at key points on transportation networks, and, not surprisingly, given the inclusion of resource-based and market oriented industries in the domain of his original theory of central places, that those centers afforded suitable locations for industry. He also argued that with careful planning, some smaller central places could also be viable locations for industry, particularly those

processing agricultural products (e.g., sugar refineries, distilleries, starch factories, slaughter houses, bakeries, dairy products, and canneries) and other market oriented products (e.g., brick yards and small sawmills). He argued further that industrial settlements should include housing for workers and be located a short distance from companion central places.

The concept of community used by Christaller in his earlier administrative and regional planning studies evolved from a vague functional-municipal governance based idea to one based on the Nazi concept of "Volksgemeinschaft". Volksgemeinschaft emphasized the strengthening of German nationalistic feeling within territorial planning units by idealizing comradeship, "swallowing up" of the individual in the party movement and self sacrifice (1937b, 1938c, 1940b, 1941a, Rössler, 1983, 81-83, 1989, 1990, Koehl, 1957, 1-33). This emphasis was reflected in his mixed hierarchical planning model, the intent of which was to facilitate political-administrative control through an efficient hierarchical structure and uninterrupted complementary areas.

## A Model Administrative-Planning Hierarchy

Christaller's theoretical settlement system is discussed next, beginning with the smallest units. The values used to describe the non-central places and the first four central place orders are estimates presented in "Basic Principles for Settlement and Administrative

Structure in the East" (1940a). His approach was to describe the functional composition of each order and to illustrate it by maps of either an ideal layout or a real world situation (1940a, 1940b) (Figure 2). The normative hierarchy's evolution is reflected in the changing titles and population sizes used to describe particular orders in Table 1 and Figures 2, 3, 4 and 5.

### Farm and Neighborhood (Hufen and Nachbarschaft).

Christaller's system of planning regions rested on a foundation of farms and rural neighbourhoods (Table 1). Each farm represented the community of one family, labourers, and agricultural specialists, and averaged thirty hectares in sizes. He argued that the farm unit should not be so large that it would compromise the family unit, but, at the same time, should be large enough to be economically viable.

Farms were combined into neighbourhoods of thirty-six inhabitants, each of which consisted of a nucleated rural settlement consisting of three farms together with the houses of specialists, for example, in animal husbandry, cultivation, and machine repair. Neighbourhoods could also consist of a single large farm (Grosshof) which was about three times as large as a normal farm. Neighbourhoods were the smallest "Block" in NSDAP organization.

### Hamlet-Village (Dorfweiler).

Neighbourhoods were organized into non-central places settlements, or hamlet-villages, and were the basic rural settlement unit (Table 1). A hamlet-village consisted of six

Number and spatial organization of areal subdivisions Population size of settlements and trade areas Surface area of trade areas Transportation system Elements of "Community" Economic Base (functional structure) Legal organization
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Source: Christaller, 1940a.

Table 2: Factors considered for each hierarchical level (Source: Christaller, 1940a)



neighbourhoods (of three farms each), one large farm (forming a neighbourhood by itself), and a central hamlet-village with a school, tavern, and a few other non-agricultural functions plus basic agricultural services including storage and maintenance of communal machinery (inset, Figure 2B). The hamlet-village population threshold was the number of families necessary to support a one room school. In the NSDAP administrative system, neighbourhood based party blocks were organized into hamlet-village based party "Cells". Central hamlet-villages were 2km apart and had including their complementary areas populations of 275 people, 250 in agriculture and 25 providing non-agricultural services. The population of the central hamlet-village itself was 60 (Figure 2).

#### **Central Place Order 1: Group Village (Gruppendorf).**

Group villages consisted of a ring of six hamlet-villages organized around a main-village (Hauptdorf). Main-villages represented the first level of true central places in Christaller's scheme (1944) (Table 1, Figures 2 and 3). While he believed that all hamlet-village settlement units should be subordinated directly to an urban center, he argued that the change from urban to rural should not be too abrupt, and suggested that an intermediate settlement, the main-village, could ease the transition, anchor and coordinate the changing rural settlement pattern, and serve as the key centers in rural development. He (1940a, 308) argued that this critical level in his hierarchy should be the leading settlement in "the organic structure of rural life."; i.e., the group-village with the main-village as its leading organism. Each main-village occupied a favourable location on the transport net, provided key cultural, administrative-political, and economic functions for itself, a dependent ring of hamlet-villages, and their rings of dependent neighbourhoods. Some main-villages also supported industries. However, these industrial settlements were located a short distance from the main-villages and

included housing and basic functions for workers. Main-villages were 7km apart, dominated 55 sq.km complementary areas, and had populations of 2,500, of which 600 were in the main-village. Christaller suggested that 2,500 was the ideal size for a "Local Group" within the NSDAP.

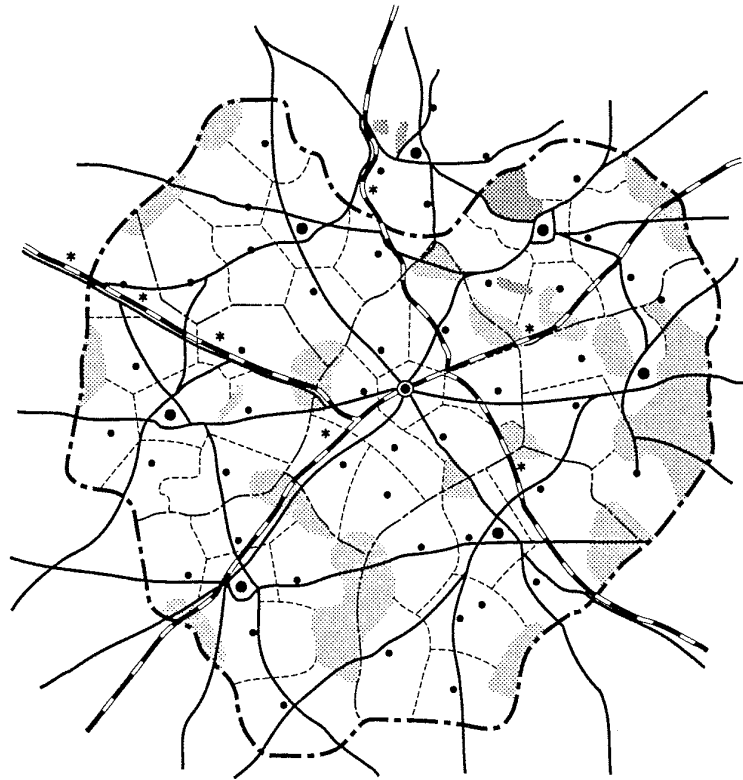
#### **Central Place Order 2: Large Administrative Settlement (Grossämter).**

The large administrative settlement was the smallest key administrative unit in Christaller's theoretical hierarchy. Each large administrative settlement consisted of six group-villages forming a ring around one large administrative center (Amtssitz) (Figure 3). This class of settlement had 22,500 inhabitants, of which 3000 lived in the administrative center. Region serving functions included a hospital, high school, cultural center, and specialized shops. Administrative centers were 21km apart, dominated regions of 400sq.km, had companion industrial settlements, and were located at important junctions on the transportation net. In terms of both population and area, this unit corresponds closely to the ideal administrative unit suggested by Christaller in 1933 (1933b).

