Contents

Introduction
James Murray 3

Diversified Industrialization and Economic Success: Understanding Cincinnati’s Manufacturing Development, 1850-1925
Philip Scranton 5

If All the World Were Mechanics and Farmers: Democracy and the Formative Years of Land-Grant Colleges in America
Alan I Marcus 23

Exhibiting the Changing World through the Ohio Mechanics Institute: From Annual Fairs and Exhibitions to Grand Expositions, 1838-1888
Judith Spraul-Schmidt 37

Representing the Art and Industry of Progress: Cincinnati’s Grand Exposition Posters
Tracy Teslow 47

‘The Most Important Civic Raw Material’: Educating Cincinnati’s Industrial Citizens in the Early Twentieth Century
Jeffrey Haydu 55

Reviews 74

Announcements 98
Contributors

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EDITORS’ CORRECTION:
On this page in the Winter 2004 issue of Ohio Valley History, the editors incorrectly associated the Thomas Jefferson Papers with the University of Virginia. In fact, the Thomas Jefferson Papers: Retirement Series is sponsored by the Thomas Jefferson Foundation, and it is housed in the Robert H. Smith International Center for Jefferson Studies, at Monticello, Charlottesville, Virginia. Our apologies.
‘The Most Important Civic Raw Material’: 
*Educating Cincinnati’s Industrial Citizens in the Early Twentieth Century*

JEFFREY HAYDU

By the second decade of the twentieth century, Cincinnati employers and educators believed that they had crafted a modern system of education for industry. Cincinnati machine tool manufacturer Ernst DuBrul boasted of the city’s vanguard role at the 1906 National Association of Manufacturers’ meeting. The city, he told assembled businessmen, was well on its way to integrating into a single system the various levels of industrial training. DuBrul went on to itemize the tiers of a new educational hierarchy. Public schools provided all students with some basic, all-purpose manual training; trade schools turned out skilled workers; continuation schools upgraded some craftsmen into foremen; technical schools produced superintendents; and, at the pinnacle, university-level technical training programs served “our managers and businessmen.” Civic pride may have gotten the better of DuBrul when he claimed that Cincinnati was on the cutting edge of education reform. There is no doubt, however, that vocational training in Cincinnati had come a long way in the nineteenth century from mechanics’ training to industrial education.

In fact, for much of the nineteenth century, leaders at the Ohio Mechanics Institute had championed educational programs befitting the citizen-mechanic of republican tradition. Their early twentieth century counterparts adopted a more frankly utilitarian approach tailoring education to the demands of industry. They also assumed, in contrast to the republican tradition, that various ranks in the industrial hierarchy had different educational needs. This transformation in the character of industrial training is familiar to historians of education, as are its alleged causes, above all the technological demands of modern industry and the demise of republicanism. But was this supposed transformation so complete as it seems? Perhaps not. In fact, elements of the republican tradition remained alive and well in the thinking of many employers about industrial education. Indeed, the goal of vocational training remained not just to enhance human capital
but also to mold the city's "most important civic raw material." Individual students then would gain moral character as well as useful skills, and industrial education would have civic as well as economic benefits. But there had been a change by the turn of the century in the content of that moral character and the perceived relationship between civic and economic communities. Technical issues, as well, while they may have posed problems for employers, hardly guaranteed that employers would solve them. The reason is that a properly educated industrial workforce is what economists call a public good, and as with other public goods, free riders may put it out of reach. The generic solution for this dilemma in collective action is trust, and for Cincinnati employers one important source of trust lay in republicanism, a civic ideology and practice that remained central to industrial education in the city.

Cincinnati manufacturers and master craftsmen founded the Ohio Mechanics Institute in 1828 to advance "the best interests of the mechanics, manufacturers, and artisans, by the more general diffusion of useful knowledge." The institute offered regular classes, periodic popular lectures, and a library to encourage wholesome reading and relaxation. These programs aimed to equip young men for self-improvement by combining education in "Mathematical and Physical Sciences" and "Operative Mechanics" with ethical instruction in "History, Metaphysical and Moral Sciences." In this uplifting work, the Institute joined similar institutes in Worcester, Lynn, Wilmington, Providence, and other industrial cities.  

How did OMI leaders envision the goals of industrial education? For one thing, they would have found the very idea of education specific to industry to be pernicious. The well-trained worker, according to early OMI printed programs, was intended to be a republican producer, a man who combined artisanal skill, economic independence, and equal citizenship. No clear line divided a man's occupational worth from his civic virtues. Nor did OMI educators distinguish training in manual skills from education suitable for professionals or shop proprietors. The OMI, its founder promised, would let "our ingenious artisans and mechanics see that the practice of their respective arts is capable of being derived from the great and immutable laws of nature: a knowledge of which will enable them to extend and improve their respective arts beyond any known limits, and raise those who practice them to that rank in society to which their utility entitles them."  

