IN THE WAKE OF WAR

THE RECONSTRUCTION OF GERMAN CITIES AFTER WORLD WAR II

JEFFRY M. DIEFENDORF

In the Wake of War

This page intentionally left blank

IN THE WAKE OF WAR

The Reconstruction of German Cities after World War II

JEFFRY M. DIEFENDORF

New York Oxford
Oxford University Press
1993

Oxford University Press

Oxford New York Toronto
Delhi Bombay Calcutta Madras Karachi
Kuala Lumpur Singapore Hong Kong Tokyo
Nairobi Dar es Salaam Cape Town
Melbourne Auckland Madrid

and associated companies in
Berlin Ibadan

Copyright © 1993 by Oxford University Press, Inc.

Published by Oxford University Press, Inc.,
200 Madison Avenue, New York, New York 10016

Oxford is a registered trademark of Oxford University Press

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical photocopying, recording, or otherwise, without the prior permission of Oxford University Press.

Library of Congress Cataloging-in-Publication Data
Diefendorf, Jeffry M., 1945–
In the wake of war : the reconstruction of German cities after World War II / Jeffry M. Diefendorf.
p. cm. Includes bibliographical references and index.
ISBN 0-19-507219-7
1. Urban renewal—Germany—History—20th century.
2. City planning—Germany—History—20th century.
3. Reconstruction (1945–1951)—Germany.
I. Title. HT178.G4D54 1993 307.76'0943'09045—dc20 92-28145

2 4 6 8 9 7 5 3 1

Printed in the United States of America
on acid-free paper

For Barbara

This page intentionally left blank

Acknowledgments

This work, forged over many years, would not have been possible without strong financial support. I received fellowships or grants from the National Endowment for the Humanities, the National Science Foundation, the University of New Hampshire, the Hoover Institution at Stanford University, the Woodrow Wilson Center for International Scholars, and the Alexander von Humboldt Foundation. A travel grant from the German Academic Exchange Service (DAAD) made it possible to spend a summer collecting photographs in German archives. The generosity of these institutions has been greatly appreciated. I am also indebted to a great many Germans and Americans, more than I can acknowledge individually here, who provided valuable help and encouragement along the way. I offer my thanks to the many librarians and archivists in Germany and the United States who shared their expertise and advice. In particular I am grateful for the help rendered by my research assistants Dana Hollander (at the Wilson Center) and Rani Tudor (at New Hampshire). Friedrich-Wilhelm Henning, Hermann Wellenreuther, and Werner Durth kindly served as my sponsors and hosts during my stay in Germany as a Humboldt Fellow. Paul Müllejans and Klaus-Dieter Ebert, directors of the city building administrations in Aachen and Hamburg, went out of their way to provide access to materials not yet turned over to the public archives. My sincere thanks also to Niels Gutschow, Werner Durth, Karl Böttcher, and Hartmut Frank for sharing primary materials from their own collections and manuscripts of their work. The many scholars who commented on papers presented at different forums in Germany and the United States, and the anonymous readers of the manuscripts which subsequently appeared as journal articles helped clarify my thinking. While a fellow at the Woodrow Wilson Center, I benefitted greatly from the penetrating and stimulating comments on my work offered by other fellows and by those who participated in my colloquium there, including Dietrich Orlow, who was the main commentator. Diethelm Prove and Andrew Lees, who read this manuscript for Oxford, made useful suggestions for clarifying my arguments and helped me avoid some errors. Terri Winters of the University of New Hampshire assisted in preparing the graphs. I must also thank Elisabeth Nichols, who read the manuscript with

great care, suggested many stylistic improvements, and pointed out problematic passages that required revisions.

Several architects and planners who had been active participants in postwar reconstruction were kind enough to grant me interviews. For this I wish to thank Karl Böttcher, Arthur Dähn, Hans von Hanffstengel, Rudolf Hillebrecht, Gunther Kühne, Helmut Prost, Theodor Schüler, and Hans Speck. Their observations sometimes provided answers to questions that still remained after my labors in the archives.

Luchterhand Literaturverlag of Hamburg kindly gave permission to quote two stanzas from Günter Grass's poem "Die große Trümmerfrau spricht." Chapman and Hall of London granted permission to reprint parts of my article "Reconstruction Law in Germany," which first appeared in *Planning Perspectives* in 1986. Similarly *Central European History* granted permission to reprint parts of "Konstanty Gutschow and the Reconstruction of Hamburg," which appeared in 1985, and Sage Publications granted permission to reprint parts of "Artery: Traffic Planning in Postwar Germany," which appeared in *The Journal of Urban History* in 1989. My thanks to all four of these publishers.

The following institutions generously granted permission to reproduce photographs: the Landesbildstelle Berlin; Bildstelle und Denkmalsarchiv, Nuremberg; Staatliche Landesbildstelle Hamburg; Landesbildstelle Württemberg; Presseamt der Landeshauptstadt Hannover; Verkehrsamt der Stadt Köln; Museum für Kunst und Kulturgeschichte der Hansestadt Lübeck; Rheinisches Bildarchiv, Cologne; and the Freie und Hansestadt Hamburg, Baubehörde-Lichtbildnerei. Michael Brix (Munich) and Christian Dalchow (Cologne) each granted permission to reproduce a photograph. Materal from the Gropius papers is cited by permission of the Houghton Library of Harvard University. Several publishers granted permission to reproduce tabular material, including: the Architekten- und Ingenieur-Verein Hamburg, Bund Deutscher Architekten, and Bertlesmann Fachzeitschriften.

During my research in Germany, several friends offered me extended hospitality, which made long hours in archives and libraries much easier to bear. For this my thanks to Hildegard and Claus Caspers, Evami and Aad Boonstoppel, Hermann-Josef Rupieper, Jim Shedel and Marilu Woods, Hilde and Robert Silberberger, and Elisabeth and Günther Marshall-Wagoner. Finally, as has been the case throughout my career, my thanks to two special persons, my aunt Elizabeth Rosenfield and my wife Barbara Diefendorf. With patience over the years they read pieces of the manuscript—sometimes several times—and offered well-considered, constructive criticism from which my thinking and my prose have always benefited.

Contents

Introduction

Writing a history of the rebuilding of Germany's cities after World War II has proven to be an intensely challenging and richly rewarding project. As my research progressed, new questions and material continually forced reconsideration of my research design and my hypotheses. Urban reconstruction is a complex and to many an emotionally charged subject replete with subtle intricacies and major implications for the conceptualization of the history of modern Germany. A sketch of the origins and evolution of this book will help explain its structure.

My interest in the subject began in the fall of 1977, when, as an "academic expert on Germany," I accompanied a University of New Hampshire alumni tour that began in Munich. On the bus ride from the airport, these tourists, some of whom had visited Germany right after the war, posed demanding questions. How could I explain the apparent harmony of the street scenes and the smooth flow of traffic in Munich? When we reached the Marienplatz, Munich's main square, I was asked to explain the disharmony between the old (the town hall) and the new (a Kaufhof department store). And even as they asked questions, these tourists offered their own answers: Munich was rebuilt through the generosity of American Marshall Plan aid and under the influence of American architectural values.

The tourists' provocative questions opened my eyes to scenes I had previously taken for granted. Though I taught modern German history, my general reading had never touched on the physical rebuilding of the bombed cities. The standard texts on postwar Germany dealt extensively with economic recovery, with the building of a new, democratic state and democratic political parties, with the Western orientation of West German foreign policy in the context of the Cold War, and to a lesser extent with the revival of literature and the arts, but they contained very little about how Germany met basic human needs, such as food, clothing, and in this case, shelter. Having to rebuild, brick by brick, a complex urban structure that had been reduced to rubble presented an extraordinary challenge, one that undoubtedly engaged the attention of most Germans in the years following the war, and yet almost nothing had been written on the subject by historians.

The Marienplatz represented a more complex blend of old and new than

my group of tourists realized. The town hall they admired as historic was a neo-Gothic creation of the nineteenth century which had survived the bombing. They overlooked completely the older, smaller, Renaissance town hall, which had been destroyed and rebuilt. And the orderly pedestrian zone in the town center resulted not from postwar reconstruction planning but from planning and construction in the late 1960s and early 1970s in preparation for the Munich Olympic games.

Although unaware of such features, the tourists raised thought-provoking issues. I realized how often I had stood in one or another of Germany's churches—like the Marienkirche in Munich—and wondered at mounted photographs of the ruined building as it had stood in 1945. The roof was gone, the towers collapsed, the windows blown out, the interior filled with rubble, and the battered shell surrounded by other bombed and burned buildings. Yet now the church stood again, repaired and rebuilt, the new work blending discreetly with remains of the original building. Postwar repairs have acquired the patina of age. Were it not for pictures and the memories of those who experienced Germany during the war and the decade after, one would hardly realize the extent of the war's devastation. For me, and for the tourists, the photographs of the bombed cities held a certain fascination. Physical evidence of the bombing, broken bits of masonry, glass, and iron, had long since disappeared, and the images of the ruins seemed almost romantic and charming.

How had Munich been rebuilt? Who had been responsible? Why was one building restored in its historic form while others were replaced with modern buildings? What role had the Americans played, whether as representatives of the military occupation or as donors of Marshall aid? The rapidly multiplying questions resisted simple answers.

