

Magazine Growth in the Nineteenth Century

A magazine publisher from 1800 wouldn't have recognized his profession a hundred years later. It had become a radically different business. In those 100 years, dramatic—and often revolutionary—change affected every aspect of magazine publishing.

The United States entered the 19th century with 16 states and a population of 5.3 million. It's debatable whether half of the country's population was literate. By 1900, the U.S. had 45 states and 76.3 million citizens, more than 50 million of whom were literate. (*Historical Statistics of the United States*, 1975 ; author's estimate).

Thirteen American magazines were published in 1800. It's unlikely that any had circulation of more than 1,000. By 1900, more than 3,500 magazines were published in the United States, including about 1,500 weekly magazines and in excess of 2,000 monthlies and quarterlies. Circulation of the average monthly was 21,750 ; many were significantly larger. (Mott I ; 1900 Census ; author's estimate, cf. Peterson)

At the close of the 18th century, an experienced pressman could produce between 200 and 300 sheets per hour. Each operation was performed by hand, from inking the plate to stacking the sheets. By the close of the 19th century, presses were delivering 100,000 complete newspapers in an hour—each at a cost exponentially lower than the cheapest sheet in 1800. (Chappell ; Steinberg ; Comparato)

In 1800, the fastest way to go anywhere was to ride a horse. By 1900, there were almost 200,000 miles of railroad track in the United States, and magazines were delivered to subscribers and newsstands throughout the country about as rapidly and efficiently as they are today—at postage rates of one cent per pound. (Fuller ; United States Postal Service, 2003)

In 1800, the high cost of periodicals constrained readership, and it was not apparent to publishers how cost to the reader could be reduced. Magazine publishers had only a few ways to market their publications to potential readers, and only a relative handful of prospective readers had the means to purchase magazines. As a result, it was unclear how large potential audiences might be. By 1900, many magazines had circulations in the hundreds of thousands, and magazines were commonplace in homes throughout the country. More than 8.2 billion copies of magazines and newspapers were printed in 1900: more than 100 for every citizen. (1900 Census)

Only a few factors govern the rate at which the magazine industry can expand: primarily, the size of available readership, the cost of production and distribution, the amount of potential advertising, and how much leisure time and disposable income prospective readers have to spend. Significant change in one or more of these factors can have a powerful effect on the publishing marketplace. In 19th-century America *all* of the conditions that enable growth in the magazine industry improved at a staggering clip. They included:

- Dramatic population growth
- Continual expansion of literacy
- Ongoing improvement in distribution, and reduction in distribution expense
- Decline in production cost, increase in capacity, and rising availability of paper
- Continual increases in the quantity of available advertising
- Rising amounts of disposable income and leisure time

Between 1800 and 1900 the literate population expanded by a factor of 20... the cost of manufacturing and distribution declined dramatically... an increasing number of advertisers sought broader and broader reach... and more people found the means to buy magazines and the time to read them. As they grew increasingly accessible, magazines became the country's dominant channel of mass communications.

Demand for reading material almost always turned out to be greater than publishers of the 19th century realized, and price elasticity played a major role in shaping the publishing business. Throughout the 19th century, price resistance acted like a curtain that obscured unexpectedly high demand: large audiences often formed immediately after price barriers were removed. This phenomenon recurred on a large scale every decade or so. When the cost of newspapers declined from six cents to a penny in the 1830s, circulations skyrocketed. When books that previously cost \$2.00 became available for a quarter in the 1840s, they sold by the hundreds of thousands. When new postal regulations in the 1880s allowed unlimited free "sample" copies, publishers of the so-called mail order journals built their circulations to more than one million. And when more upscale publishers like Munsey, Walker, and McClure dropped their magazines' single copy price from 25 to 10 cents in the early 1890s, they developed large enough readership among the middle class to enable the widespread emergence of national brand advertising, thereby changing Americans' habits of consumption and the nature of mass media to a degree that can hardly be overstated..

Across the century's last six decades—approximately 1840 to 1900—magazine publishers repeatedly raised circulations to unprecedented levels by finding ways to lower their price to the reader. By 1900, numerous publishers were successfully exploiting the business model which most modern magazines (and many subsequent media, such as radio, television, and the Internet) have followed ever since: they offset loss or break-even on manufacturing, distribution, and audience development with aggressive advertising sales, and they increased advertising revenue by expanding their audiences and raising ad rates proportionately. One- and two-cent newspapers were the first mass medium to use this business model successfully, but their reach was local. Magazines reached readers in every corner of the country.

