Visualizing the Industrial Landscape

The Photographers of Pittsburgh’s Westinghouse Air Brake Company, 1900-1960

Photo 1. Westinghouse Air Brake plant, Station and Bridge streets, 1951.

In this post-industrial era it is increasingly difficult to visualize a time when factory and shop floor shaped the way we looked at the landscape. Ten or 20 years ago, Pittsburgh was still the center of a region that most Americans identified with the gritty world of coal and steel. Sixty years ago, Lewis Mumford described Pittsburgh as a “typical ... industrial environment: smoke pall, air-sewage, disorder.”

Mumford’s Pittsburgh is hard to find today. Smoke seldom darkens the sky; the deindustrialization of the 1980s, which threw thousands out of work, also cleared the air when it closed many of the region’s mills. In the early 1990s, even the mills’ abandoned hulks are giving way to bulldozer and wrecking ball, in some cases to be replaced by well-tended lawns and sleek, postmodern structures. If we are to convey to the 21st century the character of an industrial landscape that is disappearing today, we must retrieve and interpret a past era’s visual representation of its culture.

Vintage photographs especially — of factory buildings, machinery and industrial workers — are essential evidence. Well-known photographers of Pittsburgh industries have ranged from Alvin Langdon Coburn, a self-conscious artist, to social reformer Lewis Hine, to photojournalist W. Eugene Smith.

Company photography — done by full-time employees of numerous 20th century firms, including many in the Pittsburgh

David Demarest, a professor of English at Carnegie Mellon University, and Eugene Levy, a CMU history professor, have written three major articles for Pittsburgh History in the last five years. Their last effort, on the coke-making counties of Western Pennsylvania, earned them the Historical Society’s 1991 Solon J. Buck Award for Western Pennsylvania History, which recognizes the most outstanding article published each year in the magazine.
region — is a category of industrial interpretation that has been
less commented upon. In a world replete with exciting photo-
graphs, where we expect to encounter the skill of the journalist,
the vision of the artist or documentarian, company pictures may
seem matter-of-fact, pragmatic, unexpressive. A recent book
dismisses the work of such photographers as “commercial,
anonymous, public relations photographs.”

This curt judgment glosses over the skill of many company
photographers and diverts our attention from the significance of
their work in visually defining the industrial landscape. In this
article, we examine a number of images from the archives of
Pittsburgh’s Westinghouse Air Brake Company (WABCO) to
show how its photographers deployed an industrial aesthetic to
depict a harmonious (i.e., company-sanctioned) environment,
while revealing, perhaps less deliberately, dissonances that seem
glaring to us in the late 20th century — the dominance of ma-
chines over workers and company over community.

Three principal Air Brake photographers were active in the
first half of the 20th century: C. A. Kuhnert from 1906 to 1931;
John Stanger, who began working with Kuhnert in the mid-1920s
and remained active until the early 1950s; and Syl Mickanian, who
started with the company in the mid-1940s. We cannot with
certainty identify the creator of a particular image. The signature
on an art or documentary photo suggests independent entrepre-
neurship; company photographers were, after all, “workers,” and
their products were entered in the darkroom logbook by number,
not by name.

The great bulk of the work of the WABCO photographers —
including the 10,000 negatives that survive — relates to the
headquarters plant and its associated company town, Wilmer-
ding, Pa. The Wilmerding complex is about 10 miles east of
Pittsburgh in the Turtle Creek Valley. WABCO has been a major
American company for over a century, innovating rail brake
technology in the last quarter of the 19th century and then
dominating the market well into the mid-20th century.

In many ways, WABCO photographs deal with what we
would think “company” photographers should deal with. They
depict the industrial landscape: buildings (both interior and
exterior), machines, transportation facilities, workers, and a
variety of company products. But “company” in the early 20th
century often carried overtly paternalistic implications. In the case
of Westinghouse Air Brake, this paternalism not only included
company-sponsored sports teams and a band, but also much that
grew on in the surrounding town of Wilmerding, which was built
and largely owned by the company until the 1940s. Thus, over
the decades, company photographers took many hundreds of
photographs of streets, houses, YMCA events and school gather-
ings.