Reconstruction of the bombed cities had begun under extraordinarily difficult circumstances. Much of the infrastructure upon which cities normally depend had been completely disabled. Major transportation systems had suffered extensive damage, which exacerbated rubble removal and the flow of building materials, not to mention the supply of food and clothing for a dislocated population. Skilled labor was in short supply, with many able-bodied men incarcerated as prisoners of war. Commodity exchange, the letting of contracts, and financing were highly irregular in what became a virtual barter economy. Germany's unconditional surrender and the destruction of the Nazi state threw all law, including pre-Nazi law, into question, and basic decisions lay in the hands of the occupying forces or ad hoc local authorities. Those Germans not badly compromised by association with the Nazi regime cautiously laid plans for a new Germany while seeking to reach back into the past for acceptable cultural antecedents upon which to base a revival of public life. They were often frustrated by the fact that the Nazis had appropriated and therefore spoiled some of the most powerful symbols of a common past. In short, circumstances could hardly have been less auspicious and less promising for a rapid recovery of this highly industrial, urban society.

Moreover, the industrial revolution had brought with it a great many urban problems, such as pollution, overcrowding, poor housing, and inade-

quate transportation. In spite of the horrific conditions of 1945, Germany conceivably had the opportunity to correct or ameliorate these problems during postwar reconstruction and to build functional, livable urban centers. How did Germans balance the desire to reconstruct the past with the desire to build truly modern cities? Who made such decisions, and how? Where did financing come from, and who profited or lost in the process? What accounted for regional variations?

After some inquiries in American and German libraries, I initially proposed a comparative study of three cities: Cologne, Berlin, and Munich. Cologne was a city I knew quite well. Berlin, which I also knew to some extent, presented the additional challenging feature of being a divided city. Munich, according to the polls, was the favorite German city for natives and tourists alike. Cologne was in the British occupation zone, Munich in the American, and Berlin had been administered by all the powers. My interest was primarily in the rebuilding of the bombed centers of these cities, the historic cores which had determined the identity of each, and much less in building activity that took place on the fringes or in the suburbs.

At the time I began the research, I labored under several misconceptions. First, I felt that a comparison of the three cities would be sufficient to yield meaningful conclusions to the many questions that demanded attention. Second, I felt I could limit my study to the period from 1945 to 1955. It seemed obvious that rebuilding began after the bombing ceased, and German acquaintances who shared their memories of the postwar years insisted that nothing had been done about reconstruction during the war. A good, practical cutoff point appeared to be 1955, because German archival law sometimes made access to more recent documents impossible.

Gradually I found that a few other scholars in Germany had also begun to work on urban reconstruction. New and important work appeared on Münster and Würzburg, for example. This opened the possibility of basing my conclusions on more than just three cities. Furthermore, Germans were always saying: "Ah, but it was different in Düsseldorf," or Hamburg, or Stuttgart, or wherever, and I heard this refrain often enough to begin doubting my original research design. I therefore visited other cities to enlarge my perspective. Would it not be much more interesting to write about urban reconstruction in the whole Federal Republic? (I could leave what was then East Germany, the German Democratic Republic, aside with good conscience, since archival material was generally inaccessible there, and the task of understanding reconstruction in West Germany seemed formidable enough.) I continued to focus on the rebuilding of the cores of what Germans label *Großstädte*, cities which had populations of more than 100,000 in 1939.

While working in Hamburg, I contacted Niels Gutschow, who had just produced a two-volume study of reconstruction in Münster. This contact decisively influenced my project. Niels turned out to be the son of Konstanty Gutschow, an architect/city planner who in 1938 had been made responsible for redesigning Hamburg into a representative Nazi city. Although many of Konstanty Gutschow's official papers from the Nazi period rested in the Ham-

burg State Archives, his personal papers—a vast collection—remained in the hands of the family, and Niels generously granted me unlimited access to them. Moreover, this private archive contained correspondence, plans, drawings, and essays, published and unpublished, from the pens of dozens of planners and architects from 1938 into the 1950s and 1960s. Indeed, during the hours spent in the Gutschow home, I was both invigorated and exasperated by the richness of the material. No sooner had I tackled one set of documents than Niels appeared with another bulging binder of materials that veered off into still another direction. Here, for example, was an enormous amount of evidence indicating that systematic reconstruction planning began as early as 1943 within an organization in Albert Speer's ministry under the effective leadership of Konstanty Gutschow. Here too was evidence of frequent informal and formal exchanges of ideas between town planners from cities throughout Germany, which buttressed and confirmed my decision to go beyond a study of three supposedly isolated cases.

My starting date of 1945 also had to be abandoned. My topic now demanded study of the Nazi era, because I had to relate postwar reconstruction to the planning, architecture, and ideology of National Socialism. Nor was I alone. Niels Gutschow and Werner Durth, a historian of urban design at the University of Mainz, were already engaged in a study of the impact of wartime planning, based primarily on the Gutschow papers. I knew, however, that our perspectives would differ considerably. An American necessarily approaches a subject like fascist architecture and city planning and its legacy in modern urban life with less passion than a German either of my generation or of the generation that experienced the 1930s and 1940s. Niels Gutschow and Werner Durth had to struggle with the fact that their fathers and teachers had pursued careers during the Nazi period. Indeed, the Third Reich may be too immediate for Gutschow, Durth, and others of their generation; continuities between the Nazi and postwar periods take on far greater weight for them than continuities between the period before Hitler and the postwar period.

In any event, my exploration of the Gutschow papers and my discussions with Gutschow and Durth—and the reading of their published work—forced me to rethink my own conception of reconstruction.[1] Comparing the prewar appearance of German cities with their postwar appearance suggested fundamental, even radical change. No city was rebuilt as an exact copy of what had been destroyed. Most of the buildings date from the period after 1945, and newer buildings have been rebuilt behind historic facades. Upon examining the continuities between the Nazi and postwar periods, however, I became more convinced that, paradoxically, postwar rebuilding could be understood only in terms of continuities that reached back to the years before Hitler's 12-year Reich. Indeed, not only did these continuities exist, they informed Germany's surprisingly rapid reconstruction.

The impression conveyed in photographs of the ruins of Germany's cities in the spring of 1945 is one of complete and total devastation. Only a few buildings remained intact, and they stood alone amidst blocks of gutted buildings, walls without roofs and floors, mounds of twisted rubble. Contemporary

observers clearly shared this impression. A group of senior American military officers toured several of the bombed cities by jeep between 17 and 22 April, just before the war ended. Of Nuremberg they reported: "This is the worst of all, hardly anything but dust. The medieval city center [is] obliterated, including parts of the old city walls. The Cathedral is shattered. A razed city, Biblical annihilation. No such destruction of a large city ever known." Of Cologne: "One gets a feeling of horror; nothing, nothing is left." And finally: "The implications of the destruction of Germany's industries and cities are beyond the reach of the war-bound imagination."[2]

To observers of this scene of "Biblical annihilation," it was logical that it would take a very long time to rebuild the German cities, if indeed they were worth rebuilding at all.[3] Hans Pieper, Lübeck's town planner from 1927 until his death in 1946, estimated that rebuilding would take 60 to 80 years.[4] Yet, as we know, the cities were rebuilt much faster than these predictions promised. Part of the explanation for this is that the impression that "nothing was left" exaggerated the extent of the destruction. In fact much remained: underground utilities, streets, foundations, structurally sound walls, and a great many intact or only moderately damaged buildings outside the areas where the bombs had fallen most thickly. But significant intangible legacies also made profound contributions to reconstruction. A complex heritage of urban planning concepts and practice only waited to be tapped; a 20-year-old discussion of building law could be promptly resumed; a strong tradition of public housing could be drawn upon; a longstanding debate about architectural styles and methods could define and shape new building; and finally, a rich human legacy of planners, architects, professionals, entrepreneurs, property owners, and citizens informed the reconstruction process. These people had contemplated rebuilding, weighed priorities, and evaluated resources, even as the bombs wreaked havoc in their cities.[5]

Because so much remained, reconstruction was not beyond the imaginative reach of many survivors of the devastating war. On the contrary, hundreds of Germans who were part of this architectural and planning legacy declared that the destruction should be viewed as an unprecedented opportunity to implement their ideas and plans, and they were eager to begin work. Thus Ludwig Neundörfer, postwar chairman of the Frankfurt group of the Deutscher Werkbund and director of the Socio-geographic Institute of the university, noted that "the bombing attacks have particularly affected the socially most unhealthy housing in the metropolis—the areas of slums and the overbuilt and too-densely inhabited old central city. From this there is now a unique chance for housing reform, for a liquidation of the fatal inheritance of the 19th century."[6] Hans Scharoun, Berlin's first postwar planner and an important proponent of modern architecture, observed that "the mechanical opening up [of Berlin] by the bombing and final battle gives us now the opportunity for a generous, organic, and functional renewal."[7] It is easy to find similar statements in the first postwar years in virtually every publication dealing with reconstruction.