By enlightening mechanics, moreover, the OMI served the larger civic goods of equality and social order. "God has seen fit," a speaker revealed to OMI members in 1848, "to deposit the best minds where he has placed the richest jewels, under rough coatings and in caverns quite obscure." Such benighted youths "might, by the aid of science and moral truth, be converted ... into bright ornaments, and instruments of much good, and, instead of distracting our social order, contribute largely to the peace and harmony of society."
OMI leaders viewed education as an egalitarian enterprise, an idea that dovetailed with their understanding of industrial society in the middle of the nineteenth century. For a start, the term “mechanic” proved to be a remarkably capacious category. Although working men who performed mere physical labor could not be dignified by the label, nor could passive investors of capital, other men with a wide range of skill and responsibility could, from specialized craftsmen through manufacturers with a wide knowledge of a trade and broad responsibility for managing workers. Greater degrees of skill and responsibility justified greater rewards in this industrial hierarchy. “A journeyman who can work only under the direction of others, or perform only a simple not very complicated process, while receiving better pay than a hod carrier or shoveler, gets much less than he who understands all parts of the business, and can direct others . . . . The master machinist or manufacturer, who has hundreds of men under him, earns all that is paid him.” Yet OMI leaders believed that no fundamental difference in kind existed between different grades of mechanics, despite these differences in remuneration, and the expectation seems to have been that individuals would progress from lower to higher grades in the course of their career—with the help of educational institutions like the Institute.

Echoes of this egalitarian ideal persisted after the Civil War in a manual training movement that advocated a mix of scholastic and practical training for all.² Cincinnati businessman and civic leader George Ward Nichols, for example, urged that drawing and design be made part of a universal curriculum, benefiting equally three groups that, in 1877, he still placed in a single continuum: skilled “workmen,” “master workmen” who served as the “practical directors in the various establishments,” and “capitalists.”³ A similar populism applied to college education. Observers praised early plans for an engineering school at the University of Cincinnati on the grounds that it provided a potential alternative to an elitist classical education. Through such practical educational programs young men could get professional training “without wasting years of labor and French studies on Greek tragedies and Latin odes.”⁴ Even in the golden age of Cincinnati republicanism, there existed pronounced inequalities in the education offered to local youth. As in other manufacturing centers, however, the dividing lines were quite different in the 1830s and 1840s than they would be in the 1890s and 1900s. Despite some doubts as to the intellectual content of manual labor,¹¹ middle class commentators before the Civil War contrasted “practical” training, which combined...
science, art, and skilled mechanical labor, with the classical education of the
leisured gentleman, useful mainly for social display. In Cincinnati, this division
separated the OMI, catering as it did to “mechanics and manufacturers,” from
high school courses and especially college classes taken by the city’s gentry.\textsuperscript{12}
And in Cincinnati, at least, this distinction was still being drawn in the 1870s.
It was in the \textit{South}, a contemptuous \textit{Cincinnati Commercial} editorial claimed,
where manual labor was stigmatized and “to be a mechanic was to be degraded
\ldots filthy, greasy, a mudsill.”\textsuperscript{13} The distinction appears as well in criticisms of
some high school course work as “impractical,” and in the ideal of a universal
curriculum balancing scholastic and manual training.\textsuperscript{14}

In the early twentieth century, the educational system promoted by business-
men in Cincinnati differed from the nineteenth century model in several
respects. First, the earlier commitment to social leveling appears to have
vanished. Industrial educators organized their curriculum into a more finely
calibrated hierarchy of training programs, specialized by economic
function and graded by social status. No longer did one pedagogical
model, like the manual training programs of the 1870s, fit all students,
regardless of background or prospects. After 1900, for example, voca-
tional training classes in Cincinnati’s public schools taught specific
occupational skills to

\begin{figure}[h]
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\caption{Blacksmith Shop, Ohio Mechanics Institute, 1903.}
\end{figure}

future blacksmiths, machinists, carpenters, and the like. These same classes
also acquainted pupils with the realities of workplace authority. Staff at the
public school’s Manual Training Center came designated as superintendents,
general managers, foremen, and time keepers; practice work earned grades
measured in wages; and students sometimes found their “wages” docked for
lateness or misbehavior.\textsuperscript{15} This type of training differed from a liberal arts
track both in substance and pedagogy, and it was considered the final stage of
education for most of the students enrolled.