Beyond the informational, the work of these photographers
raises questions about the meaning of company photography as a
type of visual representation of the industrial scene. From our
vantage point as after-the-fact recyclers of such images, what can
we learn from company photographs? How are they to be
interpreted today? How were they interpreted in the past? What
seems to have been the intent of the photographer? How shall we
value the images aesthetically? In what ways do these photographs reveal and conceal social, cultural and economic aspects of America's industrial landscape?

**Constructing the Company's Landscape**

We begin with several images depicting Wilmerding's built landscape — the buildings and the disposition of property created by WABCO in the vicinity of its headquarters plant. Consider, for example, a 1951 image (Photo 1). The Wilmerding plant — the first fully integrated Westinghouse Air Brake facility — is framed at the center of the picture by the diagonals of electric wires and hillsides across the top, and by the Pennsylvania Railroad tracks and the intersection of Station and Bridge streets in the foreground. In the lower left-center is a building, originally constructed (1890) as a train station, that became headquarters in the 1920s for the local Veterans of Foreign Wars.

At one level the photograph invites a narrative. A viewer might want to know that this was a "greenfield" site developed by George Westinghouse, starting in 1887, as the demand grew for the railroad air brakes he had invented 20 years earlier. By the early 20th century, the plant's substantial multi-storied brick buildings covered some 35 acres: engineering offices, machine shops, a large rubber manufacturing facility, several foundries. The Air Brake complex contained its own testing facilities and rail yards, as well as a power plant with several tall stacks more or less
continuously belching smoke. This was an integrated, self-sufficient plant — like most of the heavy industry sites in the Pittsburgh area.

Westinghouse’s original land purchase included space for worker housing, and when the Air Brake shops went into operation in 1890, the first units of company housing were already being offered to some of the several thousand employees via sale or, more usually, rent. In the right center of Photo 1 (just to the right of the power house stacks), an impressive row of early 20th century company houses can be glimpsed through the haze, stretching out along Airbrace Avenue. The darkroom logbook makes clear that this view of the Air Brake is part of a 17 photograph series, the purpose of which was to document the right-of-way of the Pennsylvania Railroad as it abuts company property.

Photo 1 is a carefully composed image. The photographer set the shutter of his tripod-mounted 8 x 10-inch view camera at a very slow speed (perhaps a time exposure) and used a stopped down lens opening to achieve maximum depth of field and thus greatest clarity of detail. He was only interested in the built landscape. The automobile and the man in the foreground (perhaps hurrying to work?) are blurred, but the plant, despite the haze, stands out in detail. It is a landscape in which everything is seen as working together: the plant, with smoke indicating productivity, is centered across the valley bottom, serviced by transportation, especially the mainline of the Pennsylvania Railroad, and adjacent to water — Turtle Creek. These are the conveniences, the photo seems to be saying, that first recommended the site to George Westinghouse. Above all, the picture establishes a sense of monumentality, of domain: virtually all that the lens has captured belongs, directly or indirectly, to the company.

Many viewers in 1951 would doubtless have seen this as a picture of a normal workaday landscape; they might have looked and shrugged. The photograph’s careful centering, however, suggests a positive view of the Air Brake plant, projecting strength, prosperity, power — a landscape dedicated to work, to the energy of production. This mid-century company photo shares much with a style called “Industrial Sublime,” a celebratory vision of industrialism that is often regarded suspiciously at the end of the century. Certainly most viewers in the 1990s would be hard put to imagine that this photo is about anything more than the ugliness of air pollution and the degradation of the environment.