However tempting it was and is to view 1945 as a great break in German

urban history, a "zero hour" as some Germans call it, significant continuities linked the periods before and after 1945. Indeed, in terms of these intangible legacies, 1945 marks the midpoint rather than the beginning of an era. It is also crucial to recognize that in urban affairs the Nazi period is an intrinsic component of modern German history and not an aberration signaling a peculiar discontinuity. Many of the planning and building practices of the 1920s can be found throughout the 1930s, during the war, and after. I do not mean to detract from the horror of the Third Reich or the crime of Nazi persecutions when I point out that this era lasted only 12 years and that this fact made it easier for some Germans, themselves unaffected by the persecutions, to emerge from it desiring only to forget and rebuild, as if the Hitler years were some sort of natural disaster or, in the words of one commentator, "an industrial accident, whose consequences one can and must erase as quickly as possible through the restoration of former conditions."[8] Planners and architects vividly remembered discussions of architecture and planning following World War I, and many suppressed memories of the Third Reich in favor of resuming this older dialogue.

Of this suppression of memory, of the widespread desire to avoid coming to grips with the recent past, of the insistence on concentrating on the tasks at hand—of this there can be no doubt. I am not the only scholar to reject the existence of a complete zero hour in German urban history, but unlike many of my German colleagues, I do not want my denial of the zero hour myth to be construed as a means primarily of confronting the Nazi period.[9] Important connections with the pre-Nazi period existed, but similarities between reconstruction in Germany and in other countries also suggest that a single-minded fixation on the Nazi period would distort an analysis of reconstruction.[10]

What kind of periodization, then, is appropriate for a study of urban reconstruction? At least three possibilities presented themselves. First, if one conceives of the reconstruction of the bombed cities as a process that began with plans and models created in response to specific acts of destruction, then the beginning point is surely right after Germany's cities began to burn and crumble—that is, soon after the first great air raid against a major city, Lübeck, during the night of 28–29 March 1942. In cities like Hamburg, however, even those initial reconstruction plans reflected earlier grandiose schemes of the Nazis to redesign the metropolises into cities representative of the new National Socialist state. And if one continues to focus primarily on reconstruction plans and concepts, then the terminal point of 1950 chosen by Werner Durth and Niels Gutschow may well be appropriate. By that point, or very soon thereafter, most cities had approved their overall reconstruction plans.

Second, if one conceives of reconstruction not so much in terms of plans—many of which were truly dreams, as Durth and Gutschow call them—but rather in terms of real, practical activities, such as rubble removal, the repairs of damaged buildings, the manufacture of building materials, the decisions on priorities, financing, and the like, then the beginning point is early 1945, when the first occupation forces arrived on German soil. The terminal point for reconstruction in this sense, however, has not yet

been reached. Cologne finished rebuilding its Romanesque churches only in 1985. West Berlin still has a large, unreconstructed area in the former diplomatic quarter near the Philharmonic, though this area will rapidly fill with buildings now that the Berlin Wall has disappeared. Indeed, virtually every West German city has building sites where real reconstruction has not yet taken place. Small, one-story shops in the middle of a block of five- or six-story buildings are usually buildings erected quickly after the war as "temporary" shops, with the expectation that larger, more permanent buildings would follow. And follow they do, as even current construction projects still seek to fulfill that mandate.

Third, one might also conceive of reconstruction primarily as part of a larger, long-term process of urban renewal, urban modernization, and urban expansion in the industrial twentieth century. For example, streets were widened during reconstruction in every German city in order to ease the congestion caused by the growing use of automobiles, but this happened in unbombed cities as well, both inside and outside of Germany. Some of what happened during reconstruction thus might well have happened anyway, even in cities unscathed by the war. In this conceptualization, then, the reconstruction process is continuous and ongoing in all metropolitan centers.

The strategy I finally chose for this book draws on all three periodization schemes. Depending upon the topic, my discussion begins in the early twentieth century, during the war, or at the war's end. On the other hand, the terminal point in this book always falls between 1955 and 1960. Readers with memories of the 1950s may be puzzled by this, since it is true that many cities still boasted huge, empty, unreconstructed blocks even at the end of that decade. There are several reasons, however, for ending this story with the period between 1955 and 1960. In the bombed cities, planners and citizens shared a consciousness that the bombing had created a unique situation. Some viewed it as an opportunity to introduce needed changes; others viewed it as proof that change had to be resisted in favor of recapturing the special spirit of the vanished towns. I would argue that sometime between 1955 and 1960 this consciousness of *reconstructing* bombed cities faded away and was replaced by a conceptualization of urban change as part of a broader and more general process of growth and modernization.

Right after the war some planners rejected the term *Wiederaufbau*, or reconstruction, as misleading, and by the mid-1950s nearly all avoided talking of *Wiederaufbau* and spoke instead of *Aufbau* or *Neubau*, that is, building expansion or new building.[11] In his 1987 book on reconstruction, Klaus von Beyme argues that the first phase of rebuilding ended in 1960, when a wave of new criticism derided the principles underlying the first 15 years of rebuilding activity, particularly the attempts at functional decentralization and the lowering of urban densities in the central cities. Like Jane Jacobs in the United States, whose work was quickly read in Germany, German critics praised the vitality and urbanity of the densely populated, multifunctional neighborhoods in prewar cities.[12] The fact that these criticisms appeared in 1960 indicates that what von Beyme calls the first phase had really already ended, and even he notes that

the middle of the 1950s witnessed a widespread acceptance and even endorsement of social, economic, intellectual, and urban modernization.[13]

That a change in German thinking took place in the mid-1950s can also be seen in the shift from a self-consciously modest period of reconstruction to a period of new construction that was robust, self-congratulatory, and anticipating a modern future. Typical of the modest approach was Joseph Schlippe. In his plans for rebuilding Freiburg, he called for "a greater measure of the lost trait of humility" and rejected "brutal muscular gestures, whether derived from the Wilhelmine era or from the New Objectivity, whether Nazi or 'organic.' "[14] The "Economic Miracle," however, soon overwhelmed attempts at modest reconstruction. In many cities, still-standing facades of historic buildings were demolished to make way for new buildings. Indicative of the newfound confidence in modern building were the Thyssen company skyscraper in Düsseldorf and the residential towers of the Hansa Viertel in West Berlin, all planned and built in 1956–57.[15]

Finally, a wave of decisive developments between 1955 and 1960, which in themselves had nothing to do with the rebuilding of the cities, reinforced the public's awareness that a new age had truly begun. The Federal Republic joined the European Economic Community and NATO. The Economic Miracle bloomed brilliantly, generating record growth levels. By 1957, the work week had shrunk to 49 hours, the same as at the end of the 1930s.[16] Germany now financed its own economic growth as Marshall Plan aid had ceased. For West Germany, the postwar era of deprivation had finally ended; the echoes of exploding bombs resounded faintly if at all.

This history of reconstruction does not attempt to catalog developments in each individual city. Each experienced the process of reconstruction uniquely. Each city had boasted an individually identifiable physical structure before the war, experienced varying degrees and kinds of bomb damage, proposed widely divergent reconstruction plans, and so forth. Each city's reconstruction deserves a separate monograph.[17] This work draws selectively from research in more than two dozen public and private archives in Germany and the United States, from dozens of articles in German architectural journals of the postwar period, from published documents, and from archival studies by other scholars. All told, I have found excellent material on nearly half of the 44 cities lying within the borders of the Federal Republic (before the 1990 unification with the German Democratic Republic) that had had populations of over 100,000 in 1939 (the so-called Großstädte) and on two-thirds of the 17 cities with more than 250,000 inhabitants in that year. Throughout I try to achieve a suitable balance between general themes and empirical detail. To demonstrate the continued vitality of pre-1945 ideas and practices in architecture, planning, law, and the like, I trace important developments from the early twentieth century through the end of the Third Reich. The primary emphasis, however, always centers on West German reconstruction after World War II.

Now that Germany has been unified, the local and state archives of the former German Democratic Republic operate under the access rules of the

Federal Republic. A detailed study of urban reconstruction in East Germany is thus possible for the first time. However, because there is so much material on West German cities, because the nature of reconstruction was so different in centralized, state-dominated, communist East Germany, and because the manuscript for this book was nearly finished by the time the two German states became one, I decided against trying to include East German reconstruction, a task that would have necessitated an enormous new research effort.

This book was written with several audiences in mind. On the one hand, I hope that anyone—including my tourists from years back—who has already visited or plans to visit Germany's cities will be able to use this study to deepen his or her understanding of the rebuilt cities. On the other hand, historians and students of modern Germany, of planning and architecture, and of urban development should discover much relevant material in the following chapters. I also hope that the book will find readers among those interested in current urban affairs in Germany and elsewhere. With these different audiences in mind, I have tried to avoid burdening the reader with too many technical terms. For example, because there has always been a great diversity in governmental forms and structure in German cities, the titles of town planners varied from place to place. These titles included, among others, *Oberbaurat*, *Baudezernent*, *Baudirektor*, and *Leiter des Stadtplanungsamts*. Heads of subsidiary offices might also engage in planning, and individuals lacking official titles worked on planning on a contractual basis. For the sake of simplicity, I use the term "planner" for all of these. Similarly, the terms used for different stages of the planning process varied from place to place, but except when it is important to distinguish between those stages, I usually just call them "plans."