Several more tiers, lodged between graduates of vocational education and
captains of industry, further divided and ranked students. The introduction
of continuation schools in 1909, for example, catered to a higher grade of
manual worker chosen by employers from their apprentices, the employers
having identified some few young men as having suitable intelligence and
drive to serve as gang bosses or foremen. For machinists, who accounted
for most continuation school pupils, the curriculum included shop arithmetic,
geometry, the physics of metal working ("not the ordinary high-school
course in physics dealing with abstract subjects, but physics with reference to
the practical problems of the shop"), geography (as illustrated by the sources
and shipping routes of shop materials), and instruction in such shop conven-
tions as how to answer questions placed in the foreman's suggestion box. Others were destined for higher purposes. The Ohio Mechanics Institute,
for example, organized a School of Technology for young men thought to
be likely prospects for a position in management. The School's curriculum
included more theory than practice, and was taught by practicing profession-
als. By the turn of the century then, the Institute's faculty and administra-
tors recognized that the institution now served two different groups, "the great
majority of our young people who are destined for mechanical pursuits, and
... our young men whose lot it will be to manage manufacturing establish-
ments." Moreover, the two types of student completed different courses of
study. The great majority would learn "things in science and mechanics which
will be of practical and real value to him in making his living" while those
fated to manage would be given an opportunity to "reach for a higher range
of scientific education." The Technical School, founded in 1882 by the city's
Commercial Club, took a similar approach. It offered full four years of high
school classes, mixing conventional academic subjects with shop work. The
program was expensive but successful. Graduates between 1890 and 1900
worked mainly in technical fields like engineering or went on to professional
colleges. Finally, the University of Cincinnati's cooperative program catered
to future managers of a technically more sophisticated kind. The program
offered a full college curriculum and conferred engineering degrees on its
graduates. But Herman Schneider and his supporters in the business com-
unity wanted to make sure that these future engineers and managers would
not be impractical theorists. Having them work in shops half time ensured
that they would get plenty of experience with the realities of manufacturing,
commerce, and labor relations. The multi-tiered system of industrial education praised by DuBrul,
then, organized training to meet a variety of specialized labor needs
in industry. Its advocates assumed that manufacturers required very
different types of workers, not workers in different stages of their careers.
And these various types of workers needed different courses of study, each
course with a suitable balance between "practical" and "theoretical" training.
What we would now call a vocational track emphasized manual skills and
practical knowledge—such as reading diagrams, measurement, or the behavior
of metals when heated—that was required by Cincinnati's carriage makers,
blacksmiths, and machinists. The OMI provided such training to boys and young men through its night school, and the public schools did so through continuation classes. At the other extreme, a curriculum for future engineers emphasized classroom instruction over shop work, higher math over practical calculation, and general physics over pragmatic knowledge of how metal cutting tools behaved under stress. While the OMI provided the "primary courses" for beginning craftsmen, it was the University of Cincinnati that offered "the higher course for the making of engineers." In between basic training and an engineering degree, Cincinnati educators catered to varying degrees of competence in the workplace and levels of responsibility. Variations such as these had existed among "mechanics" early in the nineteenth century. But degree of skill now represented a distinct grade of worker, with a corresponding curriculum providing the appropriate mix of practical and theoretical training. Differences in degree of competence in the old mechanic had become differences in kind of worker.

In the early twentieth century, Cincinnati businessmen assumed that these differences were fixed. Most boys found themselves destined for manual labor; some had the potential to play leading roles on the shop floor; and a few meritorious exceptions could be moved into professional positions and managerial roles in the enterprise as a whole. Each desired the best possible education, but an education suited to their likely station. Praising the Ohio Mechanics Institute’s vocational training program in 1910, cotton merchant James Hooker noted "the folly of parents giving boys an academic schooling who should be fitting themselves for the practical struggle of life." School superintendent Dyer concurred. Noting an increased enrollment in manual training classes in 1911, Dyer explained that an academic education merely "diverted children from work with their hands" at a time when the professions could absorb only small numbers of graduates. J. B. Doan, the general manager of American Tool Works, applied a similar logic to continuation schools and cooperative education programs. "We consider both plans a thorough success . . . . It is our belief that the Continuation School will develop young
men into better workmen, to occupy positions as foremen and as superintendents, while the University course will develop them for the higher branches of engineering.”

Such thinking about skill went hand in hand with new cultural maps of social inequality in Cincinnati. Early in the nineteenth century, the Institute’s founders had distinguished between producers and parasites both above and below them—the idle rich and the idle poor. But by 1900 those views had changed. Now the crucial cultural boundary divided not the productive citizen from those who did no real work, but manual workers from mental laborers. Even at the relatively populist OMI, administrators in 1901 divided students into “scholars and workers.” The more competent the student and the loftier the occupational destiny, the greater the need for general and theoretical course work, it was argued. And among mental workers, the invidious republican distinction between productive and unproductive labor simply disappeared. Thereafter, managers and proprietors—”practical men” and investors with little background or involvement in the trade—both qualified as respectable businessmen. They were said to have more in common with one another and with other mental workers than they did with craftsmen. In fact, one skilled worker complained in 1884 that even a poorly paid service worker, doing no manual labor, had higher status than he did. “Socially in this town, a mechanic earning fifteen dollars a week is looked down on by many of what we call society people, while a counter-hopper, earning one half as much, is regarded as a very much better man, not because he knows any more, but because the former is a ‘greasy mechanic’.”

Central Labor Council officials echoed the complaint in 1901 and connected it explicitly to education. Students at the Technical High School on the track towards professional engineering or management “usually . . . become snobs and not willing to cooperate with workmen.”