Another external shot of the plant (Photo 2), part of the same 1951 series, lets us sample further the complexities of industrial imagery. This photograph, showing a brass foundry and machine shop, makes its own rich range of suggestions. Like a number of others in the series, it stresses monumentality. Forty years later, in the 1990s, industry is proud of its miniaturizations through electronics. Here, at Westinghouse Air Brake in its prime, only the workers in the foreground are miniaturized. Power, the photograph tells us, emanates from bigness — and from smoke.

An equally strong quality of this image is, to our eyes, its celebration of lines and rectangles: rail tracks and wires, the continuous window grids and the subdivided rectangular panes.
that diminish in endless patterns. The aesthetic impact is to valorize order, precision, geometric structure — a sense of calculation. This effect is then presented against a backdrop of a pollution-burned hillside. The juxtaposition doesn’t seem to have bothered the company photographer. We are watching, arguably, the visualization of two values that dominated landscape usage in the industrial era: production-oriented rationality and relative indifference to environmental damage.

**In the Workplace**

The immediate generalization to make about company photographs of workplaces is that they foreground machines and processes, not workers. We encounter the
pattern over and over again. But more happens than this in workplace photos. The imprint of how the photographer “managed” his human subjects as he set the picture up suggests how the company regarded its workers. The spatial relationships in workplace photos provide a sociological glimpse of the corporate culture.

For example, a dark but richly detailed 1917 photograph of a foundry interior (Photo 1) displays a “circular railway,” as it is described in the logbook, moving sand-casting molds for air brake parts. (This particular machine in fact remained in use until the foundry was dismantled in the 1980s.) In the left corner, a man with a clipboard stares intently at the camera, while beyond a sandpile, mustached workers tend the furnaces. In the near right, two men (gloveless and soft-hatted, like everyone else in the picture) are pouring hot metal, aided by a boy in his early teens. All are preoccupied with their work; years later it is we who notice their lack of safety equipment. Other workers show up, if we look for them, in the far background center and along the picture’s left margin. There are 15 workers present, but the machines define the space. Overall, the viewer has a keen sense of a hot, dirty and likely dangerous environment.

Turnover among foundry personnel, in fact, was high, and WABCO employment records make clear that the foundry was a common place to put new workers, especially if they were recent immigrants. For example, Syrian immigrant Sam Alley made his “X” on an employment card and began working in the foundry in October 1917, about the time of this picture. He only lasted a few months, but that was longer than William Dlka, an immigrant from Russia, and Eddie Dixon, a black migrant from Virginia; they quit within two weeks. Some foundry workers stayed longer.

Frank Brletic, born in Wilmerding and barely 16 when he began as a “skimmer” in July 1916, worked (on and off) until 1947, while Adam Steinel, a native of “Pittsburg,” actually was pensioned from the foundry in 1936.

Given the high turnover of foundry workers, it is unsurprising that those in the photo seem to peer cautiously at the camera, hoping to stay just out of sight until the photographer finishes. These workers display a typical reaction to company photographers, recorded in various gestures over and over again: the floorworkers’ sense of being intruded upon. They see the photographer as coming from a different category of workers — as perhaps a representative of management. The photographer is interrupting workers who would normally be going about their business, and they wait for him to move out of their space.

Any number of photographs from the WABCO archives illustrate both the centrality of machines and the workers’ sense of the photographer’s intrusiveness. The log entry for a 1944 photograph (Photo 4) completely ignores the worker by identifying the image as “American engine lathe equipment for witting crankshafts.” The 8 x 10 negative provides exquisite detail of both the lathe and the crankshaft. In contrast, the woman operating the lathe — a highly skilled worker — is pictured as manikin-like, her hands awkwardly hidden, cut off visually at the wrists. She knows she’s being used as a prop, and she looks embarrassed, just waiting for the photographer to leave. Such pictures will disappoint viewers whose vision of worker importance is expressed by humanist industrial documentarians like Lewis Hine. These WABCO photos obviously express a company vision of the landscape: machines first.