It seems appropriate to begin this book with the ruins of the cities, that is, with the destruction of the air war and the immediate German response to fields of rubble. Having begun with bricks and stones, I turn to reconstruction in its most direct sense, namely architecture. The primary purpose of this book is not merely to describe the way cities appeared before the war and after reconstruction (although some of the illustrations are indeed "before and after" comparisons) because appearances are often deceiving. People see architecture, but they seldom "see" urban planning. Moreover, sometimes buildings which today appear unattractive, such as certain housing projects with plain gray facades, in fact functioned and still function quite successfully in terms of their original purpose. Rebuilding also included finding solutions to many problems that went beyond surface appearances, such as redrawing property lines to make the best use of inner-city building lots. Thus the discussion moves from the physical level of buildings to the more abstract level of planning and finally to the pragmatic level of attempts to implement planning. The new availability of important primary material and recent publication of scholarly work in the area of urban planning dictate that this subject be discussed at considerable length. For the convenience of the reader, urban planning is considered in two chapters, with 1945 as the dividing point.

The approach in this book, then, is topical and analytical. The reader

should not lose sight of the underlying unity of the various activities discussed. Housing construction, town planning, repairing of historic monuments, clearing rubble, restructuring government offices, and rewriting building law all happened simultaneously. The individuals who designed buildings, drew up town plans, and drafted building laws shared the same profession. They had essentially the same training, read the same professional journals, and belonged to the same associations. Consequently many individuals weave in and out of the chapters that follow.

As I generalize, I must apologize to the many Germans still living who experienced the destruction and rebuilding of their cities and also to those non-Germans, like some of my original group of tourists, who were in Germany after the war and witnessed the rebuilding process. To these people my account will doubtless lack the intense reality of their experiences. This is the inevitable consequence of my decision to enlarge the scope of this study to the whole Federal Republic, to cast it in an analytical framework, and to include as many dimensions of the rebuilding process as possible. Recounting the debates over building law or discussing statistics on housing or building materials will seem arid to those who were there, who saw the horrendous destruction and witnessed the determined and ultimately successful struggle, amidst very great suffering, of a people to rebuild. I have had to experience all of this secondhand, through the records and artifacts left behind, and I respect both the struggle and its achievements. At the same time, I am aware as a historian of the mythmaking capabilities of all peoples who experience great struggles. I know that memories of those who lived through this period are selective. The scenes of vast annihilation and deprivation remain vivid, as does the sense of heroic recovery. The specific paths this recovery took, the many steps and mundane processes through which it was achieved, have either slipped from view or were never entirely visible to the observer who stood within the framework of these events. My task as a historian is to help recall in all its complexity that which has faded from memory, at the same time helping to construct a more unified, if necessarily more distant view of the process by which the West German cities were rebuilt.

In the Wake of War

This page intentionally left blank

1

Bombs and Rubble: The Air War and Its Consequences

The fascination of a city in ruins is undeniable. Newsreels from war zones reveal buildings in flames, roofs caving in, and walls collapsing, while civilians—the terrified inhabitants of those buildings?—flee. Sometimes they run for their lives; sometimes they try to salvage a few possessions. After the fighting has ended and the damaged buildings have been rebuilt, someone mounts a display showing the "before-and-after" conditions. Visitors still find such displays in many of Europe's churches and public buildings, but they are also to be found here and there in private shop windows. West Germany boasts a series of books entitled "Hamburg (substitute any city name)—then and now." These books are photographic depictions of the prewar condition of streets, squares, and individual buildings; their ruined condition after the war; and their appearance at the time of publication, often from the same spot. (Similar pictures appear in this book.)

What lies behind this preoccupation with ruined urban landscapes? Naturally those responsible for reconstruction want to display their accomplishments, but sometimes there is also a morbid, even perverse interest in the ruins themselves. This is not new. The romantics of the early nineteenth century not only portrayed individuals amidst ruins but even constructed artificial ruins when none were at hand.[1] Ruins, whether in paintings, photographs, or in the form of monuments, remind viewers of the fragility of civilization. An American scholar recently suggested that people may need some form of devastation in order to develop a historical sense and begin a process of cultural renewal.[2] Adolf Hitler and his favorite architect, Albert Speer, envisioned their huge buildings as ruins even before they were built, though they expected "their" ruins to be monuments to the greatness of Nazi Germany. In his memoirs, Speer told of his "Theory of Ruin Value":

> The idea was that buildings of modern construction were poorly suited to form that "bridge of tradition" to future generations which Hitler was calling for. It was hard to imagine that rusting heaps of rubble would communicate these heroic inspirations which Hitler admired in the monuments of the past. My "theory" was intended to deal with this dilemma. By using special materials and by applying certain principles of statics, we should be able to build structures which even in a state of decay, after hundreds or (such were our reckonings) thousands of years would more or less resemble Roman models. To illustrate my ideas I had a romantic drawing prepared. It showed what the reviewing stand on the Zeppelin Field would look like after generations of neglect, overgrown with ivy, its columns fallen, the walls crumbling here and there, but the outlines still clearly recognizable.[3]

The romance with ruins was not pure fantasy. In his diary, George Kennan described a visit to the old center of Berlin 15 years after the war:

> All about us were the ruins of the great old buildings, semi-silhouetted against the bright sky. And what ruins! In their original state they had seemed slightly imitative and pretentious. Now they suddenly had a grandeur I had never seen even in Rome. . . . There was a stillness, a beauty, a sense of infinite, elegiac sadness and timelessness such as I have never experienced. Death, obviously, was near, and in the air: hushed, august, brooding Death—and nothing else.[4]

Hitler's dreams in fact transformed all of Germany into "rusting heaps of rubble," monuments to death, though little remains now to remind current and future generations of Germans of the consequences of war.

Sometimes an abstract, comforting feature emerges from pictures of war ruins. When one is distant from the actual experience of the bombing, war can become a mechanical process of physical destruction of solid objects, not the maiming, burning, and killing of humans.[5] For the reader, the historian, the viewer of photographs, that distance may be one of time. For the strategists of aerial warfare, the physical distance from the bombing targets helped make their planning an abstract, statistical exercise, cut off from the real damage and terror of the bombing campaign.

Volumes have been written about the bombing campaigns of World War II, and it would serve no great purpose to go over that ground in detail here. But the subject of the rebuilding of destroyed, bombed-out cities warrants a few words about how they got that way.

The War from the Air

The idea of bombing cities from airplanes did not originate in World War II. Early in the twentieth century there already had been fantasies about the possible destructiveness of bombing from the air. During World War I the Germans and British conducted air raids on each other's cities, and with similar goals. In part bombing was an act of revenge, a reprisal for attacks on

one's own population; in part it was motivated by the belief that air raids could undermine the enemy's morale in a long war of attrition.[6] In the 1920s, theoreticians like Guilio Douhet of Italy, Basil H. Liddell Hart of England, and Billy Mitchell of the United States predicted that in future wars bombing would destroy the "nerve centers" of urban, industrial society, causing those societies to break down, possibly into Bolshevik-style revolutions.[7] In the early 1930s, the Americans developed the doctrine of precision bombing: accurate attacks on carefully chosen industrial targets that would destroy the enemy's military capacity in an efficient way. Should this fail, however, cities must be bombed.[8] Military analysts did not in fact carefully assess the actual results of bombing that occurred during the wars in Ethiopia, China, and Spain, where bombing campaigns failed to undermine morale or prove decisive in bringing victory. Typically, the actual results of the bombing—or the lack of them—did *not* lead the proponents of air power to revise their thinking.[9] Moreover, all studies agree that comparatively little thought was devoted to the ethical questions involved in making war on noncombatants. Cities, after all, were inhabited mostly by civilians, however much industry might be located within a town.[10]

Nevertheless, World War II witnessed the widespread bombardment of cities informed by the goals defined in previous decades: lowering the enemy's morale, gaining retribution for injuries suffered, and restricting the enemy's capacity to fight by destroying key industries. Expectations for the success of aerial warfare were very high, too high in fact, and the British and later American bomber commands always felt pressure to achieve something—anything—if only to justify the high expense of building an air force. Because predictions anticipated some sort of knock-out blow, no one thought about what to do if the war proved to be a long, drawn-out battle of attrition.

Which side first bombed cities? The question matters only if one attempts to justify such attacks as reprisals for enemy actions, but in fact revenge was the least important motive for military planners on both sides. The German bombing attack on Poland was ruthless from the beginning, and the Poles were not prepared to repulse German bombers or strike back at German cities. In any event, German bombers accidentally dropped bombs on a German town in May 1940, with the population assuming that it was the British who had attacked. The very next night a few British bombers did indeed try to hit industrial targets in the town of Mönchengladbach. The first instance of British "area" bombing—an attack on a generally defined urban area, rather than on specific targets like buildings or rail depots—was a raid on Mannheim in December 1940, but in October 1940 Air Vice-Marshal W. S. Douglas already had argued that the British bombers should target major towns if they were unable to deliver their loads on primary industrial targets.[11]

A report of the Chiefs of Staff on 7 January 1941 clearly defined British policy:

> The evidence at our disposal goes to show that the morale of the average German civilian will weaken quicker than that of a population such as our

> own as a consequence of direct attack. The Germans have been undernourished and subjected to a permanent strain equivalent to that of war conditions during almost the whole period of Hitler's regime, and for this reason also will be liable to crack before a nation of greater stamina.
>
> It can be argued that concentrated attacks on the main centres of population in Germany, making the maximum use of damage by fire, combined with harassing action in the interval between the main attacks, might comparatively quickly produce internal disruption in Germany. An incidental effect of this attack would be its repercussions on the morale of the German armed forces and on industrial production, and the stimulation of the morale of our own population.[12]