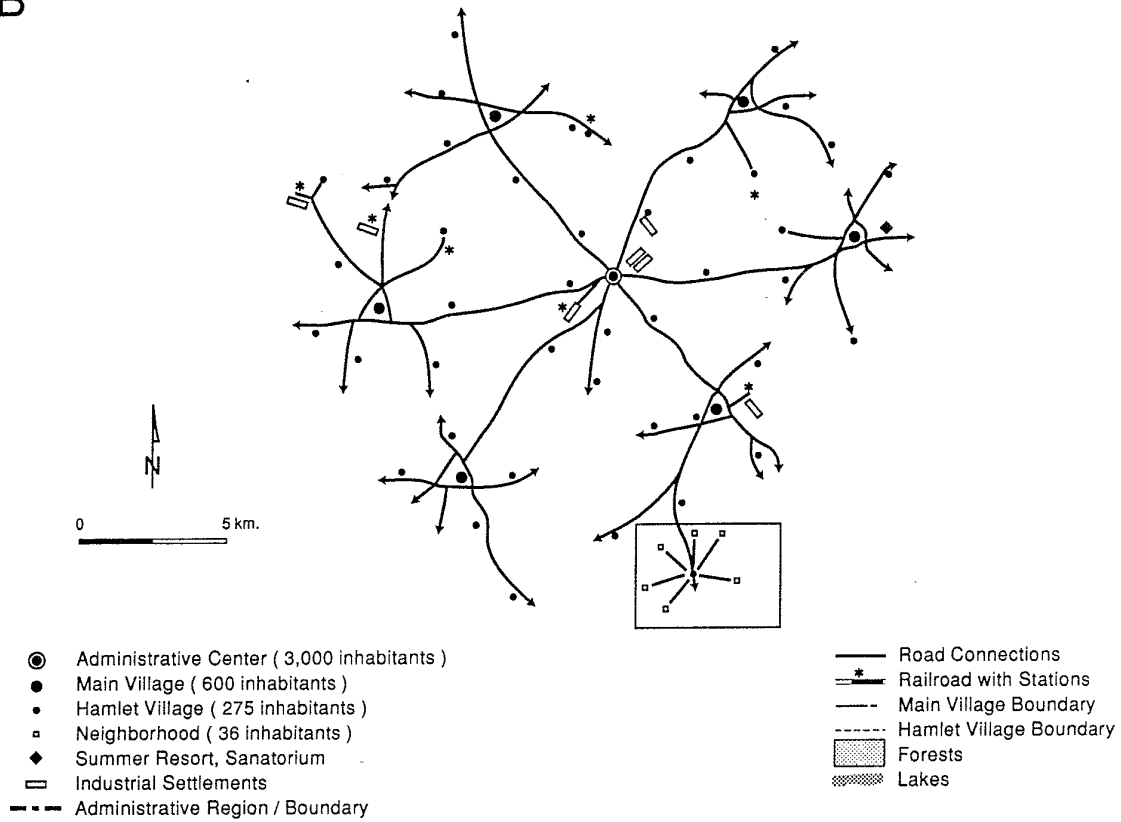
Large administrative centers were critical organizational links between the higher order "Main Cities" or "County Towns" (Kreisstädte) of large counties and the lower order main-village dominated group-villages. Christaller called the large administrative settlements "Heimat-Gemeinschaften", or home communities, and he argued that concentrating administrative activities at this level would bring government close to the people.

He emphasized that there was no territorial unit in the NSDAP organization that matched the large administrative settlement, and he argued that this situation was inefficient because there was no intermediate level to break the large step in party organization between county towns and local party units in the main-villages.

A



B



Source: Adapted from Christaller, 1940a

Note: The inset shows the Neighborhood Component of the Theoretical Model.

Figure 2: An example of (A) the settlement pattern, main transportation routes and complementary areas of a Large Administrative Area (Gosslershausen), and (B) the theoretical connections within its hierarchical system (Source: Adapted from Christaller, 1940a)

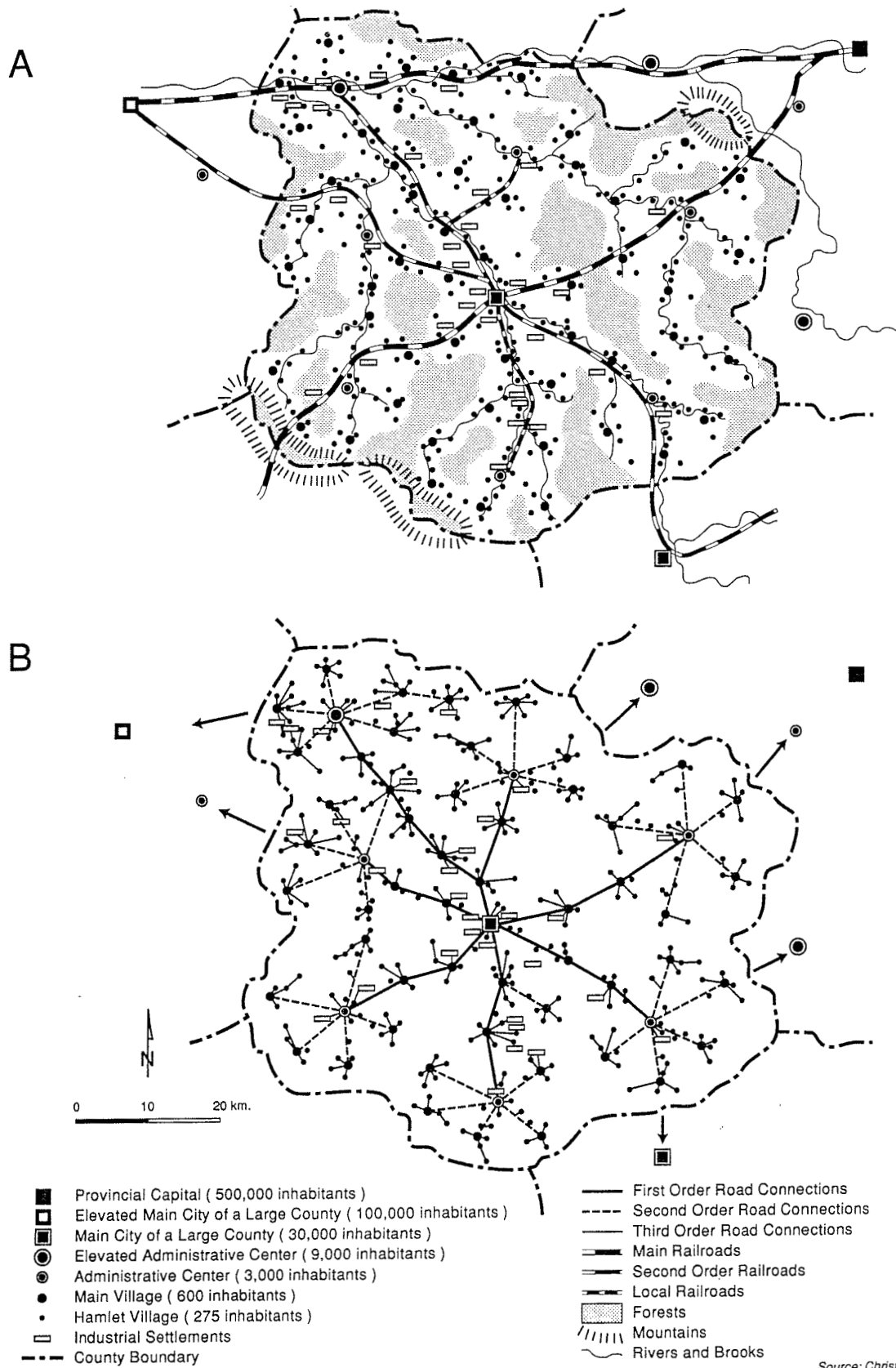


Figure 3: An example of (A) the settlement pattern, main transportation routes and water courses, mountains, and forests of a Large County, and (B) of the theoretical connections within its proposed hierarchical system (Source: Christaller, 1940a)