Finally, early twentieth century businessmen and educators in Cincinnati thought about the larger goals of industrial education rather differently than their nineteenth century predecessors had done. Whereas Cincinnati’s early industrial leaders had viewed popular education as making good citizens for a healthy republic as well as producing good workers in the mechanical arts, turn-of-the-century businessmen thought the benefits of industrial education had far more to do with inculcating appropriate skills for a variety of highly specialized jobs. The products of new training programs, one machine tool executive wrote, “develop into first class mechanics.” Employees who had the benefit of “theoretical training” at the OMI, another proprietor opined, “are becoming more and more appreciated by manufacturers.”

In short, industrial education graduates at the turn-of-the-century, like their counterparts in the 1830s, remained an important resource for Cincinnati, but now employers valued them mostly as skilled labor rather than as citizens.
Two main forces are generally thought to have driven the shift towards a more stratified system of education designed to better meet the needs of Cincinnati's manufacturers. First, by the late nineteenth century, the republican political and cultural tradition in America had weakened among the bourgeoisie, or been reinterpreted almost beyond recognition. During the Gilded Age, that tradition's emphasis on civic obligations shouldered by men of property had given way to a more privatized, narrowly self-interested liberal individualism. And rather than portraying citizens as both independent economic producers and active political participants—as the republican tradition had done—Gilded Age bourgeois thinkers erected a sturdy barrier between political and economic spheres. For the political sphere, elites affirmed the virtues of popular participation, equality, and the rule of law; in the economy, authority and privileges of private property trumped equality and democratic governance. In this liberal vision, industrial education could not be seen as producing a unified package of moral character, economic independence, and political competence necessary for a healthy public sphere. Even if industrial education produced such public benefits, late nineteenth century businessmen did not regard them as priorities.

The demise of republicanism, however, cannot explain the specific character and understanding of the new educational order. Here a second, familiar causal influence takes center stage. An increasing technical complexity in industry and a related decline in traditional apprenticeships required new methods for meeting the manpower needs of late nineteenth century manufacturers. In the story told by some historians, and in the standard lament of contemporaries, the venerable system of boys learning a trade from journeymen in the shops had become obsolete by the late nineteenth century. On one hand, young men often preferred the higher short-term rewards of specialized jobs to the years of poorly paid apprenticeships that were necessary for acquiring all-round skills. Employers, on the other hand, often took advantage of an apprentice's low wages and directed young workers to concentrate their labor on narrow, repetitive jobs rather than giving them wider experience. Besides, even a well-executed apprenticeship resulted in a merely "rule of thumb" knowledge that did not help much later in more technically demanding jobs. But the claim that technical needs called for new approaches to industrial education, while plausible on its face and consistent with the often-expressed views of businessmen at the time, is also incomplete. Businessmen may have been dissatisfied with the apprenticeship system and aware of a need for alternatives, but "technical needs" can explain neither the specific solution they adopted nor how they managed to cooperate to implement that solution. As for obsolete republicanism, this argument explains little as well. Employers in Cincinnati fit the stereotype of a Gilded Age capitalist very poorly indeed, and republicanism, in modified forms, remained very much a
part of their worldview and social practice.

Persistent republicanism, in fact, may explain how Cincinnati businessmen effectively worked together to promote needed reforms in industrial education. Cincinnati businessmen in the late nineteenth and early twentieth centuries regularly preached and often practiced a code of good citizenship. Far from embracing the social Darwinism of the stereotypical Gilded Age capitalist, they retained a republican’s insistence on active participation in civic affairs. Consider, for example, the memorials prepared by members of the Cincinnati Chamber of Commerce in memory of their deceased colleagues—guides, not to the facts of their lives, but to characteristics deemed praiseworthy. Compared to pre-Civil War memorials, those in the 1890s are more likely to commend the departed for fulfilling their civic duties.34 Theodore Marsh, for example, deserved praise after his death because he “was identified not only with [the city’s] prosperity by his [business] interests, but as well with the general welfare of his fellow citizens as was manifested by his public spirit and active concern for progressive enterprises.”35 Other business associations took the same line. Members of the Commercial Club lauded William Breed in 1908 because, while “he was born to wealth and to a place in the community,” he “shirked none of the responsibilities that were thus put upon him.”36 Civic action, in this republican trope, became an essential antidote to corruption and unchecked power in municipal government. Moreover, businessmen, by virtue of their prominence and their resources, had a special obligation to serve the public good. “Every business man in Cincinnati,” the Businessmen’s Club admonished its members, “owes it to himself, his family and to his city to devote a reasonable portion of his time to public affairs. Good citizenship demands this sacrifice on the part of every man . . . . Republics require such service from their citizens in order to exist and our municipalities are but miniature republics made possible by law-abiding and liberty-loving people.”37 It was through their civic, charitable, and political contributions that businessmen, in another favored turn of phrase, lived a “life of usefulness.”

