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The End of the Long Hot Summer: The Air Conditioner and Southern Culture

By RAYMOND ARSENAULT

IN 1979 *TIME* MAGAZINE COLUMNIST FRANK TRIPPETT TOOK THE American intellectual community to task for ignoring the social and cultural significance of air conditioning. Scholars and pop sociologists have been keenly aware of “the social implications of the automobile and television,” he observed, but for some reason they have not gotten around “to charting and diagnosing all the changes brought about by air conditioning.”¹ Trippett’s complaint is valid, and strange as it may seem, nowhere is this more evident than in the field of southern history. When the journalist Pat Watters called the air conditioner the “unsung hero” of the modern South in 1963, he knew what he was talking about.² With few exceptions, historical works on the twentieth-century South published during the last forty years make no mention of air conditioning or, for that matter, of anything related to climate or climate control.³ The recently published *The Encyclopedia of Southern History* contains 2,900 articles, covering everything from “Abbeville” to “Zwaanendael,” but incredibly it has no article on “air conditioning.” Even the broader subject of southern climate is dismissed in three paragraphs—less space than is devoted to “reptiles and amphibians.”⁴

¹ Frank Trippett, “The Great American Cooling Machine,” *Time*, CXIV (August 13, 1979), 75. The author wishes to thank Kathleen Arsenault and Gary Mormino for their help in the preparation of this article.

² *Air Conditioning, Heating, and Refrigeration News* (August 26, 1963), 1; hereinafter cited as *ACHR News*.

³ Two exceptions are Charles P. Roland, *The Improbable Era: The South Since World War II* (Lexington, Ky., 1975), 2–3, 185; and Fred Hobson, “A South Too Busy to Hate?” in Fifteen Southerners, *Why the South Will Survive* (Athens, Ga., 1981), 45, 51.

⁴ David C. Roller and Robert W. Twyman, eds., *The Encyclopedia of Southern History* (Baton Rouge and London, 1979), 1, 242–43, 1047–49, 1371.

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This scholarly neglect is surprising because it goes against the grain of common sense and popular culture. Ask any southerner over thirty years of age to explain why the South has changed in recent decades, and he may begin with the civil rights movement or industrialization. But sooner or later he will come around to the subject of air conditioning. For better or worse, he will tell you, the air conditioner has changed the nature of southern life. Some southerners will praise air conditioning and wonder out loud how they ever lived without it. Others will argue that the South is going to hell, not in a hand basket, but in an air-conditioned Chevy. As one Florida woman recently remarked, "I hate air conditioning; it's a damnfool invention of the Yankees. If they don't like it hot, they can move back up North where they belong."⁵

Southern historians' lack of interest in the social history of climate control cannot be easily explained, but one suspects that, to a great degree, it represents a reaction to the excesses of an earlier generation of scholars. During the first three decades of the twentieth century environmental determinism was a powerful force in American social science. This was the age of Walter Prescott Webb, Ellsworth Huntington, and Ulrich Bonnell Phillips, when the link between climate and culture was often thought to be a simple relationship of cause and effect. The southern climate, in particular, was credited with producing everything from plantation slavery to the southern drawl.⁶ "Let us begin by discussing the weather, for that has been the chief agency in making the South distinctive," was the opening line of Phillips's 1929 classic *Life and Labor in the Old South*. According to Phillips, the hot, humid southern climate "fostered the cultivation of the staple crops, which promoted the plantation system, which brought the importation of negroes, which not only gave rise to chattel slavery but created a lasting race problem. These led to contro-

⁵ Anonymous Interview, St. Petersburg, Florida, March 12, 1982. Since 1974 I have discussed the South's "air-conditioning revolution" with more than two hundred individuals. Some of these discussions took place during extended conversations or formal interviews. Others (hereinafter cited as "Misc. Interviews") were nothing more than brief, casual conversations, though these conversations often rendered valuable information on the proliferation and impact of air conditioning in the South.

⁶ Ellsworth Huntington, *Civilization and Climate* (New Haven and London, 1915); Walter Prescott Webb, *The Great Plains* (Boston, 1931); Ulrich Bonnell Phillips, *Life and Labor in the Old South* (Boston, 1929). On the historiography of southern climate see James C. Bonner, "Plantation and Farm: The Agricultural South," in Arthur S. Link and Rembert W. Patrick, eds., *Writing Southern History: Essays in Historiography in Honor of Fletcher M. Green* (Baton Rouge, 1965), 150-52; William A. Foran, "Southern Legend: Climate or Climate of Opinion," South Carolina Historical Association, *Proceedings, 1956* (Columbia, 1957), 6-22; Edgar T. Thompson, "The Climatic Theory of the Plantation," *Agricultural History*, XV (January 1941), 49-50; and C. Vann Woodward, *The Burden of Southern History* (Baton Rouge, 1968), x-xi.

versy and regional rivalry for power, which produced apprehensive reactions and culminated in a stroke for independence. Thus we have . . . the Confederate States of America.”⁷ So much for the complexity of history.

Modern scholars have wisely rejected this kind of monocausal climatological determinism, a determinism that was frequently tied to racist and colonialist preconceptions. Unfortunately, they have tended to overreact, throwing out the baby with the bath water.⁸ Climate may not be the key to human history, but climate does matter. In some areas, such as the American South, it matters a great deal, or at least it did until the coming of the air conditioner. “Because the air conditioner, the airplane and television have smoothed out harsh differences in climate, nearly abolished distance and homogenized popular taste,” a 1970 *New York Times* editorial argued, “Americans are becoming much less regionally diverse. . . . The census sketches a nation that has become one people with much the same problems and expectations everywhere. The regions fade. The urbanized nation strides on.”⁹ Perhaps so, but the *Times* editor would not be the first person to have been a bit premature in pronouncing the death of southern regionalism. The truth is that no one really knows what impact air conditioning has had on southern life and culture because no one, to this point, has undertaken an in-depth study of the subject. This essay represents a modest first step toward such a study.

When did the “air conditioning revolution” actually come to the South? This is not as simple a question as it may seem because air conditioning, like most forms of technology, developed in piecemeal fashion. The age of air conditioning, in the broadest sense, was initiated by John Gorrie, a Florida physician who began experimenting with a crude form of mechanical cooling in the 1830s. In an attempt to lower the body temperatures of malaria and yellow fever victims, Gorrie blew forced air over buckets of ice suspended from the ceiling of the U. S. Marine Hospital at Apalachicola, Florida. The experiment yielded mixed results but left Gorrie obsessed with the healing potential of chilled air. His use of the steam-driven compressor to cool air led, in 1851, to a patent for the first ice-making machine.

⁷ Phillips, *Life and Labor in the Old South*, 3.

⁸ For a good introduction to the continuing controversy over the relationship between climate and culture see David Hackett Fischer, “Climate and History: Priorities for Research,” *Journal of Interdisciplinary History*, X (Spring 1980), 821–30. See also Emmanuel Le Roy Ladurie (trans. Barbara Bray), *Times of Feast, Times of Famine: A History of Climate Since the Year 1000* (Garden City, 1971); H. H. Lamb, *Climate, History and the Modern World* (London and New York, 1982); and T. M. L. Wigley, M. J. Ingram, and G. Farmer, eds., *Climate and History: Studies in Past Climates and their Impact on Man* (Cambridge, Eng., 1981).

⁹ *New York Times*, September 6, 1970, p. 10E.

Gorrie eventually was hailed as “the inventor of air conditioning,” and in 1914 he was memorialized by proud Floridians who placed his statue in Washington, D. C.’s Statuary Hall.¹⁰ But few of his contemporaries appreciated the significance of his achievements. One New York journalist sneered that “A crank down in Florida thinks he can make ice as good as Almighty God”¹¹

Despite such skepticism, experimentation in the area of mechanical cooling and refrigeration became widespread during the Civil War and Reconstruction era. In the late 1860s the invention of the refrigerated tank car revolutionized the meat-packing industry and spurred new interest in the science of temperature control.¹² A number of inventors, including several southerners, set out to prove that a technology capable of preserving dead animals could also be used to cool live humans. In 1871 Andrew Muhl of Waco, Texas, designed a room cooling system that used forced air and refrigerated coils suspended from the ceiling. Nine years later two Alexandria, Virginia, engineers, Robert Portner and Edward Eils, invented a cooling apparatus that used a steam-driven ventilating fan to force air over refrigerated pipes. Designed as a quality control device, the Portner-Eils system eventually was installed in several breweries. Air conditioning for the masses was still a long way off, but now the American worker could at least cool off with a higher quality of cold beer. The Gilded Age’s most celebrated effort at mechanical cooling took place during the summer of 1881, when President James A. Garfield’s doctors used ventilating fans and 436 pounds of ice per hour to cool his White House bedroom. As the nation watched Garfield expire in relative comfort, the idea of mechanical cooling became a part of American popular culture.¹³

Less dramatic, but probably more important in the long run, was the invention of the electric fan in 1882. Unlike the earlier steam-driven models, which were used primarily to ventilate mines and

¹⁰ Raymond B. Becker, *John Gorrie, M. D.: Father of Air Conditioning and Mechanical Refrigeration* (New York, 1972); *St. Petersburg Times*, August 5, 1963; Margaret Ingels, *Willis Haviland Carrier, Father of Air Conditioning* (Garden City, 1952), 110; Wade Greene, “Air-Conditioning,” *New York Times Magazine*, (July 14, 1974), 12, 16, 18; James Burke, *Connections* (Boston and Toronto, 1978), 238–41, 291.

¹¹ Greene, “Air-Conditioning,” 18; *St. Petersburg Times*, August 5, 1963, July 15, 1966.

¹² Daniel J. Boorstin, *The Americans: The Democratic Experience* (New York, 1973), 316–31; Harper Leech and John Charles Carroll, *Armour and His Times* (New York and London, 1938), 125–62; Burke, *Connections*, 241–44.

¹³ Ingels, *Willis Haviland Carrier*, 14, 114, 117–18; *ACHR News* (September 20, 1976), 5; Interview with Bolling Flood (grandson of Robert Portner), St. Petersburg, Florida, September 28, 1982; Alan Peskin, *Garfield: A Biography* (Kent, Ohio, 1978), 601–602; Robert Friedman, “The Air-Conditioned Century,” *American Heritage*, XXXV (August/September 1984), 20, 22.

factories, electric fans soon found their way into homes, hotels, restaurants, barber shops, courthouses, theaters, and other public buildings. By the end of the century ornate brass-fitted ceiling fans graced the lobbies of many southern hotels, while smaller “rocking chair” fans could be found in parlors from Alexandria to San Antonio.¹⁴ Ownership of an electric fan quickly became a badge of middle-class respectability in the urban South. The “whirligig” was a luxury item beyond the reach of most working-class families, although by 1902 small table fans could be purchased from Sears Roebuck for ten dollars.¹⁵ In the rural South, where electrification was almost unknown and where farmers and villagers were left to the mercy of natural forces, the electric fan became a symbol of urban opulence—or in some cases decadence. During a 1902 political campaign Governor Jeff Davis of Arkansas had a lot of explaining to do after his opponent pointed out that he had purchased “a whirligig fan at the state’s expense, to fan himself with, not being content to use a palm leaf like ordinary people.”¹⁶

The electric fan had some capacity to cool and circulate the air, but it did nothing to alleviate the oppressive humidity that often blanketed the South. To tame the southern climate it would take more than ceiling fans and blocks of ice; it would take a true “air conditioner”—a machine that would simultaneously cool, circulate, dehumidify, and cleanse the air.¹⁷ Many years would pass before such a machine was available for domestic use, but at the turn of the century an embryonic air-conditioning technology designed for industrial purposes began to emerge, bringing the promise that someday the era of “muggy air and mosquitoes and ceiling fans” would be over.¹⁸ What is generally acknowledged to be the world’s first air-conditioning system was installed in 1902 at the Sackett-Wilhelms Lithographic and Publishing Company in Brooklyn. This system, which controlled both humidity and temperature by pumping air at a set velocity over coils refrigerated at a set temperature, was invented by Willis Haviland Carrier, a twenty-five-year-old Cornell-trained engineer—“air

¹⁴ The electric fan was invented by Dr. Schuyler Skaats Wheeler. Joseph Nathan Kane, *Famous First Facts* . . . (New York, 1981), 236; *ACHR News* (October 18, 1976), 28; “Baker’s Rocking Chair Fan,” *Scientific American*, LXVII (October 15, 1892), 242; “A Substitute for Fresh Air,” *Literary Digest*, XLV (December 7, 1912), 1058; Reyner Banham, *The Architecture of the Well-Tempered Environment* (London and Chicago, 1969), 51–54, 176–77.