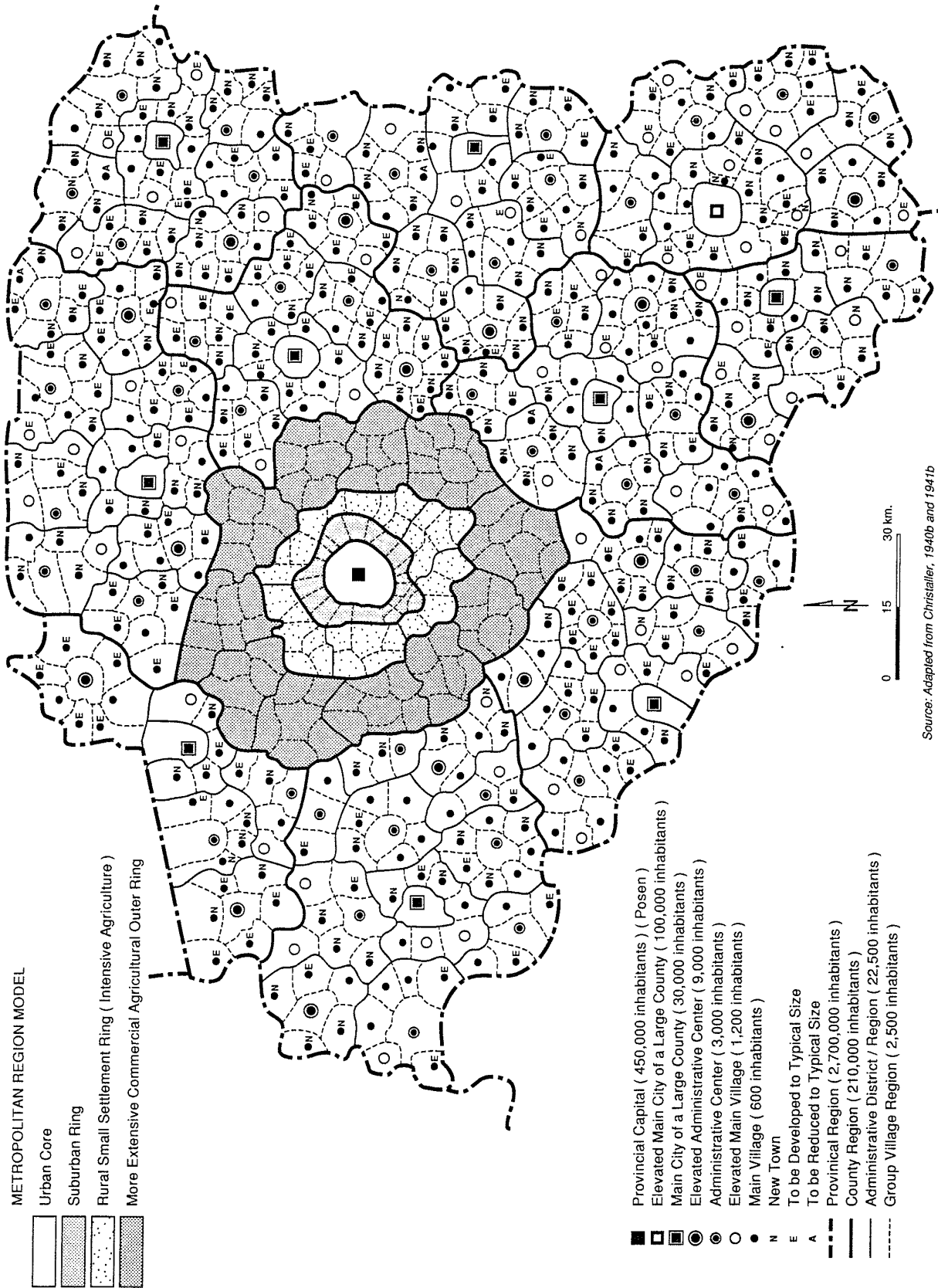


Figure 4: A section of Christaller's map of the "Central Places of the Eastern Region and their Cultural and Market Areas" showing his hierarchical planning scheme for the Posen (Poznan) region and his "Metropolitan Region" model (Source: Adapted from Christaller, 1940b and 1941b)



### **Central Place Order 3: Large County (Grosskreis).**

The large county embraced 3,200 sq.km, had a population of 210,000, and focussed on the main city or county town (Kreisstadt). The settlement unit consisted of a ring of six large administrative settlements organized around one main city/county town with a population of 30,000 (Figures 3 and 4). Main cities occupied critical locations on regional transportation systems, were located 62 km apart, were important links in NSDAP organisation, provided cultural, political, administrative, and economic activities appropriate for city status, and were linked to nearby industrial settlements.

### **Central Place Order 4: Small Province (Reichsgau).**

Small provinces covered 32,400 sq.km and had populations of 2,700,000. They consisted of rings of large counties organized around provincial capitals (Gauhauptstädte) that were 185 km apart and had populations between 450,000 and 500,000 (Table 1, Figures 4 and 5).

These large cities supported the full range of urban and industrial functions typical of places of their size. Because of their large territorial extent, and especially in situations where natural features were diverse, some large counties often fell outside the inner circle of six located closest to the provincial capitals. Thus, a small province could contain from six to twelve large counties. Moreover, by 1944, Christaller appears to have divided the large county class into two groups, the "Large County" (Grosskreis) and "District" (Bezirk) (Figure 5) (BAK R49/976, Fol. 7).

### **Central Place Order 5: Major Urban Regions (Gaugruppen).**

At this level, both the Altreich (Germany in 1937) and the German Empire (Reichsraum) were divided into major urban regions. Each major region had a population between 10,000,000 and 12,000,000 and focused on a regional capital (Reichsteilstadt) with between 500,000