Influential 19th-century magazine publishers paved the way for major change in American culture, turning an insignificant publishing sideline into America's first national mass medium, a force majeure shaping every aspect of American society: from fashion to faith, from commerce to culture, from science to sophistry, from punditry to poetry, and from arts to avocations. This chapter looks in detail at the forces that propelled this transformation. We'll start with a look at a few of the most important social and economic trends.

Population and Literacy

The American population grew dramatically in the 19th century. From 5.3 million in 1800, the population grew to 23 million residents, including slaves, by mid-century. Over the next 50 years, the growth rate averaged 27 percent per decade, and by 1900 the total population had reached 76 million, more than three times larger than it had been in 1850, and more than 14 times larger than in 1800. (*Historical statistics of the United States*, 1975).

U.S. Population: 1800-1900

	1800 (thousands)	1850 (thousands)	1900 (thousands)	Growth	
				1800- 1850	1850- 1900
Total population	5,308	23,192	76,294	337%	229%
Children under 10	1,168	6,738	18,045	477%	168%
Total men	2,104	8,357	29,610	297%	254%
Total women	2,037	8,097	28,639	297%	254%

Note: From *Historical statistics of the United States*, 1975

Approximately 20 percent of the country's increase in population between the end of the Civil War and the end of the century can be attributed to immigration. The balance of the increase resulted from a high birth rate and a declining death rate. (Norris)

A rapidly expanding economy supported this rapid population growth, especially in the second half of the 19th century. Per capita income more than doubled in the second half of the century, from \$95 in 1850 to \$236 in 1900.

Per Capita Income 1850 - 1900

Year	Total income (billions)	Per capita
1850	\$ 2.2	\$ 95
1860	3.6	115
1870	6.7	174
1880	7.4	147
1890	12.1	192
1900	18.0	236

Note: From Norris (1990)

This rising income came at a time when costs generally declined, despite a period of inflation around the Civil War. Although the consumer price index almost doubled during the war, it declined 46 percent between 1865 and 1900. By the turn of the 20th century, consumer prices were only about six percent higher than they had been at the beginning of the Civil War. Per capita income, on the other hand, was more than twice its 1860 level.

Price Indices: 1860-1900 (1914 = 100)

Year	Consumer price index	Wholesale price index
1860	79.5	93.0
1865	155.9	185.0
1870	124.9	135.0
1875	105.0	118.0
1880	97.8	100.0
1885	90.7	85.0
1890	91.5	82.0
1895	84.3	82.5
1900	84.3	71.7

Note: From *Historical statistics of the United States* (1975)

Individual incomes, naturally, varied widely depending on profession. The average farm worker earned significantly less than a dollar per day throughout the 19th century (though wages included board). At the turn of the 20th century, the average farm worker was earning less than \$200 a year.

Off the farm, unskilled laborers earned substantially more than farm workers, but of course had to house and feed their families on the difference. In 1880, an unskilled laborer on the Erie Canal could expect to earn about \$375 per year. The average unskilled factory worker earned only slightly more: about \$400. In both cases wages rose between 1860 and 1870—the inflationary decade of the Civil War and early Reconstruction—but declined between 1870 and 1880.

Skilled workers and artisans earned significantly more than unskilled workers. Wage records from the Erie Canal show that in 1880 skilled workers earned approximately twice as much as unskilled laborers. Likewise, skilled factory workers commanded a meaningful premium over their unskilled fellow-workers. In 1860 the average skilled factory worker earned about \$1.62 per day, or around \$500 per year. This increased to \$2.26 per day, or about \$675 per year, by 1880. As was the case with unskilled workers, wages for skilled workers rose between 1860 and 1870 and declined between 1870 and 1880.

[See Wage Tables appendix]

Decline in wages was more than offset by decline in prices, however. In the three decades between 1870 and 1900, per capita income rose 36 percent, and the consumer price index declined by 33 percent. Taken as a whole, therefore, the average American's purchasing power doubled in the last 30 years of the 19th century.