Another republican ideal professed by Cincinnati businessmen centered on the ideal of selflessness, as against the evils of partisanship. This was a familiar theme in mugwump politics throughout the United States in the Gilded Age,38 and in Cincinnati elites found partisanship mainly in
municipal misgovernment, epitomized by the regime of Boss Cox.39 City politics, in this view, had become corrupt and inefficient because most politicians, many voters, and even some craven businessmen were unable or unwilling to put self-interest aside and pursue the good of Cincinnati as a whole. Partisanship meant thinking only of one’s party rather than the commonweal. For the retired dry goods merchant Charles Reemelin, speaking at a public meeting of the Committee of One Hundred, “no one has any capacity to judge public questions, who argues them from the party stand-point. He must rise or sink in your estimation just according to the degree to which he rises to the highest ideals of true citizenship, or sinks to the cess-pools of partisanship.”40 To be “partisan” also meant thinking first of one’s personal or business interests, as when utility companies in search of favors “corrupt men who are in office.”41 The outcome in either case, according to Commercial Club members, was misgovernment. Public officials came to treat their jobs “as a reward for partisan work” rather than discharging their duty “to do [the] best public service.”42

These ideals found their way incessantly into memorials, newspaper editorials, dinner speeches, and public meetings in Cincinnati, and became institutionalized in the city’s major business associations. Among them, the Commercial Club came first. The Club’s founding in 1880 had been sparked by concerns over trade with the South and excessive freight rates out of the city.43 But its members soon diversified their interests to address questions of economic infrastructure, civic amenities, and municipal governance. Between lavish dinners, much of the Club’s activity devolved onto specialized committees titled: Municipal Legislation, State Legislation, City Charter, Water Supply, Taxation, City Park, Street Improvements, Terminal Facilities, Labor, Transportation, Technical School, Public Finance, Smoke Prevention, and Sanitation. These working committees (organized and disbanded as topics of the day changed) made recommendations to the membership, sometimes hired lawyers to draft legislation, lobbied on behalf of the Club, and reported on their progress at monthly dinners.44 And while the Commercial Club was certainly exclusive, within the city’s business elite it strove to be broadly representative, allowing no more than two members from any one company.

The Young Men’s Business Club roughly followed the model of the Commercial Club but built a much wider base within the business community. The Club debuted in 1892, with sixty “prominent young businessmen” agreeing to regular monthly dinners “for the purpose of becoming better acquainted
by frequent association." Along with good meals and camaraderie, the club focused on public service, and quickly established itself as a prominent critic of the Cox regime. More constructively, it became the leading champion of a wide range of civic projects, such as a Fall Festival to showcase the city’s manufactures, a new train depot, and a Bureau of Industrial Research to improve efficiency in municipal governance. The Business Men’s Club (as it became known in 1899) differed from the Commercial Club mainly in the fact that BMC members were generally younger and less prominent than those in the Commercial Club. They were also far more numerous, with the roster growing from one hundred in 1892 (already double the Commercial Club) to 1,000 by 1904, and then to 1,600 in 1912, making it by far the most popular of Cincinnati’s business organizations.

A third republican theme runs through both the ideology and institutions of late-nineteenth century Cincinnati businessmen. Rather than erecting boundaries between the principles applicable to political governance and economic production, they treated the public interest and business interests as identical. In brief, the industrious activities of local employers benefited the community as a whole while selfless political reform organized by local businessmen contributed to local economic growth. In the view of members of the Commercial Club and the Business Men’s Club, clean government would help attract new businesses to Cincinnati; efficient government would lower the tax burden; and expert government would give Cincinnati the state-of-the-art infrastructure—transportation, water, education, public health—needed to fuel economic development. If the Commercial Club achieved these goals, Club President Voorheis argued, they would advance the material progress of the city and “the general welfare of our home people.” And in so doing, he believed the Club to be practicing “the highest form of citizenship.”

It was not just that progress on the civic front benefited industry, and vice versa; economic and political virtues actually merged into a single category. An insistent theme in meetings of the Committee of One Hundred, for example, likened city government to a business and demanded that the business be run more efficiently. “It would amaze you to know,” one Committee member warned a public meeting, “how little business sense is manifested in the running of the corporation known as the city of Cincinnati.” Moreover, businessmen had an obligation as citizens to promote local industry. In soliciting support for an 1895 meeting of manufacturers and employer associations from around the country, the Manufacturers’ Association called on all “public-spirited, liberal, and patriotic citizens of Cincinnati” to lend a hand. The Chamber of Commerce, for its part, recognized the blending of civic and economic betterment in the very name of its “Civic and Industrial Department.”

These republican themes—civic obligation, nonpartisanship, and the iden-
tity of political and economic goods—proved to be central to business culture in Cincinnati in the late nineteenth century and early twentieth century. The Commercial Club and Business Men’s Club, moreover, not only popularized these republican ideals among Cincinnati’s leading businessmen, they also provided a network, cutting across trade allegiances, through which entrepreneurs could come together. Club social outings, dinners, service on committees, and petition drives all provided occasions for merchants and manufacturers to cultivate a sense of themselves as members of a larger business community. Recognizing businessmen’s normal preoccupation with immediate economic concerns, Chamber of Commerce superintendent Sidney Maxwell asked “how to crystallize business sentiment so as to immediately promote the interests of the individual trades, and at the same time bring it to bear upon public matters?” The answer lay in associations like the Chamber of Commerce that “furnishes a means of giving expression to the average business sentiment of a community.” Maxwell further understood that the Chamber helped construct that sentiment. “The business men of the community [improve] on acquaintance, so that such associations not only discover men who will be valuable to the community in wider spheres than they may be occupying, but they frequently develop them into active agencies for the good of the whole people.”