The British calculated that normally only 17% of dropped bombs would land within the target area, but Royal Air Force Marshal Lord Hugh Tranchard observed that even if all of the bombs missed their primary targets, bombs "all help to kill, damage, frighten or interfere with Germans."[13] In fact, strategists talked more about disrupting normal life in Germany by "dehousing" the population than by actually killing masses of German civilians. (The Germans, in turn, considered wartime programs to house the victims of the bombing as a "weapon" to combat the "housing blockade" being imposed by Allied bombers against German civilians.)[14] A report on the first "thousand bomber" raid on Cologne declared that the purpose of this "thousand-winged Pegasus" was the "complete neutralization of the densely populated central portion of Cologne proper."[15] Another memorandum of November 1942 estimated that bombing German cities would produce 6 million uninhabitable dwellings and render 25 million Germans homeless (more than one-third of the population), while causing 900,000 civilian deaths and 1,000,000 seriously wounded civilians.[16]

Once they implemented the area bombing campaign, the British engaged in statistical exercises to try to calculate how much money and labor would be needed to repair the resulting damage. For example, a report of 19 October 1943 stated that Hamburg would require 1,525,300 "man-months" of labor to repair damage to housing and industrial plant. The calculations were based on estimates of repairs of bomb damage in Britain; they did not indicate to what extent the Germans would actually try to undertake repairs during the war.[17] Another report declared that intelligence gathered in Germany indicated a marked drop in morale after the Hamburg bombings. Masses of people were being evacuated from urban centers, creating "alarm verging on panic" and great tension between the evacuees and the residents of the areas into which they were being sent. "So far-reaching have been the consequences of evacuation and so complex the problem of housing, feeding and controlling the evacuated population, that a number of reports compare the low standard of living necessitated by evacuee conditions with Russian Communism." In addition, "a by-product of the Hamburg raids was the diffusion of rumours on a scale and of a kind unparalleled in earlier periods. Lurid accounts of men and women with their clothes on fire running like living torches through the town

seem to have gained immediate currency." Although the report goes on to note the large number of civilian deaths, especially in Hamburg, and gives the impression of a society nearing collapse, it concludes cautiously:

> Though the forces of repression, the hopes of a compromise with one or other of the belligerents, and the favorable climatic conditions of the past three months have so far prevented any general break in morale, it is not reasonable to infer that no such break in morale can occur, and we do not exclude the possibility that, in conjunction with further large-scale military reverses and with the advent of winter, air operations may exercise a decisive influence on conditions inside Germany.[18]

Air warfare strategy reflected not only the desire to strike at the German people in their cities but also the technological limitations of the Royal Air Force. Its bombers were neither heavily armed nor capable of flying at very high altitudes. Since precision bombing of specified industrial targets required daylight, the toll on British planes from German anti-aircraft fire and fighters was unacceptably high. Although safer for British fliers, night bombing permitted dropping the payload only on an area like a city, where the resulting fires would show other pilots where to drop their bombs. The technical argument in favor of night area bombing thus reinforced the tendency to carry the war to the mass of the German population and punish them for what Germany had begun.

The first large-scale area bombardment by the British was on the northern port city of Lübeck on the night of 28–29 March 1942. The attack fell on the historic center of medieval Lübeck—where there were no industrial targets at all. Supposedly a reprisal for a German attack on historic Coventry, the raid succeeded in destroying about 30% of the central area.[19] Attacks on more important cities followed, and even though German civilian morale did not break and industrial production remained high, the British saw no reason to revise their bombing strategy. More and more cities were reduced to rubble. The British Bomber Command enjoyed its greatest success in a series of four massive raids on Hamburg between 24 July and 3 August 1943. A variety of factors combined to produce this "ideal" raid, including excellent visibility for the pilots. The British weakened German fighter defenses by the use of foil chaff to confuse the radar and then dropped a high percentage of incendiary bombs, which ignited a large number of fires that were in turn fanned by the unusually hot and dry weather. High explosives and mines were dropped throughout the bombing deliberately to disrupt the efforts of Hamburg's fire department to fight the flames and impede the flight of those caught in the burning cauldron. The raids resulted in an uncontrollable firestorm that consumed almost everything and everyone in the target area.[20]

While the British went on to bomb almost every major and minor German city, improving the accuracy of their night bombing as time went on, the American Army Air Forces joined the air war with their campaign of precision daylight bombing of industrial targets. For a variety of reasons, however, the Americans soon joined their British ally in attacking cities.[21] Weather over

TABLE 1.1. Tonnage of Bombs Dropped on Axis Europe

Year	*Area Raids*	*Other Raids*	*Total*	*Percentage Area Raids*
1940	1,453	12,094	13,547	11%
1941	14,475	22,631	37,106	39%
1942	39,044	11,412	50,456	77%
1943	131,668	74,520	206,188	64%
1944	324,965	876,569	1,201,534	27%
1945	96,428	384,721	481,149	20%
Total	608,033	1,281,947	1,989,980	31%

Source: United States Strategic Bombing Survey, *The Effects of Strategic Bombing on the German War Economy* (October, 1945), pp. 2–5, Tables 1–4.

Germany often proved a problem even during daylight hours; until February 1944 German flak and fighters continued to shoot down a large number of bombers, and it was difficult to achieve great bombing accuracy from high altitudes under fire. As a consequence, in October 1943 the American 8th Air Force conducted area bombing of the city of Münster in daylight, and a month later American pilots were authorized to undertake radar-guided attacks on cities when visibility precluded precision bombing of the primary designated industrial targets.[22]

Area bombing was downgraded somewhat during the spring of 1944, although the first massive daylight raids against Berlin took place in March of that year. In general, however, preparations for the invasion of Normandy dictated that the bombers be directed against the German transportation network and the oil supply system.[23] After the invasion, the war against the cities continued; some were bombed dozens of times and hit with more than 30,000 tons of bombs. (Table 1.1 indicates the shifting emphasis on area bombing.) The period between 1 August 1944 and 26 April 1945 saw 205 air raids on German cities, including 94 against Berlin, and witnessed the highest concentration of German cities crumbling under the onslaught of high explosives and incendiary bombs.[24] The most spectacular attack was the devastating raid on Dresden on 13–14 February 1945, a raid that served little clear military purpose beyond killing masses of civilians and obliterating a symbol of German culture.

Moreover, the use of area bombing undercut one of the more admirable features of American bombing policy: the attempt to prevent the destruction of great historic monuments. In the United States, pressure from a variety of private groups and individuals had led to the creation in August 1943 of the American Commission for the Protection and Salvage of Artistic and Historic Monuments in Europe.[25] Chaired by Supreme Court Justice Owen Roberts, the Roberts Commission, as it became known, provided the military with lists and maps of important works of art and historic or artistic architectural monuments. Although bombing strategic industrial and military targets and sparing

cultural monuments theoretically complemented each other, in practice this neat separation of targets was seldom realized, especially in the German theater. Night bombing and radar-guided bombing simply lacked such precision, and commanders were not inclined to risk their flight crews or planes to protect buildings. It was accidental, therefore, that some monuments in city centers, like the Cologne cathedral, survived the bombardments.[26] One historian concluded that "despite the persistent efforts of the commission, there was no significant instance where the course of military operations was directly affected by regard for the cultural importance of sites or buildings."[27] German architecture that had endured for centuries was reduced to rubble.

The Allies incurred heavy losses in conducting their air war. One historian calculated that the Royal Air Force flew 297,663 sorties by night and 66,851 by day, with a loss of 8,000 bombers; 46,268 crew members died and 4,200 were wounded in combat, while another 8,090 died and 4,203 were wounded in noncombat flights. Only 24 of every 100 flyers would come through the campaign unharmed.[28] British casualties in the air war exceeded combat casualties after Normandy. One wartime study of a group of men in American 8th Air Force flying missions over Germany concluded that only 26.8% completed the full tour of 25 missions; more than half the men were killed and the rest either wounded or grounded for other reasons.[29] The monetary sums required to construct the British and American air forces were of course also enormous.