Occasionally, the company photographer captures a candid moment, perhaps inadvertently. A 1944 wartime picture (Photo 5) shows a shop full of women assembling and inspecting bomb fuses. No male is in sight. No gesture suggests that the photographer has made a point of his presence. In the upper right, two women are blurred as they move doing their work; to the left, several women look down, concentrating. But there, just in the center, a woman looks up and smiles at a co-worker, apparently sharing a conversation.

Photos 4 and 5 illustrate the fact that women working at the Air Brake were almost always young. Though the photo cannot show it, no matter how much they might need or want the job, women were generally expected to work only until marriage. Mary Summers’ employment card, for example, indicates she quit her job as a “trimmer” in Department CP four days before her marriage in February 1925 to John Houck of Department E. The notation on Kathryn DiMieri’s employment card in 1942, as well as on Dorothy Dixon’s in 1944, simply indicated “getting married” as the reason for their departures. Clearly, gender work patterns at the Air Brake were in tune with early 20th century America’s dominant cultural ideals.

Visualizing the Town

Turning to the landscape of the town of Wilmerding, which was developed by the company along with the plant site and incorporated in 1890, we might expect to find a continuing photo-commentary on monumentality, order and control. And we do. In a 1924 view (Photo 6) from Westinghouse Avenue, a few hundred yards south of the plant’s main
gate, the General Office Building — Air Brake headquarters — looms over the scene. George Westinghouse built the "G.O.," as it was soon called, in the early 1890s; a few years later, after a fire partially destroyed the building, he rebuilt it on an even grander scale.

The company photographer centers the G.O., reflecting the reality of its place in the community. The building's grandeur is matched by the spaciousness of its grounds, well-tended by the busy workmen at the far left. The town park in the foreground (also company property) is barren and ill-maintained by comparison. Directly behind the G.O. is the First United Presbyterian Church, the church of the Scotch-Irish company managers and local businessmen, and to the far right is the town elementary school. The photo's composition makes clear that the company commands the space, indeed commands the town — like a soot-stained medieval castle.

Despite this, a schoolgirl to the left, clutching her books and with a wisp of a smile on her face, forces her attention on us. Perhaps the photographer, assigned to photograph the Air Brake headquarters, sought to add human interest to his picture — to contrast the girlish figure and the stolid masculine imagery of the building. Whatever his intention, the photographer manages a sociological diagram: the G.O. dominates; the schoolgirl, like the workers in the background, is literally marginalized, fenced off along a diminishing perspective.

Moving to street scenes, we note a similar treatment of property and people in a 1937 photograph (Photo 7) of what at first seems to be an empty brick sidewalk leading to the same rather barren town park recorded in the previous photo. In fact, however, the photographer's assignment, as indicated in his logbook, was to record the approach (for repair?) to the substantial bank-like building on the corner: the real estate offices of Westinghouse Air Brake. Again the photographer chose to use a very slow shutter speed and a stopped-down lens opening to render everything in greatest detail. A kind of masterpiece of company photography results — the storefronts (left) and the cars (right) create narrow perspective lines, squeezing the two readily visible human figures against the left-hand frame. The fact that the barber moved, thus blurring his features, does not detract from the photograph because the human interest elements that a 1990s viewer might most value were obviously peripheral to this photographer's goal. His company-determined interest centered on the empty brick sidewalk leading up to an important WABCO building! The photo's aesthetic appears to testify to company priorities: property, oversight, control. Here the grid pattern also picks up the gritty, textured richness of the bricks, the great handcrafted building fabric of the industrial era. The black and white medium of the photograph enhances our sense of texture, creating another of the characteristic qualities of the industrial aesthetic.

The Air Brake photographers took a number of pictures of company-owned housing. As late as 1940 the company supplied housing to 500 families, about a third of the population of Wilmerding. A series from 1924 depicts single-family housing occupied by managers, shop floor supervisors and at least a few skilled
workers. These photos show a predictable range of traits. A turn-of-the-century house at 231 Marguerite Avenue (Photo 8) is typical in its emphasis on property, in its people-less celebration of harsh linear angularity — streets, steps, sidewalks, railings, wires, clapboards, hill slopes, peaked roofs.