Cincinnati’s civic clubs thus helped make the identity of business interests and community good self-evident both in the ideologies they promoted and the cross-trade networks they formed. Indeed, civic clubs, bringing together economic elites of varied backgrounds and interests, helped generalize the ideal of businessmen as leading citizens, selflessly advancing the commonweal, while that ideal, in turn, offered a rallying cry that enhanced class solidarity among the city’s elites. In 1895, for example, Cincinnati businessmen organized the first meeting of the National Association of Manufacturers, and according to one Commercial Club member, participants in that meeting discovered “how ignorant each was of the existence of the other, and how little was known of the immense variety of manufactures . . . Since that time the secretiveness . . . of our manufacturers has, to a limited extent, disappeared, and it is to be hoped that hereafter they will let their competitors, fellow-citizens and the world know how much they are doing to place Cincinnati to the fore-front.”
Business citizenship influenced the ways in which Cincinnati leaders understood the benefits of vocational training in the early twentieth century. Those benefits accrued both to the individual student and to the community at large. Individual students, if all went well, would acquire the same kinds of virtue that businessmen valued in their ideal citizen. For example, trade-specific vocational training and cooperative education, geared towards the more ambitious boy, produced graduates who had the potential to take a leading role on the shop floor and perhaps make their way into management. A local carriage manufacturer commended the Ohio Mechanics’ Institute for its course in carriage drafting because it not only met his basic labor needs but also supplied “educated intelligent men [ready] to come to the front and take charge of our factories.”\textsuperscript{54} James Hooker’s praise of the Ohio Mechanics Institute’s educational programs, similarly, emphasized that its students “are advanced more rapidly than those who have not [had] this training.”\textsuperscript{55} In short, industrial education helped cultivate the “take charge” workers whom employers so applauded and needed in their factories.

There was more to the well-trained employee than ambition and drive, however. Good workers, like good citizens, had to be willing to make sacrifices for the general good. Herman Schneider, using the example of a locomotive engineer, explicitly linked the two ideals. An exemplary locomotive engineer displayed “the highest quality of good citizenship; namely, an instant willingness to sacrifice himself for the lives in the train behind him. This makes for the best type of civic responsibility.”\textsuperscript{56} Schneider and at least some of his business supporters in Cincinnati saw cooperative education as fostering that kind of moral character. One way it did so was to weed out the narrowly self-interested student, too snobbish to get his hands dirty. Requiring a summer’s hard work in the shop before beginning coop classes at the University of Cincinnati, for example, achieved what the California Metal Trade Association’s secretary described as “the elimination of the mollycoddle.”\textsuperscript{57} Employers also emphasized the contribution of industrial education to a worker’s independence, another familiar theme in the republican tradition. Industrial education, in substituting for traditional apprenticeships, protected impressionable young men from union influences. Specifically, with their enhanced human capital, workers would have the ability to “earn a living independent of the support of any trade organization and mentally indifferent to” those unions.\textsuperscript{58}

Finally, there were significant benefits to the community as a whole in educating young mechanics to republican ideals. For Herman Schneider, the well-trained employee could be an asset to both workplace and civic communities. Within the shop, “the morale of an entire working force is strengthened by the introduction of a few ambitious young employees” like those turned out by the cooperative program.\textsuperscript{59} “The morale of a community,” in turn, “depends upon the kind of work it does.”\textsuperscript{60} But the well-educated worker would be a boon to the community especially in a political sense. One enthusiastic backer
of the Commercial Club’s Technical School, for example, predicted that “the effect of education would be to prevent riots.”61 And in 1893 the Technical School’s director claimed to have instilled “greater self-reliance and steadiness to [the] pupil’s character”62 that made for sober citizens as well as useful employees. The MTA’s 1909 appeal to the school board for industrial training, similarly, emphasized the need to include civics in the curriculum, “training the boy to be an intelligent voter.”63

Given the vital importance of industrial education to the community, businessmen argued that its governance should follow the nonpartisan logic celebrated by the city’s elites. Much as a respectable civic leader deserved a greater voice in local politics than a partisan hack or a howling mob, so too in schooling. It stood to reason that businessmen, with their greater understanding of Cincinnati’s needs, should guide educational reform. Members of the Business Men’s Club, Chamber of Commerce, and Taxpayers’ League sharply criticized Cincinnati’s school board as an obstacle to change because its members secured their jobs through the patronage of Boss Cox, not on the basis of expertise or a reputation for civic responsibility. To change that situation, in 1913, against the opposition of the city’s Labor Council, local businessmen pushed through plans for a smaller school board with a city wide electorate as one crucial step towards reform. From this time forward, a “Citizen’s Council of Public Education,” made up of representatives from the city’s major business and civic organizations effectively controlled school board membership.64