What did the bombing campaign achieve? The strategic bombing campaign did not fulfill its promise to end the war quickly and efficiently, that much is clear. The United States Strategic Bombing Survey was created in November 1944 to examine the effectiveness of the campaign. Entering Germany on the heels of the troops, it found—much to the discomfort of the air force strategists—that the bombing campaign had destroyed neither Germany's industrial capacity to make war nor German morale, the undermining of which was one of the justifications for air raids in a long war of attrition. The survey concluded that in terms of capital equipment, raw materials, and manpower (which was augmented by several million forced laborers from other countries), German industry remained strong in spite of the bombing.[30]

In his July 1945 interrogation, Armaments Minister Albert Speer stated: "We drew distinctions between morale and conduct. The morale following attacks upon towns was bad, the conduct of the civil population on the other hand was admirable." In terms of their value in decreasing armaments production, attacks on cities, in Speer's view, ranked fifth after attacks on basic industries or supplies, attacks on transport and communications, attacks on front-line positions, and attacks on the final stages of manufacture.[31] Concerted and repeated attacks in these other areas, rather than area bombing of cities, might well have had a greater impact on the German war effort. The Allies had mistakenly assumed that German industry always produced at full capacity, which was not the case until very late in the war. Thus even in the face of the bombing, production could be increased by gearing up under- or unutilized plants. The Allies also mistakenly equated destruction of housing

with the urban depopulation. In fact, the elasticity of resources meant that inhabitants of bombed dwellings tended to remain in the city (and at their jobs) by moving into undamaged housing or doubling up with relatives or friends. Only later in the war, when the cumulative effects of repeated bombing destroyed a very high percentage of the housing stock, did large numbers of people abandon the cities.[32] Production did fall off and morale did begin to sag in the winter of 1944–45, but still the conquest of Germany needed to be on the ground. Most important was the disruption of rail transportation through the bombing of marshalling yards, which delayed the flow of coal, finished goods, and munitions.[33] Air power contributed to the victory, but the bombing campaign was not primarily responsible for it, and certainly the area raids on the cities contributed too little to justify the effort.[34]

Even if the bombing failed to force German capitulation, the impact of the bombing of the cities was incalculable—quite literally so, since compiling accurate statistical data often proved impossible, and since words were seldom adequate to describe the experience of living in the midst of falling bombs, explosions, fires, the collapse of homes, and the end to the comfort and security of normal life.[35] Naturally the intensity of the bombing varied from city to city, as did the efforts of local German officials to deal with what was happening. For example, Hamburg, one of the hardest hit cities, was also the best prepared to relieve the effects of the bombing. Responsible officials remained on duty during the air raids, rather than fleeing to safer ground, as apparently happened in some cities.[36]

In May 1941, a new Office for Activities Important to the War Effort (Amt für kriegswichtigen Einsatz, or AKE) was created to build air raid shelters and bunkers, organize crews to repair damaged buildings, and generally make Hamburg capable of withstanding anticipated air attacks. Several large, above-ground concrete bunkers were constructed in different parts of the city to provide protection from the bombs.[37] The AKE staff was dedicated and courageous, as was the city fire department, which by mid-1943 had grown to 9,300 men. Smaller raids were dealt with rather well, and the repair of damaged housing and construction of new housing had made up some of the losses in the air raids. Until mid-1943, the bombing had left 1,431 dead, 4,675 wounded, 24,375 homeless, and 50,701 relocated elsewhere; thus all together less than 5% of the city's population of over 1.6 million had been directly affected.[38] The great incendiary attacks of July and August 1943, however, simply overwhelmed the efforts to protect the population and contain the damage.

Fire bombs fell on densely populated blocks of apartment buildings, and "ideal" conditions produced the largest and most horrible firestorm to occur during the war in Europe. The fire department, augmented by the AKE units and self-help units, emerged from bomb shelters to find themselves without water and often surrounded by flames. Hurricane-force winds filled the air with burning debris, leading one observer to remark that "it rained fire, so to speak."[39] Furniture that residents had tried to salvage caught fire in the streets, and the winds caused burning buildings to collapse and block escape

routes. For the first time the fire department was unable to extinguish all the fires during the night and day following a raid, and still-burning buildings served as beacons for the bombers the next night and helped the conflagration to grow. Within the area of the fire, people either burned to death or died of carbon monoxide poisoning. The police president wrote that the attack's

> horror is revealed in the howling and raging of the firestorms, the hellish noise of exploding bombs and the death cries of martyred human beings as well as in the big silence after the raids. Speech is impotent to portray the measure of the horror . . . . The streets were covered with hundreds of corpses. Mothers with their children, youths, old men, burnt, charred, untouched and clothed, naked with a waxen pallor like dummies in a shop window, they lay in every posture, quiet and peaceful or cramped, the death-struggle shown in the expression on their faces.[40]

What were the final statistics? The best estimate is that about 35,000 people died in the Hamburg raids (compared with 60,595 deaths in Great Britain from bombing during the entire war) and around 125,000 were wounded. In 1944 and 1945, an additional 6,200 individuals died when buildings collapsed on them, and some of these deaths must also be attributed to the great raids of 1943. Some 79.5% of the housing stock was damaged, 49.2% totally destroyed. The raids left more than half of the city's 1.6 million population homeless, and by the end of August 1943 the population had sunk to around 800,000 (though in fact many soon returned). Of 33 historic churches, 15 were damaged or destroyed, and 54 of the 70 major secular historic monuments were demolished.[41]

The only other German city to suffer such extensive human losses and property damage in such a short time was Dresden at the end of the war, but all of Germany experienced vast physical destruction. Many statistical assessments were made during and after the war, and while they differ, the outline is more or less clear. Somewhere between 400,000 and 600,000 civilians died in the air raids and between 650,000 and 850,000 were injured. Of the large cities with more than 100,000 inhabitants in 1939, on an average about 50% of their built-up areas were destroyed. In Würzburg the figure was 89%, in Remscheid and Bochum 83%, in Hamburg and Wuppertal 75%. Some 45% of the housing stock in the large cities was destroyed.[42] Casualties varied considerably, depending upon the effectiveness of local authorities in preparing the citizenry to cope with anticipated raids.[43] Either voluntarily or as part of an evacuation plan, a terrorized population moved back and forth, in and out of the cities, struggling to find shelter and safety. Over 200,000 people, mostly women and children, were evacuated from Munich by the end of the war.[44] The destruction was so great that in some cases authorities proposed abandoning the bombed cities entirely and building new cities, perhaps underground, to ensure protection from air raids. Other proposals advocated bulldozing the rubble, planting grass and shrubbery, and allowing a new natural landscape to emerge. A new city could then be built that would harmonize with that landscape. The first

Nuremberg, bomb damage on the Weißgerbergasse, October 1944. (Source: Stadt Nürnberg Hochbauamt, Bildstelle und Denkmalsarchiv, 4025/S, photo Hochbauamt.)

step in this process of course would be relocating the population of the old bombed city.[45] Such innovative proposals were never implemented. Instead, the bombed cities were rebuilt above ground on their original sites.

By the time the war finally ground to a halt, the cumulative effects of air raids, artillery fire, and street combat were staggering. Everyone collected statistics on Germany's bombed cities. Although fascinating, these numbers resist meaningful interpretation, for great quantities of data, like great quantities of ruined buildings, can be numbing, as they were to the Germans and allied soldiers who walked the streets and contemplated the magnitude of the destruction. The massive collection of data also resulted in great inconsistencies. Town planners, housing officials, local, state, and national statistical offices, the allied armies, scholars—everybody counted a little differently. Consequently, the totals vary and cannot easily be reconciled. From our standpoint, it is not so very important whether a given city contained 20 million or 22 million cubic meters of rubble, or whether a city's population on a given date was 450,000 or 480,000. Under the difficult circumstances, many of the

figures collected were estimates rather than exact numbers. The data that appear in this book are accurate enough to frame the story, but the reader should keep in mind that the numbers are estimates and may not represent particular situations with statistical accuracy.

Cities of Rubble

What words would an American, or even a German, use today to describe the scene that existed in Germany's cities? After the war the Germans spoke of *Trümmer*, which translates as rubble. An age of rubble, life amidst the rubble, rubble literature, rubble mountains—these are phrases that ring with black humor and the grotesqueness of the situation, and they testify both to despair and to a subtle optimism with which, in spite of everything, some Germans viewed their world. Hans Werner Richter wrote in 1947:

> The sign of our times is the ruins. They surround our lives. They line the streets of our cities. They are our reality. In their burned-out facades there blooms not the blue flower of romanticism but the daemonic spirit of destruction, decay, and the apocalypse. They are the outer symbol of the inner insecurity of the people of our age. The ruins live in us as we in them. They are our new reality which is asking to be reshaped.[46]

For Richter, the ruins, which signified the death of bourgeois ideas of safety and security, forced Germans to look objectively at the true basis of their existence.

How much rubble was there in 1945? The amount varied from city to city, depending in part upon the type of bombs used and the character of the targeted city. For example, when a city like Hildesheim, consisting largely of medieval, half-timbered buildings, was hit with fire bombs, little remained of the old center. In Hamburg the great fire of 1842 had destroyed most wooden structures, and therefore most of the older parts of that city were of stone and brick. Hence, though Hamburg also suffered a great firestorm, the masonry walls were left standing while floors, roofs, and interiors burned. In Cologne, the initial fire bombing that had burned much of the city was followed late in the war by raids with high explosives and eventually by artillery bombardments. As a result, the standing walls of burned-out buildings finally collapsed as well.

The degree of damage and the amount of resulting rubble also depended upon how often a town was bombed. In general the cities in the northern and western parts of Germany—those most easily reached from the bases in Britain—suffered the most destruction. Finally, the amount of rubble also depended on the intensity or concentration of the bombing within a city. For example, one of Munich's eight central districts contained 4.3 times as much rubble as the least damaged of the eight.[47]

The Nazis placed very high priority on clearing the streets and bulldozed rubble into huge heaps on lots which now contained only the remnants of destroyed buildings. Toward the end of the war, of course, the Germans could

Hamburg, rubble in the Catharinenstraße canal. The city disposed of much of the rubble by filling in many canals, including this one. (Source: Staatliche Landesbildstelle Hamburg, 6564.)

not clear the rubble fast enough, and the earlier "progress" was undone. The Allies also sought to clear the streets and used some of their heavy machinery to push the rubble to one side. Basements were filled in, as were any available unused depressions in the land. Although all of this made it difficult to calculate accurately the amount of rubble that had to be cleared away, the 1949 statistical yearbook of the German towns included official estimates.