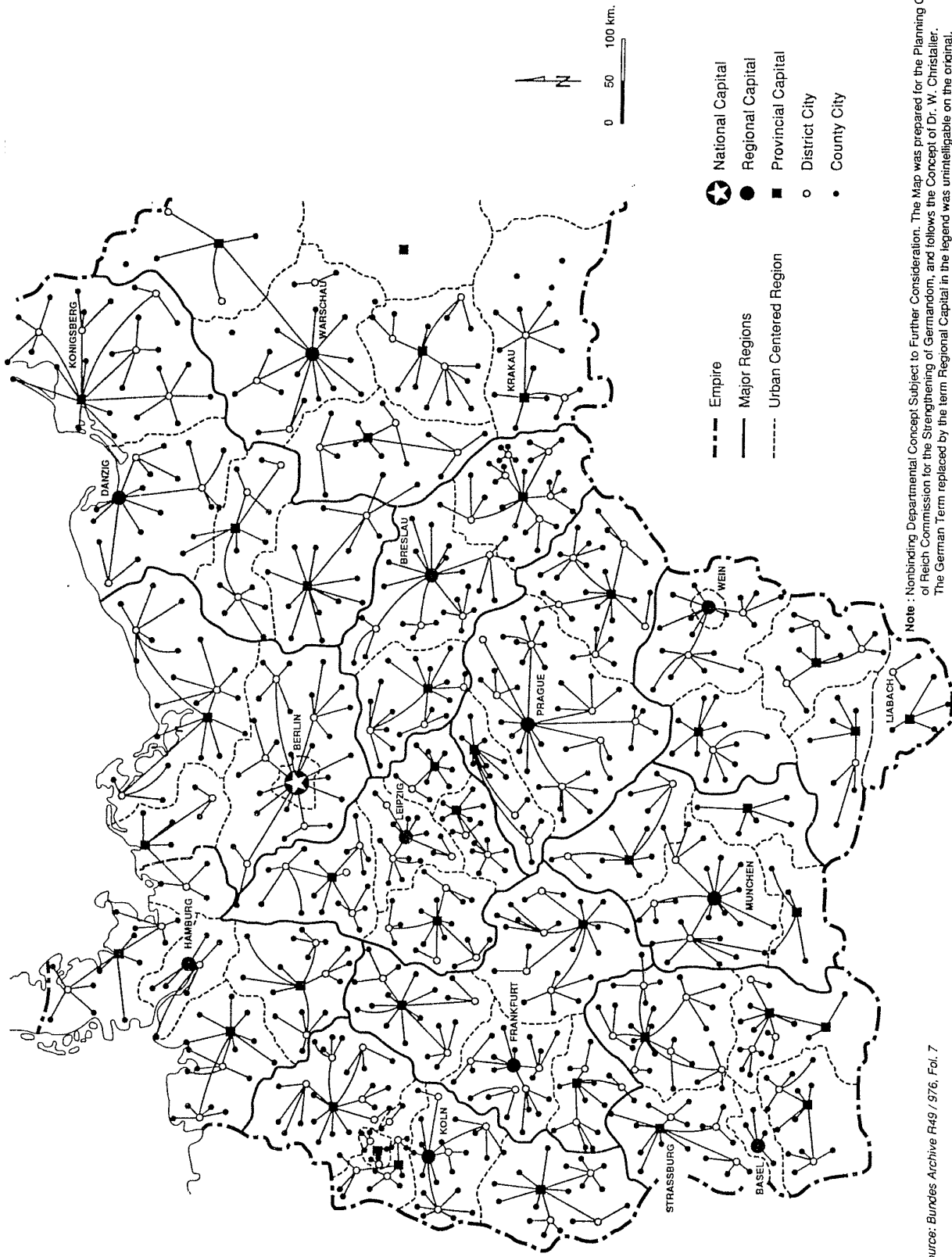
and 1,000,000 inhabitants (1941 b). Regional capitals included Frankfurt, Munich, Cologne, Leipzig, Breslau, and Hamburg.

Christaller's concept of the Empire's system of urban-centered administrative-planning regions is shown by Figure 5, which identifies both boundaries for the three top hierarchical orders: Empire, major urban regions, and the main urban-centered regions/small province, and the links between the provincial capitals (Gauhauptstädte), dependent district cities (Bezirksstädte) and main city/county towns (Kreisstädte). The map also shows the intended integration of urban regional systems embracing most of Poland, Czechoslovakia, Austria, Switzerland and parts of Yugoslavia and France into the centralized hierarchical structure of the German Empire. Added to the list of regional capitals were Danzig, Warsaw, Prague, Vienna, and Basel.

### **Central Place Order 6: Empire (Reichsraum).**

The German Empire's hierarchy of administrative-planning regions was dominated by Berlin (Reichshauptstadt). Figure 5 is dated February, 1944, and it is notable that the eastern boundary of the Empire is not included. Why this is so, is not known. However, it suggests, even at this late date in the war, the uncertain future of the rump of the Polish state (General Government), annexation of the District Bialystok next to East Prussia, and German plans for Russia east of the Urals (Freeman, 1987, 158-163).

Text accompanying Figure 5 deals mainly with administrative reorganization and population projections for administrative units in the Altreich. The report identifies areas that might provide settlers for the new eastern regions, and establishes links between the demographic analysis and both the hierarchical system shown in Figure 5 and Christaller's administrative center (Amtsitz) and main-village (Hauptdorf) based planning hierarchy (BAK R49/976 fol. 1, R49/1025 fol. 1).



Note : Nonbinding Departmental Concept Subject to Further Consideration. The Map was prepared for the Planning Office of Reich Commission for the Strengthening of Germanhood, and follows the Concept of Dr. W. Christaller. The German Term replaced by the term Regional Capital in the legend was unintelligible on the original.

Source: Bundes Archive R49 / 976, Fol. 7

Figure 5: A limited distribution proposal (Nur für den Dienstgebrauch!) for a New Administrative Regionalization of the German Realm, February, 1944 (Source: Bundes Archive R49/976, Fol.7)

## A Model of Metropolitan Areas

Christaller (1940b, 1941a, 1941b, foldout map) argued that large cities dominated their surrounding areas in a special way, and that this situation should be taken into account by regional plans. He suggested that complementary regions of metropolitan areas were relatively larger than those of smaller cities, and that over time they would develop regular rings with different population densities and economic structures. Accordingly, as part of this framework for regional planning, he developed a concentric zone model for metropolitan areas. His model was an integral part of his overall map of administrative and planning regions for Poland (Figure 4). The first ring embraced the non-residential city core. The second ring consisted of residential suburbs dependent on the core for their livelihood and connected with it by daily commuting. This ring also contained recreational and industrial areas. The third ring was dominated by agriculture providing the city with market garden, horticultural and other intensive speciality crops. The fourth ring also provided the city with agricultural and other nature based products, but land utilization was more extensive. Finally, Christaller argued that rings and their communities should be linked administratively to the core with which they had the greatest flows of people and goods. This model was built on his earlier research (1937a, 1937b) on the emergence of metropolitan regions, the role of suburban communities in that process, and on administrative regions.

## A Plan for Western Poland

Christaller applied his theory of regional and rural development planning to western Poland in the context of a German plan that called for the total reorganization of the settlement system in that region (Himmler, 1942a, 1942b, *Der Reichskommissar für die Festigung deutschen Volkstums Stabshauptamt, Hauptab-*

*teilung: Planung und Boden*, 1942, Koehl 1957, Kamenetzky, 1961). He (1940b, author's translation) stated:

*"Because of the destruction of the Polish state and the integration of its western parts into the German Empire, everything is again fluid. We cannot reinstate the old Prussian units at the moment. We have to create totally new units planned on the basis of knowledge of spatial laws, with the goal being to create viable German spatial communities in the East. ....This is especially the case for the complementary cultural and market regions of central places of every rank, but mainly for the smallest units (main-villages or Hauptdörfer). ... Our task will be to create in a short time all the spatial units, large and small, that normally develop slowly by themselves (often with unwanted results), so that they will be functioning as vital parts of the German Empire as soon as possible."*

Christaller (1940b, 500, author's translation) suggested that "careful planning and development of the main-village (Hauptdörfer) in the new settlement areas in the East is urgent in order to give the settlers roots so they can really feel at home". Finally, he stated (1942a, 155, author's translation) "this structure will be imposed consciously and planned in the new eastern regions, as we can see in the guidelines from Reichsführer SS and the Reich Commission for the Strengthening of Germanism".

Christaller (1940b, 1941b, foldout map) demonstrated his regional planning model on a map of a north-south belt of western Poland embracing the area between Krakow on the east, Breslau in the southwest, Frankfurt on Oder on the west, and the Baltic Sea on the north (3). The settlement plan followed his mixed central place hierarchy principal. The administrative-marketing regions, their hierarchical structure, and planned adjustments are illustrated by the section of his map for the Posen (Poznan) region (Figure 4).