Depicting the better company housing, south of the plant, these photos also suggest comfort and security, amenities the company offered its favored employees. One former resident recalled that when his grandfather, a skilled pattern maker, “came out to Wilmerding, [George] Westinghouse built him a house” — a house the family did not own but rented from the company.17

The style as well as the message changed when Air Brake photographers turned to less affluent sections of Wilmerding. Though outsiders might think all of Wilmerding working class, such was clearly not the view of the residents. While Wilmerding south of the Air Brake plant was “chiefly populated by American-born people,” the town’s north side was a neighborhood of Southern and Eastern Europeans, many of whom were recent immigrants and few of whom held well-paying jobs.18 A 1931 “view showing improvement in paving, State St. N[orth] S[ide],” (Photo 9) makes clear that these crowded, rather ramshackle buildings housed laborers, not managers or even many skilled workers. The formalism of architectural photography, so evident in the south side housing photos, is gone. Here the photographer was clearly interested in the north side street itself. He composed the photograph so that the sharply defined perspective draws our
attention to working-class stereotypes deep within the image: men conversing along the street, laundry hung out across the street to dry.

Black workers and their families, living in some 50 company-owned “bungalows” built in 1918 “for the exclusive occupancy of colored employees,” were even more removed from the comfort and security of the housing occupied by the more affluent WABCO employees. The bungalows were placed on previously undeveloped Boyd Hill, just to the north of the valley, an area that was not even in Wilmerding but in a neighboring township. A 1940 view (Photo 10) emphasizes both the modesty of the structures and the segregation of black workers and their families from the Wilmerding community. It is ironic that viewers of these photos in the 1990s might well imagine they would have preferred, had they lived in the 1920s, the rural quality of Boyd Hill, unpaved streets and all, to the crowded and smoky industrial valley below.

The YMCA

In the valley, WABCO saw itself not only as the economic center of community life, but as a paternalistic influence. And one of its most visible claims to benevolence was the Wilmerding YMCA, seen here in 1932 (Photo 11). As a company publication put it in 1920: “The interests of Wilmerding are so clearly those of the Air Brake Company that the YMCA must stand as an Air Brake institution.” The General Office Building originally housed a public library, and by 1894, rooms for the YMCA. In 1907, the Y moved into a large building adjacent to Air Brake headquarters: the former mansion of the plant superintendent, now expanded by the company into a well-equipped community center. Here, Wilmerding’s (or WABCO’s) YMCA carried out extensive educational and recreational programs, many of which still are fondly remembered by longtime town residents.

A 1925 image (Photo 12) — a vision of genteel, rocking-chair leisure on the Y’s front porch — projects a sense of the company’s satisfaction with the status quo. The 8 x 10 negative enabled the photographer to register every detail of the environment virtually down to the fine print of the newspapers being read on that pleasant summer day. In contrast to the shop floor scenes, the photo’s relaxed intimacy suggests the photographer’s identity with these middle-class subjects. Not surprisingly, the arch of the porch frames a central portion of the General Office Building. Also not surprisingly, linear grids frame the picture, making their unobtrusive suggestions of orderliness and control.

The same sense of order and control is evident in another 1925 image (Photo 13), this time of an exercise session in the Y’s impressive gymnasium. The boys in gym suits, arms thrown back, chests out, are intent as they follow the lead of the instructor (though the boy at the left front seems more interested in the camera). Watching carefully from the sidelines is a stiff-collared, suited gentleman, evidently an important Y official, whose authority permeates the image. Every aspect of the image brings to life one of the chief goals of the YMCA nationwide: to build “character” through discipline, and thus insure social stability in a rapidly urbanizing America.
A series of photos taken several months later at a branch the Y operated on Wilmerding's north side, from 1910 to 1930, registers social class differences. The main Y building catered to the predominantly "American-born" area of the town, but the "North Side YMCA" served families in that low-income neighborhood of Southern and Eastern European immigrants. And it was a crowded neighborhood. Though the north side contained less than half of the town's residential area, 400 of Wilmerding's 575 elementary school students lived there in 1934.24 The Y branch (Photo 14) was in a converted storefront, complete with an advertisement for 5¢ cigars painted on an exterior wall.25 The monumentality, gentility and control so evident in the photos of the main Y are nowhere evident here; rather, this image captures a working-class landscape complete with eager boys gathered in front of the entrance, perhaps waiting for the doors to open on a cold winter day.