The ideology of business citizenship and organization of businessmen’s clubs in Cincinnati also helped economic competitors in the city cooperate among themselves on behalf of new educational programs. The city’s machine tool manufacturers offer an interesting case study. They certainly had a technological need for improved industrial training. Producing machine tools required technical sophistication, careful workmanship, and versatility to keep up with changes in design and demand. At the same time, deskillling in many other branches of metalworking reduced the supply of broadly trained craftsmen.65 Yet worker training posed classic dilemmas of trust and cooperation
among competitors, a free rider problem: who would pay for programs that enlarged the general pool of skilled labor? If a company had the means to do so, it could establish its own school, an approach taken briefly by Cincinnati Milling. But there was no guarantee that competitors would not lure trained workingmen away, reaping for themselves the rewards from Cincinnati Milling’s investment. In short, upgrading the technical knowledge of craftsmen promised long-term benefits to the industry as a whole. The short-term interests of individual firms, however, often favored hiring specialists at lower wages or keeping apprentices on a single machine at the learner’s rate of pay for the duration of his term.

Yet we know that Cincinnati’s leading machine tool firms surmounted these obstacles to cooperation. To enhance the “theoretical” competence of current employees, for example, Cincinnati’s MTA and the University of Cincinnati launched an innovative cooperative education scheme in 1906. Under this plan, employees spent half their time (paid at usual wages) taking courses in math, mechanical design, and metallurgy. Three years later, MTA officials persuaded the Cincinnati school board to introduce trade education in the public schools, with local firms contributing instructors and equipment for shop training, as well as advising the board on curriculum. Historian Philip Scranton has observed that the character of this particular industry favored cooperation on behalf of industrial education. Machine tool manufacturers shared a shop culture that encouraged respect for practical knowledge, reciprocity in sharing technical information, and a view of skilled men as a common resource for the industry as a whole. Indeed, employers recognized frequent movement of craftsmen among leading shops to be a good way to trade expertise and cultivate talent. The nature of flexible specialization in the machine tool industry, in any case, required “able and creative employees.” But influences outside the trade also made a difference.

Industrial education in Cincinnati carried civic meanings and won support from businessmen in their roles as civic leaders, and that helped sustain cooperation among machine tool competitors. Consider, first, civic meanings. We have seen that the cultural association between industrial education and civic uplift had a long history in Cincinnati. It remained strong in the early twentieth century in the modified republican ideology of Cincinnati proprietors. Also, the MTA was one of the loudest voices in support of industrial training through the public schools, and their 1909 appeal to the school board stressed the importance of including civics in the curriculum. We saw, too, that businessmen closely connected the industrial and the community benefits of vocational training.

In short, competing businessmen may have found it easier to cooperate in support of industrial education when they thought of new educational programs as civic goods, as well as solutions for their own manpower problems.
It was in this context, after all, that the ideology of business citizenship most strongly emphasized the importance of putting aside competitive rivalries and narrow self-interest for the greater good. It was in this context, too, that much of the actual work of planning and lobbying for education reform took place.

All the major civic associations organized by Cincinnati businessmen—the Commercial Club, and Business Men's Club, Chamber of Commerce, and the Manufacturers' Club—played leading roles in promoting industrial education in Cincinnati. Perhaps in part because it included the upper crust of local business, the Commercial Club went so far as to organize and finance a private Technical School in 1886. Machine tool proprietors, for their part, strongly backed these efforts, and they often did so in their roles as civic club members and “leading citizens.” Cincinnati Milling's Frederick A. Geier, one of the most visible champions of public school industrial education, served on the relevant committees of the Commercial Club, Business Men's Club, and Manufacturers' Club. The MTA's first president, Walter Laidlaw, similarly, represented the Chamber of Commerce in lobbying for industrial education. Joining him on that committee was C. E. Greenwald whose family-run steam engine manufacturing firm belonged to the MTA. And on the Manual Training Committee of the Business Men's Club in 1904-05, two of five members, George Bohrer and H. T. Atkins, hailed from the machine trades.

Even when the MTA took action directly, as when it lobbied the Cincinnati school board for continuation schools in 1909, civic engagement lubricated cooperation. Metal trades proprietors regularly interacted with one another through networks of civic leadership outside of their industry. At least five of the ten founding officers of the MTA in 1900 belonged to the Commercial Club or the Business Men's Club or the Chamber of Commerce, and some of the five belonged to more than one of these organizations. The boundary between industrial interests and civic leadership in Cincinnati proved to be faint indeed in the early twentieth century.