To accommodate the existing settlement pattern and to produce the system of planned

centers and regions called for by his theory, Christaller introduced developmental (transitional) classes within most of the original hierarchical levels (Table 1, Figure 4). These classes reflected changes needed to adjust the population sizes of existing and new communities to fit the theoretical pattern. He identified "elevated" (gehobene) main-villages, administrative centers, and main city/county towns, along with their suggested population sizes, into the group-village, large administrative area, and large county orders of his theoretical hierarchy. Virtually every main village location on the map is designated as needing either (1) a new community, (2) elevation to typical population size, or (3) suppression to typical population size. Christaller (1940a, 1941a, 1941b) rationalized this situation by arguing that a combined lack of planning and local conditions had produced a settlement pattern that needed widespread revision to create the system of administrative-planning regions sought by the Nazis.

## Theory of Rural Development

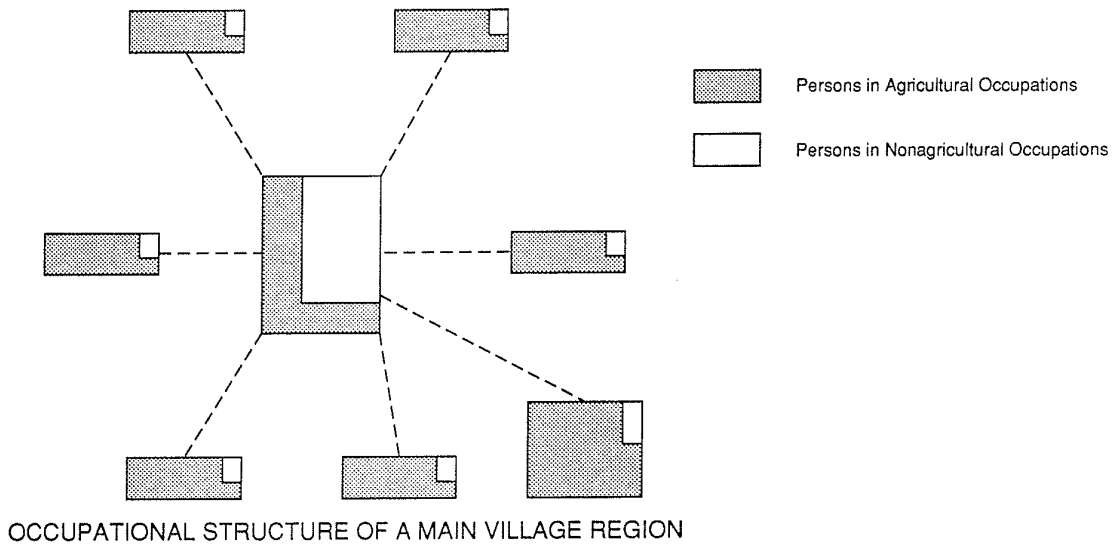
Nazi planners believed that a strong rural sector was vital for a healthy national society and that continued rural outmigration was a serious problem. Christaller accepted that numerous smaller agricultural villages were either in the decline or dying out and that this situation would likely continue. To counter this trend, he created a theory of rural development based on his earlier work (1938b, 1940a, 1940b, 1941a, 1941b, 1942a). He argued that improvement of rural community health depended on settlement system reorganization, concentration of rural employment and services in a limited number of central places, rural industrialization, and reduced rural outmigration. He suggested that these ends could be achieved by implementing a rural development scheme throughout the German Reich.

Christaller (1942b, 1942c, BAK 113/1171) argued that the main-village (population 600),

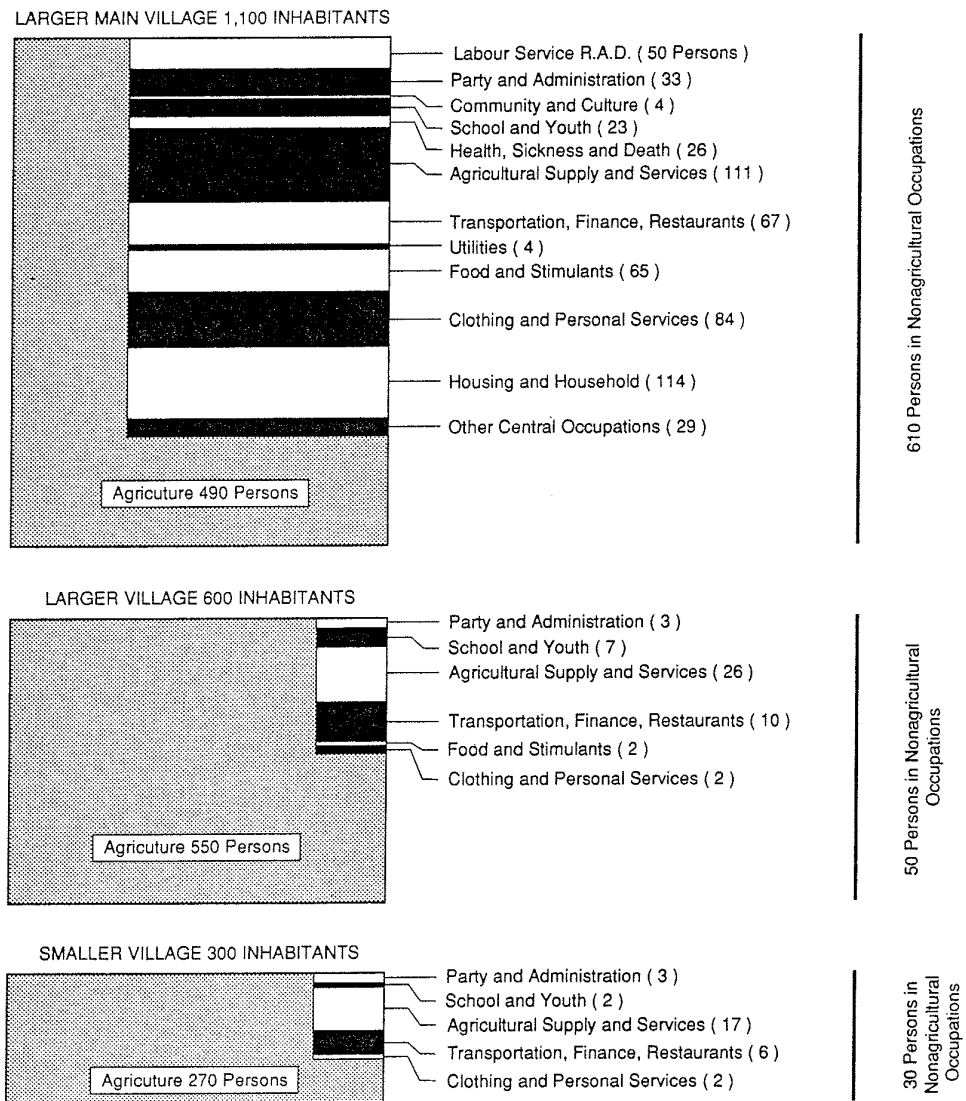
anchoring a group village of 2,500 inhabitants, should be the focus of rural development planning. He suggested that planned combinations of agricultural, central place, and industrial settlements could result in a new and viable rural settlement pattern, one in which the three functional types were locationally separate but functionally interdependent. Accordingly, he elaborated his earlier (1937a, 1940a) group-village model. In each rural settlement unit, a functionally robust main-village would be the focus of a ring of approximately six dependent hamlet-villages and their rings of dependent neighbourhoods and farms. Village level central place functions would be concentrated in the main-villages and create a new class of business people who would also be consumers. Farmers from throughout the rural settlement unit could meet their goods needs in one trip to a main-village. Some villages would also be suitable locations for industry. As a result of such functional concentration, group-village thresholds would rise to a point where functions offered previously only at higher level central places would now be viable in main-villages.