¹⁵ *The 1902 Edition of the Sears Roebuck Catalogue* (New York, 1969), 663.

¹⁶ Little Rock *Arkansas Gazette*, January 29, 1902; Raymond Arsenault, *The Wild Ass of the Ozarks: Jeff Davis and the Social Bases of Southern Politics* (Philadelphia, 1984), 143.

¹⁷ Ingels, *Willis Haviland Carrier*, 17; Banham, *Architecture of the Well-Tempered Environment*, 82.

¹⁸ Greene, “Air-Conditioning,” 16.

conditioning's Edison."¹⁹ Carrier's ingenuity and vision would guide the air-conditioning industry until his death in 1950.

Although the air-conditioning industry began in the North, most of its early growth took place in the South, thanks to the efforts of two young southern engineers, Stuart W. Cramer and I. H. Hardeman. A textile engineer from Charlotte, North Carolina, Cramer actually coined the term "air conditioning" in 1906. During a long career he designed scores of air-conditioning systems for southern cotton mills.²⁰ Hardeman, a graduate of the Georgia Institute of Technology working under Carrier, convinced his boss that air conditioning would eventually "Revolutionize the textile industry"²¹ One of the industry's chronic problems, he pointed out, was its inability to control the moisture content in fibers, which often stiffened and snapped when subjected to the extreme heat generated by spindles. At Hardeman's urging Carrier published an article in *Textile World* in April 1906 describing the benefits air conditioning could bring to the textile industry. By the time the article appeared, Hardeman had already sold a primitive air-conditioning system to the Chronicle Cotton Mills of Belmont, North Carolina. After visiting the Chronicle Mills in the summer of 1906 Carrier added several important refinements to his system. It was during this visit that he discovered the principle of "dew point control," later an axiom of air-conditioning technology. By 1908 air conditioning had been installed in several North Carolina cotton mills and by 1911 in rayon mills, where temperature and humidity problems were especially acute.²²

In 1909 air conditioning moved into the southern tobacco industry, where it was destined to have a major impact on quality control, marketing, and working conditions. Here the key figure was Irvine Lyle, a Carrier executive who had spent his early years on a Kentucky farm. Lyle was convinced that air conditioning could control the amount of moisture in cut tobacco and thus facilitate accurate weighing and pricing. After an initial system was sold to a Henderson, Kentucky, tobacco dealer, the idea caught on, and air conditioning eventually became a fixture in tobacco warehouses. By 1911 air conditioners were being used in cigar factories and by 1913 in tobacco stemming rooms, where dust had bedeviled workers for

¹⁹ Ingels, *Willis Haviland Carrier*, 1-19; "Blow, Cool Air," *Time*, LXXX (July 27, 1962), 42; Carrier Corporation, *The Two Faces of Janus: The Story of Carrier Corporation* (Syracuse, 1977), 1-28.

²⁰ Ingels, *Willis Haviland Carrier*, 26, 124, 136-39; Friedman, "The Air-Conditioned Century," 25-26; Carrier Corporation, *The Two Faces of Janus*, 3, notes that the process of "keeping textile fibers dampened during spinning and weaving" was commonly called "yarn conditioning."

²¹ Ingels, *Willis Haviland Carrier*, 26.

²² *Ibid.*, 26-30, 40, 48.

centuries. Before the end of the decade, the new technology had spread to paper mills, breweries, bakeries, and a handful of other industries.²³

Prior to the 1920s air conditioning in the South was restricted almost entirely to industrial uses. The major exceptions were a Baltimore hotel and Montgomery, Alabama's, elegant Empire Theater, which added air conditioning in 1917.²⁴ Even in southern industry the use of air conditioning was severely limited and would remain so for many years. Many southern mills did not install air-conditioning systems until the 1930s or 1940s, and even then the vast majority were only partially air-conditioned.²⁵

As late as 1924 most southerners had probably never heard of air conditioning, much less experienced it. But this situation changed abruptly in the mid-1920s when the primary function of air conditioning shifted from efficient production to human comfort. The breakthrough came in 1922 when Willis Carrier coupled the centrifugal compressor to the air conditioner. By replacing the cumbersome piston-driven compressor, Carrier's innovation reduced the size and increased the efficiency of air conditioners. He also substituted a safer refrigerant, Carrene, for the potentially deadly ammonia gas previously used. The age of "comfort cooling" had dawned.²⁶

In the South, as elsewhere, the new age began at the movies. It was through the movie house that air conditioning entered the mainstream of southern life. In the summer of 1924 the Palace Theatre in Dallas and the Texan and Iris theaters in Houston became the first southern movie houses to install air conditioning. Advertising "cool and clear" weather, the Texas theaters were soon bulging with customers.²⁷ Other theaters, many of which had traditionally closed during the torrid summer months, quickly followed suit. Although most

²³ *Ibid.*, 37-43, 48-49; Carrier Corporation, *The Two Faces of Janus*, 17; *ACHR News* (September 20, 1976), 6; "Tobacco Air Conditioning Cuts Curing Time in Half," *Newsweek*, XIV (July 24, 1939), 23; Banham, *Architecture of the Well-Tempered Environment*, 30-31; P. R. Moses, "Heating, Ventilating, and Air Conditioning of Factories," *Engineering Magazine*, XXXIX (August-September 1910), 697-712, 865-80; Friedman, "The Air-Conditioned Century," 26.

²⁴ Ingels, *Willis Haviland Carrier*, 142; Banham, *Architecture of the Well-Tempered Environment*, 171, 174.

²⁵ "Keeping Cool," *Business Week*, No. 997 (October 9, 1948), 108-10; F. R. Ellis, "Getting Away From the Handicap of Climate," *Industrial Management*, 73 (May 1927), 274-78; Ingels, *Willis Haviland Carrier*, 145, 153, 156; "Cool Age," *Time*, LXXXII (August 2, 1963), 60; *ACHR News* (September 20, 1976), 114; Friedman, "The Air-Conditioned Century," 26.

²⁶ Ingels, *Willis Haviland Carrier*, 61-63; *ACHR News* (September 20, 1976), 5-6, 8; Banham, *Architecture of the Well-Tempered Environment*, 171, 175; Carrier Corporation, *The Two Faces of Janus*, 5.

²⁷ Ingels, *Willis Haviland Carrier*, 64-68; Banham, *Architecture of the Well-Tempered Environment*, 176-78.

moviegoers welcomed the new technology, not all of the early experiences with chilled theaters were positive. At the grand opening of St. Petersburg's Florida Theatre in 1926, "the proud management had the temperature down so low that ladies in evening dresses almost froze!"²⁸ Despite such minor setbacks, by 1930 hundreds of southern movie palaces were enticing customers with frost-covered signs boasting "20 DEGREES COOLER INSIDE."²⁹ The proliferation of comfort cooling in theaters and other public buildings was further accelerated in 1931 with the invention of Freon, a noninflammable refrigerant that made air conditioning safer and less expensive. By the beginning of World War II most southern movie theaters were air-conditioned.³⁰

A similar revolution occurred on southern railways during the 1930s. As early as 1884 the Baltimore and Ohio Railroad had made a valiant but futile attempt to cool its passengers by attaching a huge icebox to the front end of one of its coaches. In 1913 the Pullman Company asked Willis Carrier to design an air conditioner for passenger cars, but nothing came of the idea until 1929, when Carrier constructed an experimental system for the Baltimore and Ohio. A year later the Carrier unit was installed in the diner of the "Columbian," which operated between Washington and New York. Air-conditioned dining and passenger cars soon spread to other railroads, especially after Carrier designed an improved unit that used engine steam as its energy source. In 1932 the development of an even better system, the "Frigicar," which took its power from the car axle, opened up vast new markets for railway air conditioning.³¹ "Air-conditioned trains . . . have become an accepted fact," *Business Week* reported in 1933, "The novelty has worn off . . ." ³² By the end of the decade most railroad passengers, North and South, were traveling in air-cooled comfort.

The movement of air conditioning into other areas of southern life was much more gradual. The first air-conditioned department store appeared in the North in 1914, but it would be many years before a

²⁸ St. Petersburg *Times*, July 15, 1966 (quotation); July 17, 1952; St. Petersburg *Evening Independent*, June 7, 1955. See also "Overdone Theater Cooling," *Literary Digest*, CIII (October 26, 1929), 32.

²⁹ Ingels, *Willis Haviland Carrier*, 68, 147; St. Petersburg *Times*, July 17, 1952; "Home-Made Weather," *Literary Digest*, CIV (February 15, 1930), 28.

³⁰ Boorstin, *The Americans: The Democratic Experience*, 356; *ACHR News* (September 20, 1976), 8; Misc. Interviews.

³¹ Ingels, *Willis Haviland Carrier*, 78-81; "Hot Steam for Cooling Trains," *Scientific American*, CXLV (November 1931), 348; *ACHR News* (September 20, 1976), 14.

³² "R. R. Air Conditioning," *Business Week*, No. 208 (August 26, 1933), 12; see also "Air Conditioning," *ibid.*, No. 247 (May 26, 1934), 11-12; Banham, *Architecture of the Well-Tempered Environment*, 185; and *Tampa Tribune*, February 2, 1934.

significant number of stores followed suit.³³ Most big-city department stores in the South continued to depend on ceiling fans until the 1940s. When a large Richmond department store installed air conditioning in 1934, the city was buzzing for weeks.³⁴ In the region's smaller cities and towns many retail stores resisted the lure of air conditioning until the 1960s. S. S. Kresge and Company began air-conditioning its chain stores in 1934, but most chains held out until after World War II.³⁵ Air conditioning for small retail stores became available in 1928, and by the late 1930s there was a sprinkling of air-conditioned barber shops, hardware stores, funeral homes, drug-stores, beauty salons, restaurants, and taverns across the region. Nonetheless, the air-conditioned shop remained an oddity in many areas of the South until the 1950s.³⁶ Similarly, air-conditioned grocery stores were almost unknown until the International Grocers' Alliance introduced its partially air-conditioned "Foodliner" stores in 1946.³⁷

The introduction of air conditioning in government buildings, banks and office buildings, hotels, and hospitals followed a similar pattern. Air conditioning began to appear in government buildings in the late 1920s, but virtually all of the early installations were in federal buildings. The chamber of the House of Representatives was air-conditioned in 1928; the Senate followed in 1929, the White House and the Executive Office Building in 1930, and the United States Supreme Court Building in 1931.³⁸ Generally speaking, federal

³³ Ingels, *Willis Haviland Carrier*, 42, 63; *ACHR News* (September 20, 1976), 6, 8; Carrier Corporation, *The Two Faces of Janus*, 7.

³⁴ "Air Conditioning," *Business Week*, No. 247 (May 26, 1934), 12; Misc. Interviews; *St. Petersburg Times*, June 7, 1955; *St. Petersburg Evening Independent*, June 7, 1955.

³⁵ *ACHR News* (June 28, 1976), 22; "Air Conditioning," *Business Week*, No. 247 (May 26, 1934), 11; "Cooling for 13,000 Stores, the Alamo, and a Harem," *Architectural Forum*, CXIV (April 1961), 134; Misc. Interviews; *Chain Store Age* has conducted annual air-conditioning surveys since the 1950s.

³⁶ Ingels, *Willis Haviland Carrier*, 76, 85; *St. Petersburg Times*, July 17, 1952; *ACHR News* (September 20, 1976), 16; Misc. Interviews.

³⁷ *ACHR News* (May 31, 1976), 26; (August 9, 1976), 8; (August 16, 1976), 16.