The shabbiness of the facilities as a function of social class differences is evident even in posed interior shots. In contrast to the well-appointed gymnasium of the main Y (Photo 13), the basketball court in the storefront Y (on cover of magazine) was in a converted, low-ceilinged room badly in need of repair. The boys in the photo wear a mixture of everyday clothes as opposed to appropriate gym togs, and vary in age from sub-teens to a few young men along the left wall who look as if they are just off their shift at the Air Brake. The basketball players seem to be waiting for the whistle — or the photographer's nod — to
go into action. The effect again is a reminder that, above all, the Y taught discipline — the skills of following procedure, waiting in place, being unobtrusive. The photos suggest that the Wilmerding Y was in tune with the national YMCA’s social class orientation: “favor schoolboys, admit working boys, and shun street boys.”

**Flag and Smoke Stack, Hill and Hollow**

The class and ethnic contrasts fostered by a Western Pennsylvania company town, as well as the pleasures of examining company photographs, seem effectively summed up in two photographs taken in 1927. The first is set in Fort Wilden (named after Air Brake general manager George Wilden), a section of company-owned houses for white workers on a hilltop just to the north of the Turtle Creek Valley. On a bright September day, a group of YMCA-sponsored summer school students and teachers line up on the “lawn” outside an Air Brake-funded neighborhood center (Photo 15). The photographer’s point seems clear: these children are being nurtured by a caring community, thanks to the company’s paternalism. They have a future to look forward to: jobs, most likely in the WABCO plant smoking in the valley behind them. Moreover, they are Americans! — so says the flag in the photo’s center rising between the smoke stacks. They can be proud to be identified with industry; America’s claim to international preeminence. Surely the photographer intended much of this symbolism. He chose the camera angle; he put the flag between the smoke stacks. Perhaps he even waited for the breeze to unfurl the flag above the children. This is a proud picture.

At about the same time the company photographer depicted the white children on the hill, he photographed a group of Wilmerding’s African-American children near their separate, company-sponsored social center in the hollow below their Boyd Hill housing (Photo 16). This photo’s format is roughly the same: stacked rows of children confronting the camera, though the landscape — barren in the foreground, a backdrop of crowded housing — lacks the inherent drama of a hilltop vista replete with
A common element is the white social worker, to the left in the black group and to the right in the hilltop group, who clearly represents the expressly benevolent authority of the company.

It would be presumptuous to look into the faces of these black children and decide how different their lives were from those of the children on the hill. Still, nearly 65 years later, we want to read meanings into these paired images that must contradict the photographer’s intentions, that add tension and pathos. Inevitably, for example — despite the sunshine and the flag in the picture on the hill — we see the air pollution. We see that many of the young people, in both pictures, will be trapped in the smoky valley during their working lives. We know that as young adults all these children, black and white, will have to make their way through both the Great Depression and World
War II. We also know that the black children must confront the 
permanence of American racial discrimination, as well as the 
problems of a working class environment. For us in the 1990s, 
these scenes suggest the historic struggle of Americans to achieve 
their society’s promise.