Christaller illustrated his rural planning concept for the East in detail. He developed a spatial and occupational model of a group-village region (Figure 6). It included (1) population and agricultural and non-agricultural employment estimates for each component of a group-village, (2) four orders of central goods and services, and (3) a thirteen class occupational structure complete with employment estimates for each major class and their subdivisions. Spatial units for which estimates were made were: hamlet-village, main-village, elevated main-village (gehobenes Hauptdorf), and main city/county town (Kreisstadt). To enrich the population estimates, he calculated ratios of dependents to employees for each settlement type. Finally, he emphasized rural industrialization, especially in and around main city/county towns, and organization of the NSDAP.





OCCUPATIONAL STRUCTURE OF A MAIN VILLAGE REGION



Source: Christaller, 1942b

Figure 6: Occupational Structure of an ideal type Main Village (Hauptdorf) Region (Source: Christaller, 1942b)

## LINKS WITH CHRISTALLER'S THEORY OF CENTRAL PLACES AND WITH HIS SUBSEQUENT RESEARCH

Although Christaller's war-time studies are not referenced in his post-war research, ideas that he introduced or refined during the war can be identified. In partial restatements of his theory (1950a, 1950b, 1962), he emphasized the need for economic efficiency and for correspondence with patterns of functional integration in the layout of administrative areas and planning regions, and he combined his three pure principles under his mixed hierarchy concept. This rendered his original theory more flexible and dynamic, and brought it closer to the mixed-hierarchical settlement patterns of the real world. However, he did not argue explicitly, as he did in his key war-time study (1941b), that a "Mixed Central Place Hierarchy" principle should stand as fourth principle in his theory. Nevertheless, it is suggested that this idea represented his most important extension of his original theory and that it is implicit in post-war descriptions of his theory.

Christaller's war research also appears to have led to a change in definition and measurement of his concept of central place importance, or centrality. He (1933a) originally defined centrality as the difference between the total importance of a settlement as a trade center (nodality) and the portion of that trade consumed by its residents (local consumption). His theoretical centrality model was expressed simply as centrality equals nodality minus local consumption. The logic of this model was reflected in his surplus telephone model of central place importance used in his study of Southern Germany. In his wartime research, however, he measured central place importance and determined central place hierarchical level not by centrality, but by a check-list of central place and other settlement functions, or nodality. It is possible that his adoption of functional counts as the measure of central place importance was a concession

to Geisler, Bulow and others who attacked Christaller's approach to regional planning as "too abstract" (Isenberg, 1940, Rössler, 1989).

In any case, after the war, Christaller (1950b) laid out a functional catalogue for determining the importance of settlements as central places. It is suggested that the lists of central place functions used by Christaller during the war to show central place importance contributed to his 1950 article and to the widespread post-war determination of central place importance on the basis of lists of functions rather than on centrality as originally defined (e.g., Dickinson, 1947, Kluczka, 1970, Heinritz, 1979).

Christaller also returned to his research on administrative geography after the war (Preston, 1992). He produced a new set of administrative regions for East and West Germany in the form of three manuscript maps (1949, Christaller family papers). It is suggested that his war research on administrative regions of the German Realm contributed to that project.

## CONCLUSIONS

The extent to which Christaller's wartime projects were covered in this study is unknown, and if new information comes to light its substance and conclusions may need revision. Nevertheless, conclusions can be drawn from the material reviewed. First, the need for a theoretical foundation for overall spatial planning and rural development by planners in the Third Reich, the perceived suitability of Christaller's original theory to serve as part of that foundation, his ability to revise his theory to meet Nazi planning goals, and his application of his ideas to situations that furthered German Lebensraum policy, the policies of the RKFDV and of the General Plan for the East, all appear to be factors influencing Christaller's war research.

Second, Christaller's research was linked directly to Nazi plans for the Reichsraum and demonstrated his interest in the application of his theories. His mixed hierarchy was a guiding principle for the Nazi's new national system of administrative-planning regions and for new settlement and rural development schemes for at least part of Poland. It also appears that his activities and theoretical schemes were representative of the times in Germany in the sense that they reflect an accommodative perspective on the relationship between research and ideology that was held widely by government officials and cooperating researchers (Rössler, 1987, 1988, 1989, 1990).

Third, none of Christaller's plans were implemented. His concept of the spatial structure of the Reichsraum became academic with Germany's defeat. His blueprint for rural development planning may have failed because of a flawed understanding of the reasons for rural decline, and, in any case, it would likely have crumbled before the forces concentrating people in metropolitan areas. Moreover, in his plan for western Poland, the gaps between the settlement size distributions

called for by the plan and the existing distributions may have been so great that application would have been impracticable.

Fourth, it appears that during the war, Christaller worked where he was most comfortable, in the world of the abstract. He developed theoretical settlement systems and development plans, described them with maps and tables, and summarized much of his work in unpublished reports and publications in collaborating journals. Moreover, his war research followed a sequence of problem identification, theory construction, and application to practical problems that reflected both his career-long support for strong links between theory and practice and his interdisciplinary perspective on the study of settlement patterns.

Fifth, he built the conceptual and theoretical frameworks used in his war research on his earlier theories of central places, administrative regions, and rural settlement change. He used those ideas to confront basic problems in planning and human geography, and he offered innovative solutions including (1) generalization of his original theory by the addition of a mixed hierarchical principle, (2) development of normative systems of urban-centered administrative-planning regions both for the Reichsraum and in more detail for western Poland, (3) development of a model of metropolitan regions, and (4) development of a settlement system based theory of rural development.

Sixth, it appears that, like his earlier theories of central places and administrative areas, Christaller's war research was conceptually and theoretically ahead of its time. Notable, and especially in comparison with other settlement planning studies appearing during the same period (e.g., Geisler, 1941, Isenberg, 1941, Umlauf, 1941, 1942), were his overall theoretical and

interdisciplinary perspectives, his awareness and consideration of the ideas of contemporary and earlier settlement systems' theorists, including Lösch, and his consistent use of both models of spatial organization and urban systems concepts (Haggett, 1966, Reiner and Parr, 1980, Simmons, 1986). For example, his interpretation of nodal regions as open systems, his consistent use of the concepts of hierarchy, network, and surface, and of functionally defined settlement hierarchies, all characterized his descriptive, analytical and normative studies. The concept of networks, and implicitly the flows of people and goods that they represent, were also used to organize settlement systems at the scale of the Reichsraum and for all hierarchical levels between the province and the neighbourhood. His concentric zone model of metropolitan structure presented a geographical surface of decreasing functional intensity with distance from urban core.

Finally, only indirect and weak links were found between Christaller's war research and his post-war studies of tourism.

This study raised several questions regarding both Christaller's research during World War II and his overall scholarly contribution. For example, did his war research include projects not considered here? The 2,000 page report indicated in BAK 113/25 suggests that, at least on an empirical level, he did conduct additional research. Did his war research influence post-war regional planning in Germany and elsewhere? It is clear that his original theories of central places and administrative areas have become part of mainstream regional planning theory (1957, 1965, Uhlmann, 1979, Böckemann, 1982, 224-257; Boesler, 1982: 129-130; Berry, et. al., 1988: ix, 203-223), but it also appears that there have been few attempts to explore links between his war research and post-war regional planning (Ohnesorg, 1986). Finally, has Christaller's theory of rural development planning influenced contemporary views on that problem?