³⁸ Ingels, *Willis Haviland Carrier*, 71-73, 91; Friedman, "The Air-Conditioned Century," 28-29; "Air Conditioning Starts Fast," *Business Week*, No. 292 (April 6, 1935), 11-12; *ACHR News* (February 9, 1976), 12. A number of politicians and political pundits have commented on the far-reaching implications of the coming of air conditioning to Washington. Republican Congressman Joseph W. Martin of Massachusetts wrote in 1960: "The installation of air conditioning in the 1930s did more, I believe, than cool the Capitol: it prolonged the sessions. The members were no longer in such a hurry to flee Washington in July. The southerners especially had no place else to go that was half as comfortable." Joseph W. Martin (as told to Robert J. Donovan), *My First Fifty Years in Politics* (New York, 1960), 49. In 1978 *New York Times* columnist Russell Baker offered a tongue-in-cheek appraisal of air-conditioned government: "If I were a conservative, having given the big taxers a taste of the axe, I would now forget the death penalty and the crusade against homosexuality for a while and attack one of the taproots of waste and big government. I refer to air conditioning in Washington. Air

courthouses and military buildings, many of which were air-conditioned by 1950, were the first government buildings in the South to have air conditioning. State and local government lagged far behind; most of the region's state buildings and county courthouses did not become air-conditioned until the 1960s.³⁹

In most southern cities and towns, banks were among the first buildings to be equipped with air conditioning. Bastions of progress, the banks often led the way, eventually goading other local establishments into experimenting with the new-fangled technology. Yet even the air-cooled bank remained a novelty in many areas of the South until after World War II. In some cases the delay was due to the difficulty of air-conditioning high-rise structures. In 1928 the massive twenty-one-story Milam Building in San Antonio became the world's first fully air-conditioned office block. Unfortunately, the air-conditioning system used in the Milam Building was too expensive and too bulky for general use.⁴⁰ During the 1930s Carrier and other engineers tried, with limited success, to develop a practical, efficient air conditioner for skyscrapers. Finally, in 1939, Carrier perfected the Conduit Weathermaster System, which used high-velocity air propelled through narrow tubes. The first buildings to use the new

conditioning has contributed far more to the decline of the Republic than unexecuted murders and unorthodox sex. Until it became universal in Washington after World War II, Congress habitually closed shop around the end of June and did not reopen until the following January. Six months of every year, the nation enjoyed a respite from the promulgation of more laws, the depredations of lobbyists, the hatching of new schemes for Federal expansion and, of course, the cost of maintaining a government running at full blast. Once air conditioning arrived, Congress had twice as much time to exercise its skill at regulating and plucking the population. . . . The custom of sitting year round in Washington was begun, not surprisingly, by the Southern bloc that dominated Congress during the 1950's. Until air conditioning arrived, they had made it a point to schedule business so they could take relief from Washington summers in the shade of the catalpa and the magnolia. With an air-conditioned Capitol, however, the necessity for perspiring into their juleps abruptly ended. Instead of wilting by the swamps, they could now stay crisp as lettuce in the cool splendor of the Capitol. For voters accustomed to seeing them working the home turf during the steam season, of course, they had to offer justifications for remaining in Washington, and the best of all justifications was the pressing duty of toil for the national good." Russell Baker, "No Sweat," *New York Times Magazine*, (July 9, 1978), 6. More recently, Gore Vidal has written: "I date the end of the old republic and the birth of the empire to the invention, in the late Thirties, of air conditioning. Before air conditioning, Washington was deserted from mid-June to September. . . . But after air conditioning and the Second World War arrived, more or less at the same time, Congress sits and sits while the presidents—or at least their staffs—never stop making mischief at the White House or in the splendid old State and War Departments building, now totally absorbed by the minions of President Augustus." Gore Vidal, "The Ruins of Washington," *The New York Review of Books*, XXIX (April 29, 1982), 10.

³⁹ *ACHR News* (August 9, 1976), 8; (August 16, 1976), 16; (September 20, 1976), 21; Misc. Interviews.

⁴⁰ Banham, *Architecture of the Well-Tempered Environment*, 178–79; Kane, *Famous First Facts*, 137; Misc. Interviews. In 1956 the twenty-four-story Bank of the Southwest in Houston became the "First large commercial building" to have air conditioning "controlled from a single central panel." *ACHR News* (August 9, 1976), 8.

system were the Bankers Life Building in Macon, Georgia; the Durham Life Building in Raleigh, North Carolina; and the United Carbon Building in Charleston, West Virginia. Conduit systems were eventually installed in most of the South's taller office buildings.⁴¹

Although air conditioning was being used in northern hotels by 1908 and in southern hotels by 1914, all of the early hotel installations were limited to public areas such as lobbies and first-floor restaurants.⁴² The first hotel to offer its guests air-conditioned rooms on anything more than an experimental basis was the Detroit Statler in 1934.⁴³ The newly constructed Statler Hotel in Washington, D. C., was fully air-conditioned in 1941, but the vast majority of southern hotels did not install air conditioning in private rooms until the early 1950s.⁴⁴ As late as 1957 the Chamber of Commerce in one large southern city complained that less than half of the city's hotel rooms were air-cooled.⁴⁵ The air-conditioned motel was also a development of the 1950s, though one enterprising Augusta, Georgia, tourist camp offered air-conditioned cabins in 1936.⁴⁶ By the 1960s air-conditioned motels and hotels had become so common in the South that most proprietors dropped the traditional one-dollar surcharge for air-conditioned rooms.

Despite Doctor Gorrie's early heroics, the idea of an air-conditioned hospital initially drew a mixed response from the American medical community. A ward for premature babies in a Pittsburgh hospital was successfully air-conditioned in 1914, but several other early experiments in hospital air conditioning ended in disaster when the mechanically circulated air triggered hospital-wide epidemics.⁴⁷ Although numerous operating rooms and special wards were air-conditioned by 1940, fully air-conditioned hospitals did not become common until much later. By the late 1950s virtually all new hospital

⁴¹ Ingels, *Willis Haviland Carrier*, 88-94; Banham, *Architecture of the Well-Tempered Environment*, 180-81; *ACHR News* (June 14, 1976), 18; "Cool Age," *Time*, LXXXII (August 2, 1963), 60.

⁴² "Hotel Conditioning," *Business Week*, No. 252 (June 30, 1934), 10; Ingels, *Willis Haviland Carrier*, 42, 94-95; *ACHR News* (April 19, 1976), 3; (September 20, 1976), 6.

⁴³ "Hotel Conditioning," 10.

⁴⁴ Ingels, *Willis Haviland Carrier*, 94-95; *ACHR News* (April 19, 1976), 3.

⁴⁵ St. Petersburg *Times*, July 22, 1957; see also *ibid.*, May 29, 1954. In 1962 approximately 60 percent of the nation's hotel rooms were air-conditioned. "Blow, Cool Air," *Time*, LXXX (July 27, 1962), 42.

⁴⁶ St. Petersburg *Times*, July 22, 1957; August 20, 1978; *ACHR News* (March 22, 1976), 8; Misc. Interviews.

⁴⁷ Ingels, *Willis Haviland Carrier*, 40; Carrier Corporation, *The Two Faces of Janus*, 13; John Reese, "The Air-Conditioning Revolution," *Saturday Evening Post*, CCXXXIII (July 9, 1960), 100; "Air-Conditioning of Hospitals," *Science*, LXXX (September 28, 1934), supp. 7; Max F. Meyer, "The South and the North," *Science*, LXXX (November 9, 1934), 428; A. S. Bacon, "Doing Away with the Open Window in the Hospital," *American Journal of Public Health*, XXII (December 1932), 1301.

buildings were equipped with air conditioning.⁴⁸ Nevertheless, as late as 1962 only 15 percent of the nation's hospital rooms were air-conditioned.⁴⁹

In southern educational institutions, even more than in hotels and hospitals, the proliferation of air conditioning was surprisingly slow. Except for a few libraries, air-conditioned university buildings were rare until the late 1950s. Louisiana State University's Fine Arts Building was air-conditioned by 1931, but it remained an academic oddity for decades.⁵⁰ A similar situation prevailed in primary and secondary schools. In 1948 air conditioning was installed in three Louisiana schools "as a national experiment to find out how much it benefits school children."⁵¹ Although the experiment was hailed as a success, most southern school boards continued to view air conditioning as an over-priced luxury. Air-conditioned classrooms began to appear in a few affluent school districts in the early 1950s, but in most areas of the South school air conditioning did not become common until at least a decade later. A large majority of the university buildings and public schools constructed after 1960 were air-conditioned, generally with roof-top units specially designed for educational buildings. Many older buildings, however, continued to rely on electric fans and open windows. Even today thousands of southern schools have yet to install air conditioning.⁵²

Although air conditioning could be found in a growing number of southern factories, banks, shops, and office buildings by 1930, it had yet to invade the southern home. An air conditioner was installed in a Minneapolis mansion in 1914, but few people took the idea of home air conditioning seriously until after the invention of the centrifugal compressor in the early 1920s.⁵³ In 1928 Willis Carrier introduced

⁴⁸ Interview with David Kenerson, St. Petersburg, Florida, March 19, 1982; Misc. Interviews; *ACHR News* (September 20, 1976), 21; (September 6, 1976), 8.

⁴⁹ "Blow, Cool Air," *Time*, LXXX (July 27, 1962), 42.

⁵⁰ Ingels, *Willis Haviland Carrier*, 91; Misc. Interviews; *ACHR News* (September 20, 1976), 21; (September 6, 1976), 8; "Central Heating and Cooling of College Campuses," *Architectural Record*, CXXXIV (August 1963), 162-64.

⁵¹ *ACHR News* (June 14, 1976), 18.

⁵² "Cool Age," *Time*, LXXXII (August 2, 1963), 60; Carrier Corporation, *The Two Faces of Janus*, 14-15; *ACHR News* (January 19, 1976), 2; (July 12, 1976), 24; (August 9, 1976), 8; (August 23, 1976), 1; (September 20, 1976), 20-21; (September 6, 1976), 8; Misc. Interviews; *St. Petersburg Times*, January 23, 1964; *St. Petersburg Evening Independent*, September 27, 1974; September 17, 1982.

⁵³ The Minneapolis home was that of Charles G. Gates, the son of industrialist John W. "Bet-a-Million" Gates. Carrier designed the massive system, which was twenty feet long, six feet wide, and seven feet high. Carrier Corporation, *The Two Faces of Janus*, 13; "Blow, Cool Air," *Time*, LXXX (July 27, 1962), 42; S. R. Winters, "Hook Your Electric Fan to a Humidifier to Keep the Home and Office Cool," *Illustrated World*, XXXVIII (September 1922), 132-33; "Air Conditioning," *Business Week*, No. 247 (May 26, 1934), 12. In 1893 Robert Portner adapted a brewery "cooling apparatus" for use in his home in Manassas, Virginia. Interview with Bolling Flood, St. Petersburg, Florida, September 28, 1982.

the “Weathermaker”—a “winter air conditioner” that could heat and humidify a home during cold weather. Later the same year Carrier and Irvine Lyle formed a special corporation to develop the residential air-conditioning market. In 1929 Frigidaire began marketing an expensive, four-foot-high room cooler, and by the early 1930s several companies were working feverishly on the development of a practical residential air conditioner.⁵⁴ In 1931 *The Aerologist*, an environmentalist magazine published in Chicago, ran the headline: “Wanted, an Air-Conditioning Flivver!”⁵⁵ A year later Carrier came out with the “Atmospheric Cabinet,” a fairly compact, self-contained room cooler. Unfortunately, the unit did not sell very well, and the company soon discontinued production.⁵⁶ Despite this setback, at the depths of the depression in 1933, a writer in *Business Week* predicted that “the day is not far when the home air-conditioning plant will be as universally accepted as the furnace.”⁵⁷ With the same spirit of optimism the Crosley Corporation introduced an air-conditioned canopy bed called the “Coolrest” in 1934. For some reason—perhaps because the unit looked like a pup tent attached to a refrigerator—the idea never quite caught on.⁵⁸

During the mid-1930s several types of home air conditioners—all as cumbersome as they were expensive—went on the market. But by the end of the decade fewer than two hundred thousand units had been sold.⁵⁹ One of the biggest markets was in the Southwest, where people were desperate to protect their homes from the worst dust storms of the century.⁶⁰ By the beginning of World War II most southern cities boasted a handful of air-conditioned homes, almost all of which were owned by the wealthy.⁶¹ Very few homes added air conditioning during the war, but several technological advances—

⁵⁴ Ingels, *Willis Haviland Carrier*, 76–77, 149; Willis Haviland Carrier and Margaret Ingels, “Making Weather to Order in the Home,” *Good Housekeeping*, XCII (March 1931), 92–93; *ACHR News* (February 2, 1976), 32; (February 16, 1976), 6; (February 23, 1976), 22; “A ‘House of Perpetual Spring,’” *Literary Digest*, CX (July 11, 1931), 39; Banham, *Architecture of the Well-Tempered Environment*, 184–85.