Table 1.2 gives statistics for the 10 cities in the new Federal Republic with the largest amounts of rubble. The figures for Berlin include all sectors of that city. Thirty-nine cities had more than 1 million cubic meters of rubble to clear, including Munich and Stuttgart, which had 5 million cubic meters each. (It was estimated that Dresden in the Soviet zone contained 25 million cubic meters and Leipzig about 8 million.)

These enormous sums are very hard to grasp. One attempt to come up with figures for total damages estimated that for cities with more than 250,000 prewar inhabitants, the damage ranged from 65% in Dortmund, to 54% in Hamburg, to 33% in Munich and Stuttgart, to only 22% in the western sectors of Berlin.[48] These estimates of total damage, however, fail to convey the appearance of utter devastation experienced by contemporaries. Hans Speier wrote that in his travels in Germany right after the war, he was overwhelmed by what seemed to be the total destruction of the cities. Upon seeing the statistics, in fact, he "was actually surprised at the 'low' figures,

TABLE 1.2. Cities with the Largest Amounts of Rubble (in cubic meters)

Berlin	55,000,000	Frankfurt a.M.	11,700,000
Hamburg	35,800,000	Nuremberg	10,700,000
Cologne	24,100,000	Düsseldorf	10,000,000
Dortmund	16,777,100	Hannover	8,400,000
Essen	14,947,000	Bremen	7,920,000

Source: Dokumente deutscher Kriegsschäden, 1: 51.

because [his] visual impression in city after city was of a loss larger than the figures indicated."[49]

Let us try to visualize what these quantities of rubble meant. If Cologne's rubble were placed on a field 100 yards by 40 yards, the pile would be 4.48 miles high! If the surface area were enlarged to 1 square mile—and here the reader might try to imagine the inner square mile of some familiar city—the rubble would be over 30 feet high! If that same mass were used to build a wall 10 yards high and 2 yards thick, the wall would be about 895 miles in length! Contemporary Germans used this sort of conceptualization. Officials in Munich noted that their rubble mass of 5 million cubic meters was twice that contained in the Great Pyramid.[50] In Hamburg it was observed that if that city's rubble were to be loaded into normal freight railroad cars, the train would reach around the earth.[51]

Another way of looking at the rubble, also one invoked after the war, was to reduce it to cubic meters per inhabitant. Table 1.3 lists the eight cities from among Germany's cities with more than 250,000 prewar inhabitants that contained the most rubble on a per capita basis. For such calculations, 1939 population levels were always used, since urban populations in the early postwar years changed rapidly and dramatically. This approach made the amount of rubble to clear seem more manageable. Cologne's 31.2 cubic meters per inhabitant would form a cube 3.15 meters per side, or about 10 feet per side. One can well imagine an individual clearing such a mass one bit at a time, even without heavy machinery.

TABLE 1.3. Rubble per Capita in Large Cities (in cubic meters/inhabitant)

Cologne	31.2
Dortmund	30.9
Kassel	26.7
Nuremberg	23.5
Essen	22.4
Aachen	21.2
Frankfurt a.M.	21.1
Hamburg	20.9

Source: Dokumente deutscher Kriegsschäden, 1: 51.

This approach, however, was illusory. Nearly 775,000 people had lived in Cologne before the war, but in March 1945 only 40,000 people remained. The mass of rubble now equaled nearly 602 cubic meters per person (a cube 8.5 meters per side), and few of the inhabitants boasted sufficient energy and strength to move such quantities. On the other hand, by July 1945 the population expanded to between 250,000 and 300,000, and by year's end it had reached nearly 450,000.[52] In spite of a trickle of returning soldiers released from POW camps, however, most of the population still consisted of women, children, the elderly, and the infirm. They were poorly nourished, poorly clothed, and poorly housed, which limited their capacity for hard physical labor. Finally, even if every individual had indeed been physically able to clear 30 or 40 cubic meters of heavy debris, where would they have put it? Clearance required moving it some distance from the site of the ruin, making the magnitude of the task even greater.

Though the largest number of destroyed buildings were apartment houses, in every bombed city churches, schools, museums, and many other kinds of public buildings had been destroyed or damaged. The same was true for all kinds of commercial establishments—factories, warehouses, banks, retail establishments, restaurants, shops, and so forth. Total building losses in Munich for the retail trade were estimated at 30%, for the wholesale trade 10%, for crafts 25%, and for industry 30%.[53] In Darmstadt some 65% of the buildings with public functions and 63% of the commercial and industrial buildings were classified as badly damaged or totally ruined.[54] Table 1.4, which deals with damage in Hamburg, illustrates the kinds of losses a city could suffer in this regard. In addition, the allied forces confiscated for their own use many of the public buildings that remained in good repair, such as recreational and health facilities. In May 1945, of the 341 school buildings that were still usable to some degree, 217 were being used by German authorities for purposes other than schooling, and 64 billeted English troops. That left only 60 schools for instruction, at a time when a census based on identification and ration cards revealed that there were some 100,000 school-age children in the city, 12,000 more than in 1938.[55] Administrative buildings, such as the town halls, had been located in the inner cities, and, except in a city like Hamburg, where much of the central district escaped direct hits, these buildings also fell victim to the bombs. Since they contained the records, without which no government agency functions very well, the new German town administrations found it exceedingly difficult to get back to normal business operations. Services suffered accordingly.

Utilities particularly suffered directly from the bombing. The damage to water, gas, electric, telephone, and sewer lines depended upon the intensity and type of bombing but also on the placement of those lines. In his important 1951 study of the underground dimension of urban building, Ernst Randzio noted that electrical cables, typically located in front of buildings, endured far more damage than pipelines under buildings.[56] A city official reported that Stuttgart had an estimated 4,000 breaks in electrical lines, 1,000 breaks in gas lines, and 400 defects in water lines.[57] In April 1945, Münster had some 1,850

TABLE 1.4. Damage to Public Buildings in Hamburg (excluding administration buildings)

Degree of damage	*Religious Buildings*	*Medical Buildings*	*Schools*	*Cultural Buildings*	*Totals*	
					Number	*%*
Undamaged	57	171	167	13	408	27.1%
Light	35	175	65	28	303	20.2%
Moderate	13	77	62	26	178	11.9%
Heavy	25	89	60	32	206	13.8%
Totally	75	192	97	38	402	27.0%
Totals	205	704	451	137	1,497	100%

Source: Arthur Dähn, "Die Zerstörung Hamburgs im Kriege 1939–1945," in *Hamburg und seine Bauten 1929–1953*, Architekten- und Ingenieur Verein Hamburg, ed. (Hamburg, 1953), p. 35.

breaks in water pipes, causing 70% of the water to be lost into the ground.[58] In Frankfurt 7,000 broken water mains reduced service more than 50%, while in Nuremberg it was noted that in addition to the damage to the mains, 32% of the city's water meters had been destroyed.[59] Hamburg reported 2,200 breaks in sewer lines.[60]

This was the condition in which the Germans found their cities in the spring of 1945. Masses of ruins required removal. Public services and public utilities had to be restored. Only then could actual rebuilding begin. The Germans quickly started to work.

2

Work Amidst the Rubble

In addressing the problem of reconstruction, the Germans waited neither for the end of the war nor, after the defeat of 1945, for the creation of a new German state. Major wartime measures in the areas of planning and housing are discussed in later chapters. This chapter examines some of the practical attempts to deal with the immediate consequences of the air war.

As the war progressed, and as the damage to Germany's cities grew greater and greater, the Nazi regime anxiously sought to clear away the rubble left by the bombs. The failure to do so would imply that Germany was losing the war, and no one dared acknowledge the growing power of Germany's enemies. Streets were usually cleared after the raids, sometimes by "forced laborers" from other countries, by concentration camp inmates, or by prisoners of war.[1] Depending upon the availability of trucks, temporary "field" railroads, or existing streetcar lines, the debris was either carted off or simply piled onto the sites of demolished buildings. Utilities were repaired, and damaged buildings that threatened to collapse were torn down. For the cities of northern Germany, which suffered two years of repeated bombing, this was of course a labor of Sisyphus; each new air raid resulted in the same sort of damage requiring the same sort of labor. Since cities were not depopulated in proportion to their housing losses and casualties, clearly many individuals returned to their damaged homes and businesses and performed as many repairs as possible. They did so as best they could, given the shortage of building materials and construction workers, not only to preserve their property or even to obtain shelter, but also because they so strongly identified with their homes and their home towns.[2]

After February 1940, all new building projects were legally suspended except for those determined to be essential for the war effort.[3] Naturally,

armaments plants and military installations were constructed throughout the war. Typically located either outside cities or on the outskirts, they need not be considered here, although it is perhaps worth noting that through 1943, at least three-fourths of the construction and repair projects under the control of Speer's Armaments Ministry could be completed, and only in 1944 did shortages of cement and construction steel really begin to affect essential building.[4] The accomplishments in terms of civilian construction during wartime were remarkable. Between the start of the war and the middle of 1943, around 400,000 dwellings were constructed, mostly for armaments workers.[5] In Hamburg, 1,200 new housing units were erected in 1942 and 3,500 units were repaired in the last six months of that year. Dwellings reinforced against air attack that had been completed since mid-1941 numbered 1,250; another 1,600 were under construction.[6] In March 1943, Rudolf Hillebrecht, the chief administrator of Hamburg's Office for Activities Important to the War Effort, reported on the efforts to clear rubble, repair housing, and build temporary housing in other cities. He noted that in Berlin, nearly 40% of the damage was usually cleared away without any official intervention by the property owners, who somehow managed to engage a supply of local laborers in spite of the labor shortage. On the other hand, in cities with less efficient self-help efforts and where authorities failed to organize effective clearance and repair programs, Hillebrecht discovered panic-stricken residents intent on fleeing the city.[7] Certainly Hamburg continued to function even after the great air raids and firestorm. Mail and telegraph services were restored almost immediately. Within two months, 170 miles of streets had been cleared and 7,668 ruined or partially ruined buildings demolished. Within five months, 80% of the city's industrial capacity was restored.[8] In Düsseldorf, some of the rubble was processed to manufacture new brick and to produce massive concrete roofing to repair bombed buildings. The new roofing would lessen fire damage in future raids as well as provide better thermal insulation[9] As the cities were bombed over and over again, much of the repair effort lasted only until the next raid, but the practical experience gained in making these repairs would be utilized more permanently and meaningfully after the war.