## Footnotes

1. Christaller's original theory embraced not only local, retail, service, transportation, and institutional activities, but regional, national, and in some cases international, commercial, transportation, administrative, cultural, and some financial activities, and certain market oriented industries.
2. Basic to the arguments presented here is what Christaller (1933a, 14-15, Baskin's, 1966, 3, translation) meant by law. He stated that the geography of settlements was part of the social sciences and that its study could be approached by the application of special economic-geographical laws. "These laws, to be sure, are of a different type from natural laws, but not less 'valid' on that account. They should, perhaps, be designated not as laws, but, more conveniently, as tendencies, because they are not as inexorable as natural laws."
3. Christaller's map of "Central Places in the Eastern Region and their Cultural and Market Regions" has been published by Rössler (1988, 1990). While the legend, area covered by the map, and its cellular structure are clear in those sources, the symbols on the map are mostly illegible. It was not Rössler's goal, however, to show the details of this map or to describe Christaller's approach to regional planning.

## Acknowledgements

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## References

- Barnum H, Kasperson R, Kiuchi S, 1965, Supplement Through 1964 to Central Place Studies: A Bibliography of Theory and Applications by Brian J. L. Berry and Allen Pred, Regional Science Research Institute (University of Pennsylvania, Philadelphia)
- Beavon K, 1977, Central Place Theory: a Reinterpretation (Longman London)
- Berry B, Harris C, 1970, "Walter Christaller: an appreciation", Geographical Review 60, 116-19
- Berry B, Pred A, 1961, Central Place Studies: A Bibliography of Theory and Applications, Regional Science Research Institute (University of Pennsylvania, Philadelphia)
- Berry B, Parr J, Epstein B, Gosh A, Smith R. 1988, Market Centers and Retail Locations: Theory and Applications, (Prentice Hall, Englewood Cliffs, N. J.)
- Binder-Johnson H, 1978, "Walter Christaller: another personal memoir", Ontario Geography 12, 93-101.
- Boesler K, 1982, "Raumordnung", Erträge der Forschung 165 (Wissenschaftliche Buchgesellschaft, Darmstadt)
- Bökemann D, 1982, Theorie der Raumplanung (R. Oldenbourg Verlag, Wien)
- Butler R, 1980, "The concept of a tourist area cycle of evolution: implications for management of resources," Canadian Geographer 24, 5-12.
- Carol H, 1970, "Walter Christaller: a personal memoir", Canadian Geographer 14, 67-69
- Christaller W, 1933a, Die zentralen Orte in Süddeutschland: Eine ökonomisch-geographische Untersuchung über die Gesetzmäßigkeit der Verbreitung and Entwicklung der Siedlungen mit städtischen Funktionen, Doktor-Dissertation (Gustav Fischer Verlag, Jena). Translated with omissions by Baskin C, 1966, Central Places in Southern Germany, (Prentice Hall, Inglewood Cliffs, N.J.)
- Christaller W, 1933b, "Grundsätzliches zu einer Neugliederung des Deutschen Reiches und seiner Verwaltungsbezirke", Geographische Wochenschrift I, 913-919.
- Christaller W, 1937a, Die ländliche Siedlungsweise im Deutschen Reich und ihre Beziehungen zu Gemeindeorganisation, Kommunalwissenschaftliches Instituts der Universität Berlin, VII (W. Kohlhammer Verlag, Stuttgart und Berlin) Habilitationsschrift
- Christaller W, 1937b, "Literaturberichte. Kommunalwissenschaft und Siedlungsgeographie", Jahrbuch für Kommunalwissenschaft 4, 2, 492-500
- Christaller W, 1938a, "Zweite Reichstagung der Reichsarbeitsgemeinschaft für Raumforschung in Graz", Petermanns Geographische Mitteilungen 84, 372-373.
- Christaller W, 1938b, "Rapports Fonctionnels Entre Les Agglomérations Urbaines et les Campagnes", Comptes Rendus de Congrès Internationale de Géographie, Amsterdam, 1938 (J. Brill, Leiden) 2, 123-138
- Christaller W, 1938c, "Siedlungsgeographie und Kommunalwissenschaft", Petermanns Geographische Mitteilungen 84, 49-53



- Christaller W, 1940a, "Grundgedanken zum Siedlungs- und Verwaltungsaufbau im Osten", Neues Bauertum 32, 305-312
- Christaller W, 1940b, "Die Kultur und Marktbereiche der zentralen Orte im Deutschen Ostraum und die Gliederung der Verwaltung", Raumforschung und Raumordnung 4, 498-503
- Christaller W, 1941a, "Raumtheorie and Raumordnung", Archiv für Wirtschaftsplanung 1, 116-135
- Christaller W, 1941b, "Die zentralen Orte in den Ostgebieten und ihre Kultur und Marktbereiche," Teil 1 im Gemeinschaftswerk im Auftrage der Reichsarbeitsgemeinschaft für Raumforschung, Struktur und Gestaltung der zentralen Orte des Deutschen Ostens (K.F. Koehler Verlag, Leipzig) 1-22
- Christaller W, 1942a, "Land und Stadt in der Deutschen Volksordnung", Deutsche Agrarpolitik 1, 53-56
- Christaller W, 1942b, "Die Verteilung der nichtlandwirtschaftlichen Bevölkerung im Hauptdorfbereich", Neues Bauerntum 34, 139-145
- Christaller W, 1942c, "Die Verteilung der nichtlandwirtschaftlichen Bevölkerung im Landkreis", Neues Bauerntum 34, 169-176
- Christaller W, 1944, "Die Landstadt als Stufe des Siedlungsaufbaues", Neues Bauerntum 36, 300-304
- Christaller W, 1950a, "Das Grundgerüst der räumlichen Ordnung in Europa: Die Systeme der europäischen zentralen Orte", Frankfurter Geographische Hefte 24,1
- Christaller W, 1950b, "Wesen und Arten sozialräumlicher Landschaftseinheiten und Darstellung auf der Karte 1:200,000", Berichte zur deutschen Landeskunde 7, 357-367
- Christaller W, 1957 "Zur Frage der Standorte für Dienstleistungen", Raumforschung und Raumordnung 15, 96-101
- Christaller W, 1962, "Die Hierarchie der Städte", Proceedings of the IGU Symposium in Urban Geography: Lund, 1960 Ed K Norborg (C.W.K. Gleerup Pubs, Lund) pp 3-11
- Christaller W, 1965, "The advantages of space-economical theory for the practice of regional planning", Ekistics 20, 223-227
- Christaller W, 1968, "Wie ich zu der Theorie der zentralen Orte gekommen bin", Geographische Zeitschrift 56, 88-101
- Culemann C, 1942, "Aufbau und Gliederung gebietlicher Bereiche als Aufgabe räumlicher Gestaltung: Ein Beitrag zur Frage der zentralen Orte", Raumforschung und Raumordnung 6, 249-255
- Dickinson R, 1947, City Region and Regionalism (Routledge Kegan Paul, London)
- Dickinson R, 1964, City and Region (Routledge Kegan Paul, London)
- Geisler W, 1941, "Welche Struktur und welche Gestaltung sollen die zentralen Orte des Ostens und ihre Einzugsgebiete künftig erhalten? Teil 2 im Gemeinschaftswerk im Auftrage der Reichsarbeitsgemeinschaft für Raumforschung, Struktur und Gestaltung der Zentralen Orte des Deutschen Ostens (K. F. Koehler Verlag, Leipzig)
- Golachowski, S., 1969, "Role of Christaller's theory in Nazi planning in Silesia", Studies in Silesian Towns and Villages, (Silesian Institute, Opole-Wroclaw) 168-206. Translated from Polish by Professor A. Kesik, University of Waterloo.