These last two photos, like those earlier considered, make 
clear that the landscape of the industrial valley was differentiated 
between race, ethnicity, social class, gender and job classification.
Company culture in the first half of the 20th century accepted, 
even preferred and imposed, group differences — so say the 
photos. Air Brake photographers neither protested these distinc- 
tions nor converted them into romantic imagery. With consider-
able skill and sensitivity to detail, they documented the company’s 
commitment to production on the shop floor and paternalistic 
control of the community and people outside the plant gates. <<}

Notes

1 Lewis Mumford, Technics and Civilization (New York, 1934), 181.
2 A good example of the transformation of industrial landscape into recreational use is 
Herrs Island, two miles up the Allegheny River from downtown Pittsburgh. A rowing 
club and a sporting goods mail-order business, postmodern buildings, have replaced the 
ancient livestock pens of a meat-packing company.
3 Coburn and Hine are represented in F. Jack Hurley, Industry and the Photographic 
Image (New York, 1980), 54-75. For Smith’s Pittsburgh work, see William S. Johnson, 
4 James Guimond, American Photography and the American Dream (Chapel Hill, 
1991), 88.
5 See David E. Nye’s argument in Image Worlds: Corporate Identities at General Electric, 
1890-1930 (Cambridge, 1985) that photo images centrally reflected — and helped 
create — GE’s corporate culture.
6 The WABCO darkroom logbooks indicate that company photographers produced 
about 55,000 negatives from around 1900 to 1950, of which some 10,000 are still 
contemporary. We started working on the Air Brake materials in 1988 with Cy Hosmer, an 
engineer with the company since 1957. In 1989, we produced an exhibit of
photographs, "Company / Company Town," permanently hung at the Wilmerding "Castle" (the former General Office Building), in conjunction with the George Westinghouse Museum.

In the 1980s — during the era of general industrial decline in the United States — WABCO's operations were sharply reduced or relocated. A number of shops at the Wilmerding site were closed, and the local workforce reduced from about 4,000 employees in the late 1970s to 400 by 1991.

Using compressed air, the Westinghouse system allowed equal braking power, controlled by the engineer, to be applied to all cars in a train.


9 The aesthetic of precision (often coupled with monumentality) suggests another tradition among industrial "art photographers." See David Plowden, Steel (New York, 1981), and Bernd and Hilla Becher, Water Towers (Cambridge, 1988).

10 The WABCO employment record files prior to the early 1990s are in the archives of the George Westinghouse Museum, Wilmerding.

11 Employment records indicate that women worked in the manufacturing, as well as the clerical, end of the Air Brake from early on, though the two world wars did produce upsurges in female employment.

12 It was not necessarily a vision shared by WABCO's floor workers. Many took pride in their skills. As one retired machinist told us, "Once you broke it in, it was your machine to produce on." (Steve Cavalancia, Jr., interview with authors, Nov. 10, 1987). That sense of proprietorship conjures up a vision of the work world in which the operator, not the machine, is in sharpest focus.

13 WABCO News, April 1925, 6; WABCO employment record files.


15 Golden Echoes: Official Publication Commemorating Wilmerding's Fiftieth Anniversary Celebration (Wilmerding, 1940), 93. Wilmerding had a steady state population of about 6,000 from 1910 to 1940.

16 Chuck Klausing interview with authors, Jan. 12, 1984.

17 Hunter & Caldwell, Architects, Project Analysis of the Wilmerding Schools (c. 1935), 55.

18 Golden Echoes, 93.

19 The streets in Boyd Hill remained unpaved until the 1960s; see Shirley Oliver interview with authors, April 30, 1988.


23 The owl cigar sign remained visible until 1989, when it was finally painted over.

24 Macleod, Building Character, 216.

25 WABCO's central YMCA building, for example, excluded blacks; the company-funded social center for blacks became a "Y" branch in the 1930s. See Federation of Social Agencies of Pittsburgh and Allegheny County, Recreational Facilities Pittsburgh & Allegheny County (Pittsburgh, 1947), Vol. 3, 78, 260; Nancy Oliver interview with authors, April 30, 1988; Golden Echoes, 164. Macleod, Building Character, 214, reports that segregated YMCA branches were common throughout the United States.

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