⁵⁵ Banham, *Architecture of the Well-Tempered Environment*, 184.

⁵⁶ Ingels, *Willis Haviland Carrier*, 85; *ACHR News* (September 20, 1976), 14; Banham, *Architecture of the Well-Tempered Environment*, 185.

⁵⁷ “Air Conditioning,” *Business Week*, No. 204 (July 29, 1933), 12.

⁵⁸ *ACHR News* (March 8, 1976), 21.

⁵⁹ *ACHR News* (March 15, 1976), 20; (March 22, 1976), 8; (April 5, 1976), 10; Reese, “The Air-Conditioning Revolution,” 97.

⁶⁰ *ACHR News* (March 15, 1976), 20; (September 20, 1976), 14.

⁶¹ Banham, *Architecture of the Well-Tempered Environment*, 184; Misc. Interviews; St. Petersburg *Evening Independent*, June 7, 1955. In 1936 the Kelvinator Corporation announced plans “to set up 100 ‘Kelvin homes’ across the country to demonstrate the feasibility of complete air conditioning for low cost homes (\$5,000 to 6,000 range, including air conditioning).” *ACHR News* (March 22, 1976), 8.

including experimentation with the heat pump—brought the age of home cooling closer to reality.⁶² In 1945, in a preview of things to come, shipping magnate Henry Kaiser announced plans to build “complete communities of mass-produced air conditioned homes”⁶³ Room air-conditioner sales climbed to over forty thousand by 1947, but at that period residential air conditioning still accounted for only 2 percent of the industry’s business. By 1950 the figure had risen to 5 percent, but in most areas the air-conditioned home remained a novelty.⁶⁴

In 1951 the inexpensive, efficient window unit finally hit the market, and sales skyrocketed, especially in the South.⁶⁵ Within a year the Carrier Corporation had set up model tract houses in Louisiana, Texas, and Virginia in an effort to convince consumers that the air conditioner had made porches, basements, attics, and movable windows obsolete.⁶⁶ By 1955 one out of every twenty-two American homes had some form of air conditioning. In the South the figures were closer to one in ten.⁶⁷ Five years later census takers found air conditioners in 18 percent of the region’s homes (see table).⁶⁸ By that time central air-conditioning systems—scaled-down versions of those used to cool offices and factories—had begun to compete with window units in the South’s more affluent neighborhoods. Over four hundred thousand southern homes had central units in 1960; by the mid-1960s more than 40 percent of the new homes being built in the region were equipped with “central air.”⁶⁹ In 1966 Texas became the first state to have more than half of all its homes and apartments air-conditioned, but by the end of the decade half of the homes and apartments in the South were air-conditioned.⁷⁰ During the early 1970s, despite a severe energy crisis, millions of additional southern homes

⁶² *ACHR News* (September 21, 1959; special issue on heat pumps); (May 17, 1976), 20; (May 24, 1976), 8; (May 31, 1976), 26; (June 7, 1976), 16; (September 20, 1976), 14–15; Banham, *Architecture of the Well-Tempered Environment*, 181, 185.

⁶³ *ACHR News* (May 24, 1976), 8.

⁶⁴ “Booming Like Television,” *Newsweek*, XXXVI (July 10, 1950), 64, 67.

⁶⁵ Banham, *Architecture of the Well-Tempered Environment*, 185–87; Arthur Carson, *How to Keep Cool* (Greenlawn, N. Y., 1954), 56; “Now for Small Homes,” *Newsweek*, XL (September 8, 1952), 73.

⁶⁶ “Now for Small Homes,” *Newsweek*, XL (September 8, 1952), 73; see also *ACHR News* (July 19, 1976), 20; (July 26, 1976), 12; and F. Lopez, “Your New Home Can Be Designed for Air Conditioning,” *Better Homes and Gardens*, XXVII (February 1949), 37.

⁶⁷ *ACHR News* (August 2, 1976), 8; Misc. Interviews.

⁶⁸ U. S. Bureau of the Census, *U. S. Census of Housing, 1960*. Vol. I, *States and Small Areas*, Part 1: *United States Summary* (Washington, 1963), 28.

⁶⁹ *Ibid.*; New York Times, August 14, 1960, p. 6R; July 28, 1963, p. 1F; “Cool Age,” *Time*, LXXXII (August 2, 1963), 60; *ACHR News* (1959–1965), esp. (July 6, 1959), 1; (September 14, 1959), 12; (July 12, 1965), 18.

⁷⁰ “Detailed Housing Characteristics” in U. S. Bureau of the Census, *Census of Housing: 1970*. Vol. I, *Housing Characteristics for States, Cities, and Counties*. Part 1, *United States*

RESIDENTIAL AIR CONDITIONING IN THE SOUTH, 1960-1980

Percentage of Households with Air Conditioning

	<i>Total Households</i>			<i>Black Households</i>		
	1960	1970	1980	1960	1970	1980
U. S.	12.4	35.8	55.0	4.1	18.0	42.7
Urban	14.2	39.7	58.4	4.7	19.8	44.1
Rural	7.7	24.6	44.8	2.2	8.8	32.6
South ^a	18.2	50.1	73.2	3.9	20.8	52.1
Urban	NA	59.3	79.9	NA	25.8	58.0
Rural	NA	33.0	59.2	NA	8.4	32.4
Alabama	16.7	49.0	70.7	2.6	15.3	44.0
Arkansas	14.0	46.5	71.3	1.9	14.7	46.2
Delaware	16.9	48.4	64.6	NA	19.8	45.3
D. C.	21.4	49.4	67.1	7.3	36.8	58.5
Florida	18.3	60.5	84.0	1.9	13.3	47.0
Georgia	12.3	43.0	66.0	1.9	13.0	42.7
Kentucky	8.4	32.8	61.7	3.7	17.6	51.3
Louisiana	23.1	58.8	82.2	3.0	23.6	60.6
Maryland	14.9	50.6	70.1	4.4	23.9	58.3
Mississippi	15.7	47.5	69.9	1.5	11.6	40.0
North Carolina	8.9	32.7	59.6	2.4	11.7	40.3
Oklahoma	29.8	58.7	81.5	12.9	34.3	69.2
South Carolina	12.2	40.0	68.0	2.3	10.4	39.9
Tennessee	20.5	52.5	74.0	4.8	33.6	68.4
Texas	30.3	64.2	83.2	9.9	38.5	71.3
Virginia	12.2	43.3	64.8	2.8	17.4	50.9
West Virginia	5.8	17.8	38.5	NA	8.5	28.3

^aThe "census" South includes the eleven states of the ex-Confederacy, plus Delaware, the District of Columbia, Kentucky, Maryland, Oklahoma, and West Virginia.

SOURCES: U. S. Bureau of the Census, *U. S. Census of Housing, 1960*. Vol. I, *States and Small Areas*, Part 1: *United States Summary* (Washington, 1963), Tables 7, 13, 26, and 29; "Detailed Housing Characteristics," in U. S. Bureau of the Census, *Census of Housing: 1970*. Vol. I, *Housing Characteristics for States, Cities, and Counties*. Part 1, *United States Summary* (Washington, 1972), Tables 20, 21, 27, and 37; "Detailed Housing Characteristics," in U. S. Bureau of the Census, *Census of Housing: 1980*. Vol. I, Chapter B, *Characteristics of Housing Units*. Part 1, *United States Summary* (Washington, 1982), Tables 78, 79, 84, and 123; and *ibid.*, Parts 2, 5, 9-12, 19-20, 22, 26, 35, 38, 42, 44-45, 48, 50, Table 64.

were air-conditioned for the first time. Many other southern families traded in their window or central units for reverse-cycle heat pumps.⁷¹ The age of the push-button "climate-conditioned" home had arrived.

Summary (Washington, 1972), 1-235; St. Petersburg *Times*, July 15, 1966; *ACHR News* (August 18, 1969), 4.

⁷¹ *ACHR News* (September 20, 1976), 5, 23, 116-26; "Profiting from Misery," *Time*, CX (August 1, 1977), 35; "Reverse-Cycle Electric Air Conditioning—The Answer to Florida's

The saga of the air-conditioned automobile closely paralleled that of the air-conditioned home. The world's first air-conditioned car was owned by a wealthy Houston businessman. A chronic hay fever sufferer, he outfitted his new 1930 Cadillac with a unique cooling system. With a condensing unit mounted on the trunk and an evaporator blower behind the driver's seat, he cruised the Texas highways in pollen-free comfort.⁷² The Packard Motor Car Company began experimenting with a less cumbersome system in 1933; six years later Packard became the first automobile line to offer air conditioning as a factory-installed accessory.⁷³ During World War II the War Production Board all but prohibited comfort cooling, but after the war there was renewed interest in automobile air conditioning.⁷⁴ In the early 1950s several luxury cars began offering "factory air," and many lower-priced lines soon followed suit. Wealthy southerners accounted for the vast majority of the early sales, but by 1955, 10 percent of the new cars sold in the United States had factory-installed air conditioners. A decade later the figure was 23 percent; in most areas of the South the figure was approaching 50 percent. By 1973 more than 80 percent of the cars in the South were equipped with air conditioning.⁷⁵ During the energy crisis of 1974 the Environmental Protection Agency warned consumers that air conditioning increased automobile fuel consumption by as much as 20 percent. But this had little effect on the soaring demand for "factory air."⁷⁶

Other forms of "mobile" air conditioning had a similar history. Air-conditioned public transportation vehicles did not become common in the South until the late 1950s, although Atlanta experimented with an air-conditioned trackless trolley car as early as 1944.⁷⁷ Air-

Temperature Control Problem," *Florida Contractor and Builder*, XX (January 1965), 20; *New York Times*, July 14, 1974.

⁷² *ACHR News* (February 9, 1976), 12; (February 16, 1976), 7; see also "First Air-Conditioned Auto," *Popular Science*, CXXIII (November 1933), 30.

⁷³ *ACHR News* (April 12, 1976), 12; Kane, *Famous First Facts*, 51-52; "Automotive Air Conditioning," *Business Week*, No. 208 (August 26, 1933), 12.

⁷⁴ *ACHR News* (May 3, 1976), 14; (May 17, 1976), 20. In May 1942 the Board issued Limitation Order L-38, which prohibited installations of commercial refrigeration or air conditioning "for personal comfort." The order was relaxed somewhat in 1943. The Frigikar Corporation began its production of automobile air conditioners in 1950. See *ibid.*, (June 28, 1976), 38.

⁷⁵ "Air-Conditioned Cars," *Newsweek*, XL (September 1, 1952), 54; Devon Francis, "Car Air Conditioning: Is This Your Year?" *Popular Science*, CLXXXIII (July 1963), 82-83; "Cool Cars," *Time*, LXXXI (March 22, 1963), 55; "Cool Age," *ibid.*, LXXXII (August 2, 1963), 60; *ACHR News* (September 20, 1976), 5, 23; (July 12, 1976), 24; (July 26, 1976), 12; (August 2, 1976), 8; *St. Petersburg Times*, November 29, 1965; "Keeping Cool at the Wheel," *Business Week*, No. 1767 (July 13, 1963), 32.