- Freeman M, 1987, Atlas of Nazi Germany (Croom Helm, London)
- Haggett P, 1966, Locational Analysis in Human Geography (St. Martin's Press, New York)
- Heinritz G, 1979, Zentralität und zentrale Orte (B, G. Teubner, Stuttgart)
- Herrigal H, 1942, "Raum and Räume", Raumforschung und Raumordnung 6, 342-343
- Himmler H, 1942a, "Richtlinien für die Planung und Gestaltung der Städte in den eingegliederten deutschen Ostgebieten," Raumforschung und Raumordnung 6, 68-73
- Himmler H, 1942b, "Grundsätze und Richtlinien für den ländlichen Aufbau in den neuen Ostgebieten", Allgemeine Anordnung Nr. 7/11 des Reichsführers SS Reichskommissar für die Festigung deutschen Volkstums vom 26. November 1940. Der Reichskommissar für die Festigung deutschen Volkstums, Stabshauptamt, Planung und Ausbau im Osten (Deutsche Landbuchhandlung, Berlin) 68-70
- Hottes K, Schöller P, 1968, "Werk und Wirkung Walter Christallers", Geographische Zeitschrift 56, 81-84
- Hottes R. 1981/1982, "Walter Christaller - Ein Überblick über Leben und Werk", Geographisches Taschenbuch 59-70. Translated partially as Hottes R, 1983, "Walter Christaller", Annals, Association of American Geographers 73, 51-54.
- Hottes K, Hottes R, Schöller P, 1984, "Walter Christaller, 1893-1969" Geographers: Bibliographical Studies 7, 11-16
- Isenberg G, 1940, "Welche Struktur und welche Gestaltung sollen die zentralen Orte des Ostens und ihre Einzugsgebiete künftig erhalten?" Sitzung des Arbeitskreises "Zentrale Orte" der Reichsarbeitsgemeinschaft für Raumforschung am 26.10.1940, Raumforschung und Raumordnung 4, 503-504
- Isenberg G, 1941, "Die Verteilung der Bevölkerung und der Berufe auf die Strukturtypen der Städte im neuen Osten", Raumforschung und Raumordnung 5 3/4, 134-148
- Kamenetsky I, 1961, Secret Nazi Plans for Eastern Europe: A Study of Lebensraum Policies (Bookman Associates, New York)
- King L, 1984, Central Place Theory (Sage Publications, Beverly Hills)
- Kluczka G, 1970, "Zentrale Orte und zentralörtliche Bereiche mittlerer und höherer Stufe in der Bundesrepublik Deutschland", Forschungen zur deutschen Landeskunde 194 (Bundesforschungsanstalt für Landeskunde und Raumordnung Selbstverlag, Bonn-Bad Godesberg)
- Koehl R, 1957, German Resettlement and Population Policy, 1939-1845: A History of the Reich Commission for the Strengthening of Germandom (Harvard, Cambridge)
- Lösch, A., 1954, The Economics of Location (Yale University Press, New Haven).
- Meyer K, 1970, "Walter Christaller", Handwörterbuch der Raumforschung und Raumordnung 1. Teil A-H, Akademie für Raumforschung und Landesplanung, (Gebrüder Jänecke Verlag, Hannover) pp 403-10
- Ohnesorg S, 1986, "Christaller's Central Place Theory and How it was Applied in Regional Planning in the Federal Republic of Germany" Unpublished master's thesis, University of Waterloo, Waterloo
- Palomaki M, 1992, "Lokalisationstheorie Walter Christaller och den finska kontributionen", Svensk Geografisk Arsbok 67, 84-104



- Preston R, 1985, "Christaller's neglected contribution to the study of the evolution of central places", Progress in Human Geography 9, 177-93
- Preston R, 1991, "Christaller's contribution to a mixed hierarchy interpretation of settlement structure", Acta Geographica Lovaniensia 31, 62-73
- Preston R, 1992, "Christaller's research on the geography of administrative areas", Progress in Human Geography 16, 523-539
- Preston R, 1993, "Remembering Walter Christaller's scholarly contribution on the one hundredth anniversary of his birth", Die Erde 124, 303-312
- Preston R, 2002, "Walter Christaller's Contribution to the Study of Tourism" In: Alban d'Entremont, Maria Angeles Lizarraga Lezaun, Juan José Pons Izquierda, Lucia Recalde Zaratiegui (eds.), Homenaje a Manuel Ferrer Regales (Pamplona: Ediciones Universidad De Navarra, S. A.) 1165-1176.
- Reichskommissar für die Festigung deutschen Volkstums, Stabshauptamt, 1942, Planung und Aufbau im Osten (Deutsche Landbuchhandlung, Berlin)
- Reiner T, Parr, J, 1980, "A Note on the Dimensions of a National Settlement Pattern", Urban Studies 17, 223-230
- Rössler M, 1983, "Die Geographie an der Universität Freiburg 1933-1945. Ein Beitrag zur Wissenschaftsgeschichte des Faches im Dritten Reich" Staatsexamensarbeit. Universität Freiburg
- Rössler M, 1987, "Die Institutionalisierung einer neuen 'Wissenschaft' im Nationalsozialismus: Raumforschung und Raumordnung 1933-1945", Geographische Zeitschrift 75, 177-194
- Rössler M, 1988, "Géographie et National-Socialisme: Remarques sur le processus de reconstruction d'une relation problématique" L'Espace Géographique 17, 5-14
- Rössler M, 1989, "Applied geography and area research in Nazi Society; central place theory and planning, 1933-1945", Environment and Planning D: Society and Space 7, 419-431
- Rössler M, 1990, Wissenschaft und Lebensraum. Geographische Ostforschung im Nationalsozialismus. Ein Beitrag zur Disziplin-geschichte der Geographie. (Dietrich Reimer Verlag, Berlin)
- Simmons J, 1986, "The Urban System: concepts and hypotheses", Netherlands Geographical Studies 16, 23-31
- Smit J, 1983, "Neubildung deutschen Bauern-tums-Innere Kolonisation im Dritten Reich" Fallstudien in Schleswig-Holstein, Kasseler Schriften zur Geographie und Planung 30
- Uhlmann J, 1979, "Zentrale Orte heute: zum Stand der Forschung und Planungspraxis", Raumforschung und Raumordnung 37, 161-165
- Umlauf J, 1941, "Der ländliche Siedlungsaufbau in den neuen Ostgebieten," in Ed. K Meyer Landvolk im Werden: Material zum ländlichen Aufbau in den neuen Ostgebieten und zur Gestaltung des dörflichen Lebens (Deutsche Landbuchhandlung, Berlin), 273-282
- Umlauf J, 1942, "Der Stand der Raumordnungsplanung für die eingegliederten Ostgebiete", Neues Bauerntum 34, 281-293
- Von Böventer E, 1968, "Walter Christaller's zentrale Orte und periphere Gebiete", Geographische Zeitschrift 56, 102-11
- Wirth E, 1982, "Fünfzig Jahre Theorie der Zentralen Orte", Geographische Zeitschrift 70, 293-297



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