The system of industrial education developed in early twentieth century Cincinnati departed in important ways from the Ohio Mechanics' Institute's earlier ideals. Modern methods of production and management certainly bear the greatest responsibility for increasing the number of occupational ranks and the distance between them. More specialized educational tracks gave those hierarchies of skill and authority a certain legitimacy and may have increased the odds against moving up in the ranks. The system also worked mainly to fulfill the manpower requirements of local businesses rather than to encourage high-minded goals of social equality or a virtuous republic. In all this Cincinnati was hardly unusual. But a closer look at Cincinnati businessmen's views of industrial education suggests some important caveats. Advocates of the University of Cincinnati's cooperative education
program and champions of public continuation schools both saw reforms in technical schooling as having more than mere economic utility. They regarded industrial education as crucial to the task of producing good citizens as well as efficient workers, and they saw new technical programs in Cincinnati as contributing to an improvement of the wider community. This vision was part of a broader ideology shared by prominent Cincinnati businessmen, one that, in good republican fashion, merged political and economic virtues into a single integrated whole. It was also an identity in which Cincinnati businessmen assumed the responsibilities of both civic and economic leadership. And civic associations gave this culture of business citizenship institutional support and practical effect. Business ideology and practice in early twentieth century Cincinnati may be considered in many ways self-serving, but it also shaped employers’ understanding of how best to train Cincinnati’s “civic raw material.” And the institutions and ideology of business citizenship enhanced their ability to reform industrial education accordingly.


22. “Presentation by University of Cincinnati President Charles Dabney, December 20, 1903, Minute Books, 1900-1915, Cincinnati Metal Trades Association, in possession of Robert Manley, Cincinnati, Ohio.


24. Ohio Mechanics Institute, Records, Biography Records, Professor Shearer materials, letter from James Hooker.


29. Central Labor Council, Cincinnati, Minutes, March 25, 1901, Department of Archives and Rare Books, Blegen Library, University of Cincinnati.

30. Ohio Mechanics Institute, Records, Biography Records, Professor Shearer materials, Box 20, Folder 21, April 1910 letters from A. Guest (Vice President of G.A. Gray Company); Cincinnati Metal Trades Association, “Minute Books, 1900-1915,” Minutes, July 29, 1908.


34. These memorials are recorded in Cincinnati Chamber of Commerce, Records of Meetings of the Cincinnati Chamber of Commerce 1839-1917, Ms A 443g, Cincinnati Historical Society Library, Cincinnati Museum Center. I examined all memorials from before the Civil War (n = 10) and a random sample of memorials from the 1890s (n = 33), categorizing the virtues of the departed and noting which of these appeared in each memorial.

35. Ibid., March 27, 1888.

36. Commercial Club of Cincinnati, Scrapbooks, Box 64, Folder 51, Cincinnati Historical Society Library, Cincinnati Museum Center.


41. Committee of One Hundred, Second Public Meeting, February 25, 1886, 16.

42. Commercial Club of Cincinnati, Papers, 1880-1973; Minutes, June 23, 1887.


44. Commercial Club of Cincinnati, Papers, 1880-1973; Minutes, December 24, 1884; Cincinnati Enquirer, February 13, 1891.

45. Business Men's Club (Cincinnati Club), Records, Organizational Papers, “Inaugurated. The Young Men's Business Club.”

46. Cincinnati Enquirer, April 26, 1900, December 31, 1904; Business Men's Club (Cincinnati Club), Records, Annual Report, 1907-08.

47. Cincinnati Enquirer, December 11, 1892; Business Men's Club (Cincinnati Club), Records, Annual Report, 1904-05; Roster and Classified Business Directory, November 1, 1911, 159, Committee Minutes, February 10, 1912, Address by William Redfield.


49. Committee of One Hundred, Public Meeting of Committee of One Hundred of Cincinnati in the Odeon, February 11, 1886 (Cincinnati: Robert Clarke and Co., 1886), 19.

50. Cincinnati Enquirer, December 14, 1894.


52. Sidney Maxwell, Papers, Ms M465, 668, 763, Box 1, Folder 4, Letter from Maxwell to J.H. Fisher [Secretary of the Scranton Board of Trade], April 6, 1891, Cincinnati Historical Society Library, Cincinnati Museum Center.


54. Ohio Mechanics Institute, Board of Director Minutes, Vol. 6, July 5, 1892.

55. Ohio Mechanics Institute, Biography Records, Professor Shearer materials, letter from James Hooker.


59. Park, Ambassador to Industry, 96.

60. Schneider, Education for Industrial Workers, 10.

61. Commercial Club of Cincinnati, Papers, 1880-1973, Box 1, Minutes, April 19, 1884, shortly after the Court House riot.


63. United States Commissioner, Industrial Education, 203.


68. United States Commissioner of Labor, Industrial Education, 200-204; Lakes, "From Manual Training to Trade Instruction."

69. Scranton, Endless Novelty, 212-16; Calvert, The Mechanical Engineer in America, 7.

70. Scranton, Endless Novelty, 216.


73. Cincinnati Chamber of Commerce, Minutes of the Board of Directors 1848-1925, Mss fC 443m, December 4, 1900, Cincinnati Historical Society Library, Cincinnati Museum Center.


75. Cincinnati Metal Trades Association, "Minute Books, 1900-1915," March 7, 1900; Commercial Club of Cincinnati, Box 42, "List of Members" folder. No full membership list for the Businessmen's Club exists for these years, so I relied on the much more limited list of officers and committee members and any serendipitous references of club membership in other sources. As a result, the figure of five out of ten may be too low.