⁷⁶ J. Fuchs, "Economy and Air Conditioning: Separating the Hot Air from the Cold Facts," *Motor Trend*, XXVI (July 1974), 46; D. Seligman, "Keeping Cool While Fighting OPEC," *Fortune*, C (August 27, 1979), 27.

⁷⁷ *ACHR News* (May 17, 1976), 20; Misc. Interviews. In 1938 Santa Fe (New Mexico)

conditioned taxis, intercity buses, and trucks appeared in most southern cities around 1953 and became routine by the end of the decade.⁷⁸ By 1968 Teamsters Union president Jimmy Hoffa was demanding that Teamsters be provided with air-conditioned truck cabs on all long-distance southern runs—not an unreasonable demand in an age when thousands of southern farmers were plowing their fields in air-conditioned tractors.⁷⁹

The so-called “air conditioning revolution,” then, was actually an evolution—a long, slow, uneven process stretching over seven decades. The air conditioner came to the South in a series of waves, and only with the wave of the 1950s was the region truly engulfed. What had been largely a curiosity in the pre-World War II South became an immutable part of southern life in the postwar era. After the air conditioner invaded the home and the automobile, there was no turning back. By the mid-1970s air conditioning had made its way into more than 90 percent of the South’s high-rise office buildings, banks, apartments, and railroad passenger coaches; more than 80 percent of its automobiles, government buildings, and hotels; approximately two-thirds of its homes, stores, trucks, and hospital rooms; roughly half of its classrooms; and at least a third of its tractors.⁸⁰ Virtually all of the region’s newer buildings, regardless of type or function, were equipped with air conditioning. The South of the 1970s could claim air-conditioned shopping malls, domed stadiums, dugouts, greenhouses, grain elevators, chicken coops, aircraft hangars, crane cabs, off-shore oil rigs, cattle barns, steel mills, and drive-in movies and restaurants.⁸¹ In Chalmette, Louisiana, aluminum workers were walking around with portable air conditioners strapped to their belts.⁸² In Nashville a massive air-conditioning plant was being fueled by a steady flow of city garbage.⁸³ And in Richmond local officials could control the air conditioning in scores of public build-

Trailways became the first American bus company to make extended use of air-conditioned buses. Carrier Corporation, *The Two Faces of Janus*, 7.

⁷⁸ *ACHR News* (July 19, 1976), 20; (August 2, 1976), 8; (August 16, 1976), 16; St. Petersburg *Evening Independent*, September 17, 1982; Misc. Interviews. The city of St. Louis had 100 air-conditioned buses in operation by 1957.

⁷⁹ “Hot Times in a Cool Business,” *Time*, XCII (August 2, 1968), 62; *ACHR News* (September 20, 1976), 10. Hoffa initially made this demand in 1962; Trippett, “The Great American Cooling Machine,” 75; Greene, “Air-Conditioning,” 12; N. Willatt, “Mobile Air Conditioning,” *Barron’s*, XL (October 24, 1960), 11 ff.

⁸⁰ *ACHR News* (September 20, 1976), 5; Greene, “Air-Conditioning,” 12; *New York Times*, July 12, August 8, 1976.

⁸¹ *ACHR News* (August 17, 1959), 18; (September 14, 1959), 10–11, 32–33; (September 11, 1961), 12; (June 14, 1976), 18; (March 23, 1964), 26; (August 30, 1976), 18; John Reese, “The Air-Conditioning Revolution,” 100; St. Petersburg *Times*, May 4, July 7, 1955; July 11, 1962; Fred Hobson, “A South Too Busy to Hate?” 51.

⁸² *New York Times*, January 23, February 13, 1964.

⁸³ *Ibid.*, December 10, 1973.

ings from a single console.⁸⁴ Farther north in Virginia, at Lake Anne Village, an entire town was fully air-conditioned by one central cooling plant.⁸⁵ At several amusement parts in Texas and Florida even the outdoor queuing areas were air cooled.⁸⁶ Predictably, the South's most air-conditioned state was Texas, where even the Alamo had central air.⁸⁷ In Houston alone the annual cost (\$666 million) of air conditioning exceeded the annual gross national product of several Third-World nations in 1980.⁸⁸

It is little wonder that southerners and many other Americans came to regard air conditioning as a requirement for civilized living. ". . . people no longer think of interior coolness as an amenity," Frank Trippett observed in 1979, they "consider it a necessity, almost a birthright, like suffrage."⁸⁹ As Secretary of Commerce Frederick H. Mueller put it in 1960, "people have just decided that it's part of the American standard of living, something we're all entitled to, just as we're entitled to heat in the winter and food on the table."⁹⁰ Governor Richard W. Riley of South Carolina took this idea to its logical extreme when, at the 1980 National Governor's Conference, he insisted that Federal assistance programs should operate under the assumption that air-conditioning a home in the South is no less essential than heating a home in the North.⁹¹ Many people living below the Mason-Dixon line undoubtedly agreed. In some southerners the preoccupation with indoor cooling reached the level of addiction. According to one business analyst, many southern shoppers simply refused to patronize non-air-conditioned stores; "Any merchant, the customers figure, that can't supply them with air-conditioned comfort, isn't worthy of their patronage."⁹² As early as 1955 one southern

⁸⁴ *Ibid.*, May 11, 1969.

⁸⁵ St. Petersburg *Times*, February 28, 1965.

⁸⁶ Greene, "Air-Conditioning," 12; *ACHR News* (July 22, 1963), 19, (August 16, 1957), 16. In 1957 a San Antonio shopping center was touted as the first shopping center in the nation to offer "air conditioned sidewalks."

⁸⁷ *ACHR News* (June 12, 1961), 18-19; "Cooling for 13,000 Stores, the Alamo, and a Harem," *Architectural Forum*, CXIV (April 1961), 134. According to Wade Greene, "In Texas, the automobile air-conditioner has become a status symbol so powerful that some who cannot afford it have been known to drive in sufferance under the hot sun with all their windows rolled up, to give at least the appearance of air-conditioning." Greene, "Air-Conditioning," 16.

⁸⁸ John M. Crewdson, "How a Hot Town Manages to Maintain Its Cool," St. Petersburg *Times*, August 16, 1981; see also New York *Times*, July 21, 1980; *ACHR News* (April 29, 1963), 2.

⁸⁹ Trippett, "The Great American Cooling Machine," 75. See also Lewis Grizzard, "Air Conditioning's 'Cooled' Traditions," *Montgomery Alabama Journal and Advertiser*, July 10, 1983; and Lisanne Renner, "Air Conditioning—a Fact of Southern Life," Orlando *Sentinel*, May 9, 1984.

⁹⁰ John Reese, "The Air-Conditioning Revolution," 100.

⁹¹ New York *Times*, February 27, 1980.

⁹² Milton Beckerman, "Air Conditioning and the Open Door Policy," St. Petersburg *Times*, August 3, 1963. See also Greene, "Air-Conditioning," 16; St. Petersburg *Times*, June 5,

newspaper columnist concluded that most customers feel that air-conditioned shopping “is their legal right. They feel insulted when they don’t find it.”⁹³ For many southerners—especially those born after 1960—the truly inalienable right is the right to live in an air-conditioned home. “Our children are raised in an air-conditioned culture,” an air-conditioning executive explained in 1968. “They attend air-conditioned schools, ride air-conditioned buses. You can’t really expect them to live in a home that isn’t air-conditioned.”⁹⁴

This attitude was encouraged not only by the air-conditioning industry—which kept up a steady barrage of promotional “Cool Air Clinics” and “Beat the Heat Week” campaigns—but also by governmental and financial institutions.⁹⁵ In 1959 the General Services Administration issued a glowing endorsement of air-conditioned living, and throughout the 1950s and 1960s the policies of the Internal Revenue Service encouraged home owners to install air conditioners.⁹⁶ In 1962 a Federal Housing Administration official flatly declared: “within a few years, any house that is not air-conditioned will probably be obsolescent.”⁹⁷ Two years later a Florida mortgage company began penalizing customers whose homes did not have central air conditioning.⁹⁸ A more subtle influence was exerted by the National Weather Bureau, which began issuing its “Discomfort Index” in 1959. A composite of heat and humidity, the index, as interpreted by the air-conditioning industry, was a good way to tell when it was time to go indoors and turn up the dial to “Hi Cool.”⁹⁹ Another sign of the times was the term “heat storm,” which became a part of meteorological jargon in the mid-1960s.¹⁰⁰ What had once simply been a “hot day” had suddenly turned into a menacing aberration.

It is important to keep the “air conditioning revolution” in perspective. Despite the best efforts of government, industry, and Madison

1962; and Ingels, *Willis Haviland Carrier*, 102.

⁹³ Dick Bothwell in the *St. Petersburg Times*, June 7, 1955.

⁹⁴ “Hot Times in a Cool Business,” *Time*, XCII (August 2, 1968), 61.

⁹⁵ *ACHR News* (May 18, 1959), 1; (May 25, 1959), 12; (May 29, 1961), 1 ff; (October 9, 1961), 31; (April 8, 1963), 10; (August 30, 1976), 18; (September 13, 1976), 10; *St. Petersburg Times*, June 28, 1959. In the 1950s one Florida power company offered electricians a fifty-dollar bounty for each ceiling fan removed from private residences or businesses. Interview with Phil Deluca, *St. Petersburg, Florida*, August 19, 1981.

⁹⁶ *ACHR News* (April 27, 1959), 1; (May 4, 1959), 18–19; (August 30, 1976), 18; Greene, “Air-Conditioning,” 20, notes that the I.R.S. allows “substantial tax write-offs for air-conditioning expenses if a doctor says you need it.”

⁹⁷ *St. Petersburg Times*, June 14, 1962. See also *ACHR News* (August 16, 1957), 16.

⁹⁸ *St. Petersburg Times*, August 21, 1964; *ACHR News* (September 7, 1964), 1.

⁹⁹ “Measuring the Misery,” *Newsweek*, LIII (June 15, 1959), 29; “DI,” *New Yorker*, XXXV (June 6, 1959), 33–35; “Now It’s the Weather Bureau in a Storm Center,” *U. S. News and World Report*, XLVI (June 22, 1959), 98–99; *ACHR News* (June 1, 1959), 24; (October 5, 1959), 5.

¹⁰⁰ *St. Petersburg Times*, July 15, 1966.

Avenue, the air conditioner has not conquered all. The South still has more than its share of sun and sweat. And contrary to the claim of one air-conditioning industry spokesman, it is still possible to “escape air conditioning.”¹⁰¹ Not all southerners live in air-conditioned homes, ride in air-conditioned cars, or work in air-conditioned buildings. Among rural and working-class blacks, poor whites, migrant laborers, and mountaineers, air-conditioned living is not the norm.¹⁰² On the other hand, nearly everyone in the region spends at least part of his or her life in an air-conditioned environment. In varying degrees virtually all southerners have been affected, directly or indirectly, by the technology of climate control. Air conditioning has changed the southern way of life, influencing everything from architecture to sleeping habits. Most important, it has contributed to the erosion of several regional traditions: cultural isolation, agrarianism, poverty, romanticism, historical consciousness, an orientation towards non-technological folk culture, a preoccupation with kinship, neighborliness, a strong sense of place, and a relatively slow pace of life. The net result has been a dramatic decline in regional distinctiveness. In combination with other historical forces—such as the civil rights movement, advances in communication and transportation technology, and economic and political change—the air conditioner has greatly accelerated what John Egerton has called “the Americanization of Dixie.”¹⁰³

Perhaps most obviously, air conditioning has had a major impact on southern population growth. The population density of the South (86.3 persons per square mile in 1980) has doubled since 1930.¹⁰⁴ Some of this growth can be attributed to a high birth rate, some to a declining death rate, and some to migration. For the most part, the demographic impact of air conditioning has been limited to the latter two phenomena. Although a number of southerners have adopted the colloquialism “heir conditioning,” and during the early 1960s one survey researcher reported a positive correlation between air-conditioned living and fertility, there is no reason to believe that air conditioning has had a significant impact on the region’s fertility. A high birth rate was characteristic of the South long before the advent of mechanical cooling. Moreover, despite the rising popularity of air-conditioned bedrooms, the southern birth rate, like the national

¹⁰¹ F. J. Versagi, quoted in *ACHR News* (August 26, 1968), 21.