Rubble Clearance and the Repair of Utilities

In fact, though the damage was often extensive, disruptive, and dangerous to public health, a surprisingly large percentage of the underground capital investment in utilities survived the war. Munich reported damage to its electrical system at 6.58%, its gas system at 15.71%, its water system at 4.21%, its sewer system at 4%, and its telephone lines at 40–50%.[10] In Berlin, about 95% of the underground capital survived, including the subway system, underground parking, and underground storage facilities. Ernst Randzio calculated that in 1938 (and in terms of 1938 money), the value of the above-ground investment was 15.85 billion marks, the value of the underground investment 4.53 billion marks. (This ratio of about 3.5 to 1 was evidently similar to that in other cities.)

While about 70% of the above-ground investment survived the war, 95% of the underground investment remained intact.[11] Moreover, much of the damage to the pipelines and electrical lines could be repaired relatively quickly.

Restoring damaged utility plants to working order was sometimes more challenging. Münster's street lamps remained dark until 1948, and the city did not regain full electrical service until the beginning of 1950.[12] Stuttgart's electrical works were intact, but they lacked coal, and it was not until December 1945 that the city's steam power works were restarted. The city gas works began to function again the following month, although the lack of coal hampered both gas production and repairs to the damaged furnaces. Furthermore, Stuttgart observed that restoring utility service "was made difficult through the discharging of more than 500 workers, employees and officials due to their former affiliations with the Nazi party."[13] Nevertheless, the surviving investment in utilities, street surfaces, and urban transportation systems constituted enormous assets for the impoverished German cities, and the very existence of these assets exerted a great influence on the shape of reconstruction. Indeed, as surfaces were gradually cleared away, the layout of the street and utility systems often determined rebuilding sites.

For the German cities, rubble clearance posed a legal problem as well as a physical and economic one. If towns obviously assumed responsibility for removing rubble from the streets and the sites of public buildings, who should do so for private property? General legal practice required owners to maintain their property in accordance with local safety and health standards, but postwar conditions made this impossible in most cases. Efficient removal of the rubble required heavy machinery, a resource unavailable to most individual property owners. Besides, some owners were missing, and the ownership of some properties was unclear. The cities wanted to rebuild the ruined inner cities rather than concentrate all building activity in the undamaged suburbs, so clearance had to proceed, whatever the difficulties. On what grounds, then, could a community clear a property without the owner's consent, and what were the rights and obligations of the respective parties?

The initial basis for town action was the Reichsleistungsgesetz of 13 July 1938 in its revised version of 1 September 1939; this was a kind of enabling law that obliged and empowered the towns to enter a building to put out a fire, clear serious bomb damage, or make the site safe. For the public good the town could salvage what was possible from the rubble.[14] An alternative was the December 1940 Ordinance Concerning Measures for Clearance of War Damage (Verordnung über Neuordnungsmaßnahmen zur Beseitigung von Kriegsfolgen). Although these laws had been introduced and used by the Nazis, they were not abrogated by the allied occupying forces when the war ended, and local town authorities continued to invoke them as the legal basis for rubble clearance. Frankfurt, for example, passed a special rubble removal law in December 1945, based on the Reichsleistungsgesetz. The continued use of the provisions of the Reichsleistungsgesetz was challenged in court by owners who sought compensation for the value of the building material taken. They argued that as they had paid once for that material, they should not have

to pay again—possibly even buying it back from the city—when they rebuilt. The towns, on the other hand, contended that the cost of clearance normally exceeded the value of the salvaged building materials, and the owner actually gained from the removal of the rubble since he now had a building site that did not require an outlay of additional personal funds for rubble removal.

Although the courts usually ruled in the towns' favor, they still pressed for new state rubble clearance laws to strengthen their position. Both towns and property owners found it troubling to have to rely upon laws promulgated by the authoritarian Nazi state instead of new, democratic legislation.[15] Hamburg, for example, passed a new law on 31 July 1948. Northrhine-Westphalia did so on 2 May 1949.[16] These laws clearly granted towns responsibility for rubble removal but typically allocated state funds to cover most of the costs.[17] One authority estimated that 2.5–4% of the total cost of reconstruction was for rubble clearance.[18] A property owner could apply for permission to clear his own property, in which case he retained title to material salvaged from the ruins, but generally the community did the work and claimed ownership of the rubble. Only when the value of the salvaged material exceeded the cost of clearance did the town pay the owner the difference. In applying these laws, a few unclear points had to be worked out in practice. When, for example, was a ruin so badly damaged that it presented a hazard, or, if there was no hazard, when did the public interest require demolition of a ruin anyway? Some owners felt that the cities should also remove debris from cellars. Cologne and Münster declined to do so, arguing that future building codes might not allow for the rebuilding of cellars, and in any case the owner could easily do that clearing by hand, in contrast to the removal of the above-ground mass of rubble, which required heavy machinery.[19]

The legal question was only one of the many issues facing the towns when they began clearance. Who would actually do the work, and how would it be organized? Some rubble clearance, of course, began as soon as the fighting stopped. Major streets were cleared with allied help, and property owners and tenants worked with their hands to make usable space in the ruins. The removal of the great masses of rubble, however, became a large-scale task for city-owned and private construction firms. As rubble clearance competed for labor and machinery with building projects already in progress, shortages of labor, fuel, and machinery were a constant problem for local authorities.

In the first year after the war, the shortage of labor, especially skilled labor, was quite serious. Many workers were still incarcerated in prisoner-of-war camps. The chairman of a large Frankfurt construction company reported that 10% of his firm's construction workers had died during the war. Many workers, moreover, lived outside the city and were reluctant to come into the center because of the cost and difficulty of travel and because wages and working conditions were often better in the suburbs or countryside.[20] The American military authorities in Bavaria determined that in June 1938, nearly 300,000 workers had been employed in construction or in the building materials industries. In February 1946, only 52% as many workers were employed in those sectors, and by the end of that year the figure rose only to 75%.[21]

Demands of the Allies exacerbated the labor shortage throughout the early years. Munich's reconstruction office reported that up until the spring of 1946, the occupation authorities absorbed the largest block of construction workers. In December 1945, the military government employed 6,900 workers on its own building projects, while the railroad employed 1,800, the post office 350, other public agencies (including the city) 2,600, and the private sector 5,850.[22] These figures indicate more than the high priority enjoyed by military construction. The Allies supplemented their workers' wages with food and clothing, which was otherwise in short supply. In Berlin up to 30% of the construction workers on private and city projects claimed to be ill and failed to report to work, but few did so on military projects, which boasted high productivity rates.[23] Food shortages—the food ration in the American zone dropped to 1,180 calories per person daily in May 1946, a prime time of year for construction—meant ill-nourished private and city workers, who naturally achieved less.[24]

The authorities tried a number of strategies to augment the supply of construction workers. Some help came from building workers who were refugees from the eastern lands. Prisoner-of-war camps provided another source of labor. Requests to the military government led to the release of skilled construction laborers for work on authorized projects.[25] In the fall of 1945, Berlin's Technical University stipulated that matriculated students devote hours to clearing rubble from the university grounds.[26] A law of the military government explicitly empowered German authorities to employ women "on building and reconstruction work, including rubble clearance," and photographs from the period frequently show women pulling down piles of rubble and passing debris along in buckets.[27] During the blockade of Berlin, when the cutoff of most shipments of building materials forced a much higher number of workers than normal to turn to rubble clearance, about 35% of the employees clearing rubble were women.[28] Engaged in hard, untraditional, but absolutely crucial work, these women—*die Trümmerfrauen*—labored heroically. Günter Grass immortalized Berlin's Trümmerfrauen in a wonderful poem, "Die große Trümmerfrau spricht," from which two stanzas read:

Trümmerfrau Trümmerfrau
singen die Kinder—
will mit dem Ziegelbrenner Ziegelbrenner
heut eine Wette machen Wette machen—
es geht um viel Schutt.
Amen Amen.
Hingestreut liegt Berlin
Staub fliegt auf,
dann wieder Flaute.
Die grosse Trümmerfrau wird heiliggesprochen.

Rubble woman rubble woman
sing the children—
wants to make a wager make a wager