¹⁰² See table in text; Greene, “Air-Conditioning,” 22; *New York Times*, July 21, 1980; Misc. Interviews; *ACHR News* (March 9, 1964), 23.

¹⁰³ John Egerton, *The Americanization of Dixie: The Southernization of America* (New York, 1974).

¹⁰⁴ U. S. Bureau of the Census, *Statistical Abstract of the United States: 1981* (Washington, 1981), 11; Greene, “Air-Conditioning,” 16; *New York Times*, September 6, 1970.

birth rate, has declined in recent decades.¹⁰⁵

The link between air conditioning and declining mortality is much more substantial. Prior to the twentieth century the nonmountain South was a relatively unhealthy place. Generally speaking, southern mortality rates were much higher than those of other areas of the United States. And as David Hackett Fischer has recently pointed out, the southern climate, which fostered yellow fever, malaria, and other semi-tropical diseases, was a primary determinant of the region's high mortality.¹⁰⁶ Significantly, since the beginning of the twentieth century regional mortality rates have converged, and the southern population is much healthier today than it was a century ago.¹⁰⁷ The proliferation of air conditioning is one of the reasons. In addition to making millions of hospital patients more comfortable, air conditioning has reduced fetal and infant mortality, prolonged the lives of thousands of patients suffering from heart disease and respiratory disorders, increased the reliability and sophistication of micro-surgery, facilitated the institutionalization of public health, and aided the production of modern drugs such as penicillin.¹⁰⁸ On the other side of the ledger, critics of air conditioning claim that it causes allergies and that it is partially responsible for the pervasiveness of the common cold. Some researchers have even argued that air conditioning contributes to mental illness by disturbing the balance between positive and negative ions in the air.¹⁰⁹ Nevertheless, even if these charges have some merit, the net effect of air conditioning on southern health and life expectancy has been positive.

¹⁰⁵ Interview with Jake Vonk, St. Petersburg, Florida, September 6, 1981; Trippett, "The Great American Cooling Machine," 76; Reese, "The Air-Conditioning Revolution," 97; John M. Maclachlan and Joe S. Floyd, Jr., *This Changing South* (Gainesville, Fla., 1956), 122-33; U. S. Bureau of the Census, *Statistical Abstract of the United States: 1981*, p. 60.

¹⁰⁶ Fischer, "Climate and History: Priorities for Research," 829; and Fischer, "The Climatic Determinants of American Regionalism," unpublished paper presented at the annual meeting of the Organization of American Historians, Philadelphia, Pennsylvania, April 1, 1982. On the general relationship between climate and disease, see René Dubos, *Mirage of Health: Utopias, Progress, and Biological Change* (New York, 1959), 95-128; Dubos, *Man Adapting* (New Haven, 1965); and Lamb, *Climate, History and the Modern World*, 301-305. See also Thomas C. Angus, *The Control of Indoor Climate* (Oxford, 1968).

¹⁰⁷ Maclachlan and Floyd, *This Changing South*, 133-40; U. S. Bureau of the Census, *Statistical Abstract of the United States: 1981*, pp. 72-73, 75.

¹⁰⁸ *ACHR News* (July 16, 1942), *passim*; (March 8, 1976), 20; (May 10, 1976), 22; (March 9, 1964), 40; (October 7, 1968), 1; (August 2, 1976), 8; (September 13, 1976), 10; Greene, "Air-Conditioning," 20, 22; *St. Petersburg Times*, July 7, 1955; June 23, 1960; June 14, 1962.

¹⁰⁹ J. C. Furnas, "How Healthy Is Air Conditioning?" *Today's Health*, XXXVI (July 1958), 17-19; *ACHR News* (August 12, 1968), 8; (July 7, 1969), 22; (October 20, 1969), 2-3; Greene, "Air-Conditioning," 22; Friedman, "The Air-Conditioned Century," 25; Angus, *The Control of Indoor Climate*, *passim*. On the ionization controversy see Fred Soyka, with Alan Edmonds, *The Ion Effect: How Air Electricity Rules Your Life and Health* (New York, 1978);

Climate control has had an even greater impact on migration patterns. In a variety of ways the air conditioner has helped to reverse an almost century-long southern tradition of net out-migration. Between 1910 and 1950 alone, the South's net loss was more than 10 million people.¹¹⁰ It is more than a coincidence that in the 1950s, the decade when air conditioning first engulfed the South, the region's net out-migration was much smaller than in previous decades and that in the 1960s, for the first time since the Civil War, the South experienced more in-migration than out-migration. Although the net gain during the 1960s was modest—less than half a million people—its very existence was startling. This sudden demographic reversal was partly a function of the success of the civil rights movement and the decline of massive resistance.¹¹¹ But it was also a by-product of air conditioning. The 1970 census, according to the *New York Times*, was "The Air-Conditioned Census." "The humble air-conditioner," a 1970 *Times* editorial concluded, "has been a powerful influence in circulating people as well as air in this country. In the last ten years it has become almost as common a device in the warmer sections of the United States as the automobile and the television set. Its availability explains why increasing numbers of Americans find it comfortable to live year around in the semitropical heat . . ."¹¹² The 1960s were, of course, only the beginning. Between 1970 and 1978, 7 million people migrated to the South, twice the number that left the region.¹¹³ By the end of the decade, the "sunbelt" era was in full swing.

and Dubos, *Man Adapting*, 59. In 1978 mysterious mental and physical illnesses among employees at the R. A. Gray Building (the new home of the Florida State Archives) in Tallahassee, Florida, were attributed to an electrical imbalance caused by over-purified air. The state installed negative-ion generators to solve the problem, but many employees and other observers questioned the effectiveness of the generators. *New York Times*, August 15, 1978, p. 16.

¹¹⁰ Maclachlan and Floyd, *This Changing South*, 66–79; Jack Temple Kirby, "The Southern Exodus, 1910–1960: A Primer for Historians," *Journal of Southern History*, XLIX (November 1983), 585–600.

¹¹¹ *St. Petersburg Times*, December 13, 1981. On black migration patterns see Daniel M. Johnson and Rex R. Campbell, *Black Migration in America: A Social Demographic History* (Durham, 1981); Flora Gill, *Economics and the Black Exodus: An Analysis of Negro Emigration from the Southern United States, 1910–1970* (New York, 1979); and Neil Fligstein, *Going North: Migration of Blacks and Whites from the South, 1900–1950* (New York and other cities, 1981).

¹¹² *New York Times*, September 6, 1970, p. 10E. See also *ACHR News* (September 20, 1976), 5.

¹¹³ *St. Petersburg Times*, December 13, 1981. See also U. S. Bureau of the Census, *Statistical Abstract of the United States: 1981*, p. 13. On the emergence of the "sunbelt" see Richard M. Bernard and Bradley R. Rice, eds., *Sunbelt Cities: Politics and Growth Since World War II* (Austin and London, 1983); Egerton, *The Americanization of Dixie*; Carl Abbott, *The New Urban America: Growth and Politics in Sunbelt Cities* (Chapel Hill, 1981); Kirkpatrick Sale, *Power Shift: The Rise of the Southern Rim and Its Challenge to the Eastern Establishment* (New York, 1975); and James R. Adams, "The Sunbelt," in John B. Boles, ed., *Dixie Dateline: A Journalistic Portrait of the Contemporary South* (Houston, 1983), 141–57.

Because of air conditioning an undetermined but clearly substantial number of southerners who might otherwise have left the South have remained in the region. Insofar as it has promoted personal contentment, employment opportunities, and improved working conditions, the air conditioner has helped to stem the tide of out-migration. This reduction in out-migration has influenced southern political and economic life. But its qualitative impact on regional culture has been somewhat limited. The cultural transformation that has rocked the South in recent years is essentially an outgrowth of the other side of the migration equation. Abetted by millions of tourists, northern migrants have brought new ideas and new lifestyles to the South, disrupting the region's long-standing cultural isolation. The cultural intrusions of the New Deal and World War II which shocked so many southerners forty years ago have been expanded and deepened by the massive northern influx of the 1960s and 1970s. During the last twenty years the southern population has become increasingly heterogeneous, and the concept of the Solid South—long a bulwark of regional mythology—has all but faded from view.¹¹⁴

Air conditioning also has played a key role in the industrialization of the modern South. After decades of false starts and inflated promises, industry came to the South in a rush after World War II. The number of southerners employed in manufacturing exceeded those in agriculture for the first time in 1958, and by 1980 the region's manufacturing work force was more than three times as large as its agricultural work force.¹¹⁵ For better or worse, Henry Grady's "New South" had finally arrived. Some commercial and industrial growth would have occurred in the post-World War II South with or without the air conditioner. But the magnitude and scope of economic change in a non-air-conditioned South would have been much smaller. ". . . can you conceive a Walt Disney World over in the 95-degree summers of central Florida without its air-conditioned hotels, attractions and shops?" a southern columnist asked in 1978, "Can you see a Honeywell or Sperry or anyone else opening a big plant where their workers would have to spend much of their time mopping brows and cursing

¹¹⁴ See Egerton, *The Americanization of Dixie*, *passim*. In a 1948 speech in Pittsburgh, William B. Henderson, executive vice president of the Air Conditioning and Refrigerating Machinery Association, stated: "We see mass migration of peoples and industries, affecting large areas of our country, made possible through the use of refrigeration and air conditioning. The movement of industry and people from the crowded industrial areas of the north to the spacious areas and kindlier climates of the south is profoundly affecting our national industrial and political economy and, directly or indirectly, the lives of all of us." *ACHR News* (September 20, 1976), 20. In 1960 an official of the Air Conditioning Institute claimed that the recent proliferation of central air conditioning had "broken down regional barriers." *St. Petersburg Evening Independent*, August 7, 1960.

¹¹⁵ *St. Petersburg Times*, December 13, 1981; Maclachlan and Floyd, *This Changing South*, 91-98.

mosquitoes?"¹¹⁶ Climate control has not only brought new factories and businesses to the region. It has also brought improved working conditions, greater efficiency, and increased productivity. As numerous controlled studies have demonstrated, an air-conditioned workplace invariably means higher productivity and greater job satisfaction.¹¹⁷ One of air conditioning's most telling effects has been its positive influence on southern economic growth.

This economic growth has led in turn to a rising standard of living for many southern families. Real wages have increased substantially during the postwar era, and per capita income in the South has risen from 52 percent of the national average in 1930 to almost 90 percent today. Although this increased income has been unevenly distributed across the region—Texas, Florida, and Virginia registered the biggest gains—few areas have been left unaffected.¹¹⁸ Maldistribution of wealth remains a serious regional problem, but the proportion of southerners living in Tobacco Road-style poverty has declined significantly in recent decades. Thus, in an indirect way, air conditioning has helped to ameliorate one of the post-Civil War South's most distressing characteristics. The social and cultural implications of the decline in southern poverty are immense, because, as C. Vann Woodward noted in 1958, "Generations of scarcity and want constitute one of the distinctive historical experiences of the Southern people"¹¹⁹

Air conditioning has also fostered the urbanization of the South. Since 1940 the South "has been the most rapidly urbanizing section of the country."¹²⁰ During this period the proportion of southerners living in urban areas has nearly doubled, from 36.7 percent in 1940 to almost 70 percent today.¹²¹ Although the South remains the most rural

¹¹⁶ Clayton Reed, quoted in the *St. Petersburg Times*, August 20, 1978.

¹¹⁷ *ACHR News* (May 4, 1959), 18–19; (February 13, 1961), 6; (August 20, 1976), 18; (September 20, 1976), 114; Reese, "The Air-Conditioning Revolution," 97; Greene, "Air-Conditioning," 20, 22; Friedman, "The Air-Conditioned Century," 24, 26, 29; *St. Petersburg Times*, June 14, 1962; "Home-Made Weather," *Literary Digest*, CIV (February 15, 1930), 28; "General Services Study Evaluates Influence of Air Conditioning on Production," *Fueloil and Oil Heat*, XVIII (November 1959), 79. In 1935 Clarence Cason predicted: "Air conditioning cannot be a grand success in the South for the reason that the honest natives of the region recognize the natural summer heat as a welcome ally in that it makes the inside of houses and offices agreeably uninviting, if not actually prohibited territory." Cason, *90° in the Shade* (Chapel Hill, 1935), 10. Twenty years later, the *St. Petersburg Times*, on June 7, 1955, noted that "air conditioning has become of major importance for the night-shift worker, who needs to sleep during the day unbothered by heat or outside noises."

¹¹⁸ Maclachlan and Floyd, *This Changing South*, 99–118; U. S. Bureau of the Census, *Statistical Abstract of the United States: 1981*, pp. 428–29; *St. Petersburg Times*, December 13, 1981.

¹¹⁹ Woodward, *The Burden of Southern History*, 17.

¹²⁰ Roller and Twyman, eds., *The Encyclopedia of Southern History*, 1264.

¹²¹ *Ibid.*, 1266; U. S. Bureau of the Census, *Statistical Abstract of the United States: 1981*, p. 12.

area of the United States, the gap between the region and the rest of the nation is closing fast. How much of this recent urbanization can be attributed to air conditioning is difficult to say. But a number of observers have credited the air conditioner with being a major factor behind the rise of the urban South. According to the journalist Wade Greene, "Two of the country's fastest growing cities, Houston and Dallas, would probably be provincial backwaters today without air conditioning."¹²² In a similar vein, Frank Trippett has argued that "Sunbelt cities like Phoenix, Atlanta, Dallas, and Houston . . . could never have mushroomed so prosperously without air conditioning"¹²³

Air conditioning has promoted the growth of the urban South in a variety of ways: by encouraging industrialization and population growth; by accelerating the development of large public institutions, such as universities, museums, hospitals, sports arenas, and military bases; by facilitating the efficient use of urban space and opening the city to vertical, high-rise development; and by influencing the development of distinctively urban forms of architecture. Without air conditioning, skyscrapers and high-rise apartments would be less prevalent (indeed, they would not exist in their present form); urban populations would be smaller; cities would be more spread out; and the physical and architectural differences between inner cities and suburbs would be less striking (even though as an integral component of enclosed shopping malls, air conditioning has contributed to urban sprawl). In sum, the size, shape, and character of urban centers would be vastly different.¹²⁴

In the South urbanization is a matter of no small importance. The stakes go well beyond aesthetics, economics, and demographics. Although its influence has sometimes been exaggerated, few historians would deny that self-conscious agrarianism has been a key element of southern distinctiveness. With the passing of the rural South such things as the Populist heritage, the plantation experience, and the mythic world of the Vanderbilt Agrarians have lost much of their meaning.¹²⁵ The region's rural legacy is still a force to be reckoned

¹²² Greene, "Air-Conditioning," 16. See also Trippett, "The Great American Cooling Machine," 75; *ACHR News* (April 6, 1959), 12-14; (April 29, 1963), 2; and Friedman, "The Air-Conditioned Century," 24-25.

¹²³ Trippett, "The Great American Cooling Machine," 75.

¹²⁴ *Ibid.*; *New York Times*, June 3, 1960; September 2, 1962; Reese, "The Air-Conditioning Revolution," 100; Greene, "Air-Conditioning," 20; Banham, *Architecture of the Well-Tempered Environment*, 72, 162-63, 209-28.

¹²⁵ See Twelve Southerners, *I'll Take My Stand: The South and the Agrarian Tradition* (New York, 1930); C. Vann Woodward, "The Populist Heritage and the Intellectual," in *The Burden of Southern History*, 141-66; Lawrence Goodwyn, *Democratic Promise: The Populist Moment in America* (New York, 1976); and John Shelton Reed, "The Same Old Stand?" in *Fifteen Southerners, Why the South Will Survive*, 13-34.

with, but it is no longer the prime mover of southern life. The locus of power and activity in the South has moved to Main Street, and air conditioning is one of the reasons why.

In a related development, climate control has altered southern attitudes toward nature and technology. Specifically, air conditioning has taken its toll on traditional "folk culture," which, as David Potter once pointed out, "survived in the South long after it succumbed to the onslaught of urban-industrial culture elsewhere. It was an aspect of this culture," Potter observed, "that the relation between the land and the people remained more direct and more primal in the South than in other parts of the country."¹²⁶ The South has always been an elemental land of blood, sweat, and tears—a land where personalism and a curious mixture of romance and realism have prevailed. As W.J. Cash noted in 1941, southern elementalism and romanticism have been mutually reinforcing traditions. "The influence of the Southern physical world" was, in Cash's words,

a sort of cosmic conspiracy against reality in favor of romance. The country is one of extravagant colors, of proliferating foliage and bloom, of flooding yellow sunlight, and, above all perhaps, of haze. Pale blue fogs hang above the valleys in the morning, the atmosphere smokes faintly at midday, and through the long slow afternoon cloud-stacks tower from the horizon and the earth-heat quivers upward through the iridescent air, blurring every outline and rendering every object vague and problematical. I know that winter comes to the land, certainly. I know there are days when the color and the haze are stripped away and the real stands up in drab and depressing harshness. But these things pass and are forgotten. The dominant mood, the mood that lingers in the memory, is one of well-nigh drunken reverie

. . . .¹²⁷

Cash's idyllic statement is part hyperbole, but his central point is well taken. If we remove climate from the historical equation, the South is not the South. At the very least, climate control has taken the edge off of the region's romantic elementalism. As the southern climate has been artificially tamed, pastoralism has been replaced by technological determinism. In escaping the heat and humidity, southerners have weakened the bond between humanity and the natural environment. In the process, they have lost some of what made them interesting and distinctive. Of course, not all southerners would agree that air conditioning has removed them from the natural world. A 1961 profile of a Florida household claimed that "living an air-conditioned life doesn't mean shutting oneself off from beautiful

¹²⁶ David M. Potter, *The South and the Sectional Conflict* (Baton Rouge, 1968), 15–16.

¹²⁷ W. J. Cash, *The Mind of the South* (New York, 1941), 48. See also Malcolm Jones, "Sure, It's Hot Out, But Summer Weather Has Its Diehard Fans," *St. Petersburg Times*, June 10, 1984.

Florida summers. It means enjoying them more. . . . air conditioning provides relaxing intervals between the recreational, business and household activities that take them outdoors." As the father of the house explained, "Our living is about the same as before, only more comfortable and enjoyable. We go swimming as often but it's for the fun of being in the water, not just to cool off."¹²⁸ Similarly, a couple in Washington, D. C., insisted that air conditioning added new meaning to their flower garden. "We enjoy gardening," they said, "but even more we enjoy being able to sit indoors comfortably and look out at our garden."¹²⁹ Although such testimonials are revealing, it seems clear that, on balance, human interaction with the natural environment has decreased significantly since the advent of air conditioning. To confirm this point, one has only to walk down almost any southern street on a hot summer afternoon, listen to the whir of compressors, and look in vain for open windows or human faces. As Frank Trippett put it, air conditioning has "seduced families into retreating into houses with closed doors and shut windows, reducing the commonality of neighborhood life and all but obsoleting the front-porch society whose open casual folkways were an appealing hallmark of a sweatier America."¹³⁰

In many cases the porch is not simply empty, it's not even there. To the dismay of many southerners, air conditioning has impinged upon a rich tradition of vernacular architecture. From the "dogtrot cabin" with its central breezeway to the grand plantation house with its wrap-around porch, to the tin-roofed "cracker" house up on blocks, traditional southern architecture has been an ingenious conspiracy of passive cooling and cross-ventilation.¹³¹ "You look at what the Crackers were doing 75 or 100 years ago," one southern architect recently remarked, ". . . and when you analyze it, they had the right answers."¹³² The catalogue of structural techniques developed to tame the hot, humid southern climate is long and varied: high ceilings, thin walls, long breezeways, floors raised three or more feet off the

¹²⁸ St. Petersburg *Times*, June 15, 1961. See also Trippett, "The Great American Cooling Machine," 76.

¹²⁹ What Does Climate-Conditioning Mean to Family Living?" *Living for Young Homemakers*, XIV (October 1961), 131.

¹³⁰ Trippett, "The Great American Cooling Machine," 75. See also Robert Bowden, "Turn off the A/C; Listen to Nature," St. Petersburg *Times*, April 4, 1977; and Lewis Grizzard, "Air Conditioning's 'Cooled' Traditions," *Montgomery Alabama Journal and Advertiser*, July 10, 1983.

¹³¹ Suzanne Stephens and Janet Bloom, "Before the Virgin Met the Dynamo," *Architectural Forum*, CXXXIX (July/August 1973), 76-87; Otis White, "The Home of the Future Needs a New Foundation," *Florida Trend*, XXIV (January 1982), 79-84; St. Petersburg *Evening Independent*, July 20, 1977. See also Sigfried Giedion, *Mechanization Takes Command . . .* (New York, 1948).

¹³² Dwight E. Holmes, quoted in White, "The Home of the Future Needs a New Foundation," 79.

ground, steeply pitched roofs vented from top to bottom, open porches, broad eaves that blocked the slanting sun, massive doors and windows that sometimes stretched from floor to ceiling, louvered jalousies, transoms placed above bedroom doors, dormers, groves of shade trees blanketing the southern exposure, houses situated to capture prevailing breezes, to name a few.¹³³ Historically, these techniques have been an important element of an aesthetic and social milieu that is distinctively southern.

The science of passive cooling, which was refined over several centuries of southern history, was rendered obsolete in less than a decade, or so it seemed before the onset of the energy crisis. With the proliferation of residential air conditioning, vernacular architecture gave way to the modern tract house, with its low ceilings, small windows, and compact floor plan. As early as 1959 the South's largest home builder proclaimed that air conditioning had made the traditional "Florida room" unnecessary. "I figured that for the cost of building a Florida room," he explained, "I could air condition the whole house."¹³⁴ It was this kind of calculus that ushered in the age of mass-produced, homogeneous architecture. As the architectural historian Reyner Banham described the situation, since the lightweight air-conditioned tract house "is the house that the US building industry is geared to produce above all others, it is now endemic from Maine to California, Seattle to Miami, from the Rockies to the bayous."¹³⁵ Many southerners, of course, continue to live in traditionally designed houses. But their numbers are thinning with each passing year.

Residential air conditioning has not only affected architectural form; it has also influenced the character of southern family life. Since strong family ties have long been recognized as an integral characteristic of southern culture, this is a matter of some importance.¹³⁶ During the 1950s and 1960s the air conditioner was often

¹³³ *Ibid.*, 79-84; Banham, *Architecture of the Well-Tempered Environment*, 23-24; Greene, "Air-Conditioning," 16, 18; St. Petersburg Evening Independent, July 20, 1977; Curt Besinger, "Sensible Way to Control Climate," *House Beautiful*, CVI (August 1964), 67-75; "How to Live Happily Ever After in a Warm, Sunny Climate," *ibid.*, (January 1964), 59-110; New York Times, November 30, 1975; Vivian Loftness, "Climate and Architecture," *Weatherwise*, XXXI (December 1978), 214-15; Stephens and Bloom, "Before the Virgin Met the Dynamo," 77-87; James Marston Fitch, *Architecture and the Esthetics of Plenty* (New York and London, 1961), 244-45; Henry H. Glassie, *Folk Housing in Middle Virginia . . .* (Knoxville, 1975), 136-40.

¹³⁴ Herbert Hefltler, quoted in "Home Air Conditioning Said 'Must,'" *Florida Builder*, XIV (November 1959), 11; see Banham, *Architecture of the Well-Tempered Environment*, 100-102, 190.

¹³⁵ Banham, *Architecture of the Well-Tempered Environment*, 190.

¹³⁶ Rupert Vance, "Regional Family Patterns: The Southern Family," *American Journal of Sociology*, LIII (May 1948), 426-29; Bertram Wyatt-Brown, *Southern Honor: Ethics and Behavior in the Old South* (New York, 1982), *passim*; Richard H. King, *A Southern Renaissance: The Cultural Awakening of the American South, 1930-1955* (New York and Oxford,

portrayed as the savior of the American family. In 1955, for example, one observer claimed that residential air conditioning was changing "the family living pattern back to the days before the automobile took Americans out of their homes." "With comfort in its own living room," he argued, "the family tends to stay home and enjoy each other's society in relaxed evenings of reading, sewing, television, or card-playing."¹³⁷ This rosy picture of the air-conditioned family was confirmed by several controlled studies conducted in the late 1950s and early 1960s. A 1962 report was typical: "More than an hour's extra sleep at night during the summer for each member of the family. Daytime naps for children that stretch out three times longer. Hot meals—40 per cent more nutritious—enthusiastically eaten despite soaring outdoor temperatures. A \$5.80 average weekly saving on outside entertainment. Laundry time cut in half; house-cleaning time cut by one-third. Dreams of the future? Not at all. These were some of the actual effects of air conditioning on families in Austin, Tex., and Levittown, Pa."¹³⁸

The alleged benefits of residential air conditioning ranged from better dispositions to increased family privacy.¹³⁹ In retrospect, such expansive claims seem naive and misleading. Air-conditioned living may have made many individual family members happier, but it does not necessarily follow that the family unit was strengthened in the process. As numerous social critics eventually pointed out, endless hours of television watching often detracts from meaningful family life.¹⁴⁰ In any event, the popularity of the air-conditioned living room was soon counterbalanced by the lure of air-conditioned shopping malls, bowling alleys, and other amusements. Of course, even if, on balance, residential air conditioning strengthened the nuclear family, the impact on wider kinship networks probably went in the opposite direction. One suspects that as family members withdrew into air-cooled privatism, interaction with grandparents, aunts, uncles, and

1980), 26–38; Anne Firor Scott, *The Southern Lady: From Pedestal to Politics, 1830–1930* (Chicago and London, 1970), 213–14.

¹³⁷ St. Petersburg *Times*, July 7, 1955.

¹³⁸ *Ibid.*, June 14, 1962.

¹³⁹ *Ibid.*, July 7, 1955; June 23, 1960; June 14, 1962; "What Does Climate-Conditioning Mean to Family Living?" *Living for Young Homemakers*, XIV (October 1961), 130–32; Reese, "The Air-Conditioning Revolution," 97; *ACHR News* (May 6, 1963), 34–36; (August 9, 1976), 8; "Guinea Pigs in Luxury," *Business Week*, No. 1290 (May 22, 1954), 60; A. Nicholson, "Lock Hot Weather Out," *Saturday Evening Post*, CCXXVIII (June 16, 1956), 36 ff; *ACHR News* (March 9, 1959), 6 ff.

¹⁴⁰ See Jerry Mander, *Four Arguments for the Elimination of Television* (New York, 1978); Gregor T. Goethals, *The TV Ritual: Worship at the Video Altar* (Boston, 1981); Leland W. Howe and Bernard Solomon, *How To Raise Children in a TV World* (New York, 1979); Kate Moody, *Growing Up On Television, The TV Effect: A Report to Parents* (New York, 1980); George Comstock et al., *Television and Human Behavior* (New York, 1978); Carl Lowe, ed., *Television and American Culture* (New York, 1981).

cousins sometimes suffered. As more than one observer has noted, the vaunted southern tradition of "visiting" has fallen on hard times in recent years.¹⁴¹ This is an important point, because the essence of southern family life has always been its semi-extended nature. Thus, the overall effect of chilled air on traditional ties of blood and kin has been, at best, contradictory.

The same could probably be said for air conditioning's effect on patterns of aggression and violence. Throughout much of its history, the South has been the most violent section of the United States. In 1934 H. C. Brearley aptly described the South as "that part of the United States lying below the Smith and Wesson line."¹⁴² More recently, Sheldon Hackney and Raymond D. Gastil have used homicide and suicide rates to document the South's "regional culture of violence."¹⁴³ Interestingly, few students of southern violence have paid much attention to climatic forces. Instead, they have concentrated on such factors as a lingering frontier tradition, adherence to an aristocratic code of honor, white supremacist ideology, racial demography, rurality, poverty, and an endemic "siege mentality" related to the nature of southern history.¹⁴⁴ On occasion, however, climate has been cited as an important determinant of southern violence. In 1969 the historian Albro Martin insisted that the region's propensity for violence was largely a function of climate.¹⁴⁵ And in 1977 Joseph C. Carroll's statistical analysis of homicide and suicide rates in 100 American cities uncovered a strong positive correlation between heat and humidity and both homicide and suicide.¹⁴⁶ If these assessments are accurate, what does one make of the fact that southern homicide rates have increased since the advent of air conditioning? Would the rates have increased even more rapidly in a non-air-conditioned South? Unfortunately, the answers to these

¹⁴¹ Misc. Interviews; Trippett, "The Great American Cooling Machine," 75. Joe Gray Taylor, *Eating, Drinking, and Visiting in the South: An Informal History* (Baton Rouge and London, 1982), 156-57.

¹⁴² Sheldon Hackney, "Southern Violence," *American Historical Review*, LXXIV (February 1969), 906.

¹⁴³ *Ibid.*, 906-25; Gastil, "Homicide and a Regional Culture of Violence," *American Sociological Review*, XXXVI (June 1971), 412-27. For a critique of this view, see Colin Loftin and Robert H. Hill, "Regional Subculture and Homicide: An Examination of the Gastil-Hackney Thesis," *ibid.*, XXXIX (October 1974), 714-24.

¹⁴⁴ See Gastil, "Homicide and a Regional Culture of Violence," 412-27; Hackney, "Southern Violence," 908-25; John Hope Franklin, *The Militant South, 1800-1861* (Cambridge, Mass., 1956); Dickson D. Bruce, Jr., *Violence and Culture in the Antebellum South* (Austin and London, 1979); John Shelton Reed, *The Enduring South: Subcultural Persistence in Mass Society* (Lexington, Mass., Toronto, and London, 1972), 45-55; and Edward L. Ayers, *Vengeance and Justice: Crime and Punishment in the 19th-Century American South* (New York and Oxford, 1984).

¹⁴⁵ See his letter to the editor of the *American Historical Review*, printed in the *American Historical Review*, LXXV (October 1969), 325-26.

¹⁴⁶ Joseph C. Carroll, "The Effect of Climate on Homicide and Suicide," paper presented at the annual meeting of the Society for the Study of Social Problems, Chicago, Illinois, 1977.

questions await further study. We know that southern and non-southern homicide rates have converged in recent decades, but at this point it is almost impossible to determine the extent to which this convergence is a function of climate control.¹⁴⁷ Available evidence is contradictory and consists of little more than speculation. Proponents of indoor cooling have often argued that air conditioning invariably makes people less irritable and hence less violent.¹⁴⁸ On the other hand, several critics of air conditioning, including René Dubos and Frank Lloyd Wright, have claimed that artificial cooling is a physiologically dangerous process which reduces human adaptability to stress.¹⁴⁹ According to Wright:

The human body is able continually to adjust itself—to and fro. But if you carry these contrasts too far too often, when you are cooled the heat becomes more unendurable; it becomes hotter and hotter outside as you get cooler and cooler inside. . . . I think it far better to go *with* the natural climate than try to fix a special artificial climate of your own. Climate means something to man. It means something in relation to one's life in it. Nature makes the body flexible and so the life of the individual invariably becomes adapted to environment and circumstance. . . . I doubt that you can ignore climate completely, by reversal make a climate of your own and get away with it without harm to yourself.¹⁵⁰

If Wright is correct, climate control may be one of the factors behind the rising tide of violence that has engulfed the United States in recent years.

The air conditioner has had a more straightforward impact on the basic rhythm of southern life. To a significant degree, air conditioning has modulated the daily and seasonal rhythms that were once an inescapable part of southern living. As Charles Roland once noted, "the climate of the South affected the rhythm of life, slowed its beat. Farmers could hardly be blamed for taking naps on shady porches or under sheltering oaks at the height of the sun; nor city dwellers, for pausing frequently to sip iced drinks under the fans."¹⁵¹ Although a southern summer is still a force to be reckoned with, thanks to air conditioning the "siesta mentality" has declined in recent years, and the summer sun is no longer the final arbiter of daily and yearly

¹⁴⁷ Hackney, "Southern Violence," 913; U. S. Bureau of the Census, *Statistical Abstract of the United States: 1981*, p. 174.

¹⁴⁸ Misc. Interviews; St. Petersburg *Evening Independent*, June 15, 1961; *ACHR News* (May 16, 1960), 24–25.

¹⁴⁹ Trippett, "The Great American Cooling Machine," 75; Friedman, "The Air-Conditioned Century," 25; Greene, "Air-Conditioning," 22; Frank Lloyd Wright, *The Natural House* (New York, 1954), 176, 178; René Dubos, *A God Within* (New York, 1972), 53–54.

¹⁵⁰ Wright, *The Natural House*, 176, 178 (quotation from both pages).

¹⁵¹ Roland, *The Improbable Era*, 3; Helen Muir, *Miami, U.S.A.* (New York, 1953), 291–99; St. Petersburg *Times*, June 5, 1962; August 20, 1978. On the biological importance of daily and seasonal rhythms, see Dubos, *A God Within*, 48–55.

planning. As one observer put it, the southern "summer has ceased to be a long siesta, with Wednesday afternoon store-closings and the like."¹⁵² In addition to these mundane changes the declining importance of climatic and seasonal change may have profound long-term consequences. Climate control may eventually dull the southerner's sense of time, and perhaps even his sense of history.

A more immediate threat is the air conditioner's assault on the South's strong "sense of place." Southerners, more than most other Americans, have tied themselves to local geography. Their lives and identities have been rooted in a particular piece of turf—a county, a town, a neighborhood, a homestead, a family graveyard.¹⁵³ Yet in recent years, thanks in part to air conditioning, southern particularism has been overwhelmed by an almost endless string of look-alike chain stores, tract houses, glassed-in high-rises, and, perhaps most important, enclosed shopping malls. The modern shopping mall is the cathedral of air-conditioned culture, and it symbolizes the placelessness of the New South. As William S. Kowinski recently observed, "these climate-controlled bubbles" are designed "to create timeless space. Removed from everything else and existing in a world of its own, a mall . . . is a placeless space."¹⁵⁴ As such, it is the antithesis of traditional southern culture. To quote Kowinski, "can you imagine William Faulkner writing about the Yoknapatawpha Mall?"¹⁵⁵

At one level or another, air conditioning has affected nearly every aspect of southern life. But it has not changed everything. Although climate control has done its best to homogenize the nation and eliminate regional consciousness, the South remains a land apart—a land that still owes much of its distinctiveness to climatic forces. Of course, how long this will remain so is an open question. Perhaps, as it has done so often in the past, the southerner's special devotion to regional and local traditions will ensure the survival of southern folk culture. But this time it will not be easy: General Electric has proved a more devastating invader than General Sherman. As long as air conditioning, abetted by immigration, urbanization, and broad technological change, continues to make inroads, the South's distinctive character will continue to diminish, never to rise again.

¹⁵² St. Petersburg *Times*, June 5, 1962.

¹⁵³ See Willie Morris, *North Toward Home* (Boston, 1967); Woodward, *The Burden of Southern History*, 22–24; and Paul Hemphill, *The Good Old Boys* (New York, 1974), 11.

¹⁵⁴ Kowinski, "The Malling of America," *New Times*, X (May 1, 1978), 34, 41. Air-conditioned shopping malls first appeared in the South in the late 1950s. See *ACHR News* (September 14, 1959), 32–33; (January 11, 1960), 20; (July 9, 1962), 2; (January 28, 1963), 7; (May 4, 1964), 1; and *Chain Store Age*, XXXV (November 1959), 23; XLI (March 1965), 31.

¹⁵⁵ Kowinski, "Malling of America," 54. In a similar vein, Fred Hobson has written: "Can one imagine Faulkner writing *Absalom, Absalom!* under the spell of central air? One might, indeed, discover a direct relationship between the rise of air-conditioning and the decline of the creative fury of the Southern writer." Hobson, "A South Too Busy to Hate?" 51.