It's an unfortunate truth that averages don't tell the full story. The 19th century was also a time of financial instability, in which businesses succeeded and failed, unemployment fell and rose, individual families fluctuated between prosperity and insolvency, and panics followed booms—all in swings far more dramatic than modern Americans expect, or perhaps imagine. The highly cyclical economy encountered significant downturns—some catastrophic—in 1812, 1837, 1857, 1861, 1873, and 1893. The Horatio Alger myth masked a reality that was often brutal.¹ (Zinn, 219, 227, 242 ; Faulkner, 338)

Historian Howard Zinn wrote:

Crisis was built into a system which was chaotic in its nature, in which only the very rich were secure. It was a system of periodic crisis... that wiped out small businesses and brought cold, hunger, and death to working people. (242)

In 1832 about 41 percent of the workers in Rhode Island cotton mills were children, some as young as six years old. This represented improvement: in 1820 55 percent of the workers had been children. The Census of 1870 reported that almost three quarters of a million children between the ages of 10 and 15 were employed ; by 1910 this figure had increased to 2 million. (Faulkner, 298, 469)

In 1845 the workday at factories in Lowell, MA averaged 11.5 hours in January and 13.5 hours in April: sunrise to sunset, from Monday through Saturday. Immigration brought waves of cheap labor to the United States, with the result that wages for unskilled workers often declined from year to year in a given location... as working conditions worsened. (Faulkner, 298)

A survey conducted in 1874 and 1875 by the Massachusetts Bureau of Statistics of Labor examined the income and expenditures of 397 families in 36 cities and towns, split evenly between the skilled and unskilled. The survey provides a closer look at family income and expenses in nonrural America as the country entered its second century.

The survey found that average annual income per family was \$763 and that annual expenditures averaged \$738. The average family had 5.1 members, yielding average per capita annual income of \$150. It's worth noting how difficult it was for lower-income families to make ends meet, and how little money was available after expense for savings or investment in all but the wealthiest families, confirmation of Zinn's observation that only the very rich were secure.

¹ Alger himself squandered his fortune and died impoverished. (Groner, 112)

Skilled and Unskilled Workers in Massachusetts, 1874 and 1875
Income and Expenditure of Families by Income Class

	Income Range (Pre-Tax)					Total
	\$300- \$450	\$450- \$600	\$600- \$750	\$750- \$1,200	Over \$1,200	
Number of families	6	52	143	188	8	397
Percent of total	1.5%	13.1%	36.0%	47.4%	2.0%	100.0%
Number of family members	30	322	686	996	55	2,090
Percent of total	1.4%	15.4%	32.8%	47.7%	2.6%	100.0%
Average annual income	\$ 395	549	679	871	1,383	\$ 763
Average annual expense	\$ 410	555	668	832	1,212	\$ 738
+ or - Margin	\$ (15) -3.8%	(6) -1.1%	11 1.6%	39 4.5%	171 12.4%	\$ 25 3.3%

From *Historical Statistics of the United States* (G-39)

The U.S. Bureau of Labor Statistics measured family income and expenditure by quintile in the 2005 Consumer Expenditure Survey. The findings are summarized and compared to the 1874-75 Massachusetts survey below. A comparison of the two surveys shows that overall family size has shrunk dramatically, the middle income quintile has maintained a small margin between income and expense, families in the lowest two quintiles operate at a larger deficit, and families in the upper two quintiles operate at a larger surplus.

Family Income and Expenditures by Quintile: 1874 - 1875 versus 2005

	Income Quintile (Pre-Tax)					Average
	Lowest Quintile	2nd Quintile	Middle Quintile	4th Quintile	Highest Quintile	
2005						
2005 average pre-tax income	\$ 9,676	\$ 25,546	\$ 42,622	\$ 67,813	\$ 147,737	\$ 58,712
2005 average expenditures	\$ 19,120	\$ 28,921	\$ 39,098	\$ 54,354	\$ 90,469	\$ 46,409
Margin	-98%	-13%	8%	20%	39%	21%
Family size	1.7	2.2	2.5	2.9	3.2	2.5
1874 - 1875						
1874-75 average pre-tax income	\$ 395	\$ 549	\$ 679	\$ 871	\$ 1,383	\$ 763
1874-75 average expenditures	\$ 410	\$ 555	\$ 668	\$ 832	\$ 1,212	\$ 738
Margin	-4%	-1%	2%	4%	12%	3%
Family size	5.0	6.2	4.8	5.3	6.9	5.3

From: U.S. Department of Labor, Bureau of Labor Statistics, 2005 Consumer Expenditure Survey

The Middle Class

The second half of the 19th century saw expansion of nonmanual professions and rising numbers of people employed in them. Shortly before the Civil War, the relatively new term *middle class* began to be applied to people previously called *middling sorts* or *middle rank*.. White collar workers—nonmanual business employees like salespeople, bookkeepers, accountants, collectors, managers, engineers, government workers, and so forth—began to represent a larger portion of the work force. Emergence of the middle class added a higher “income bracket” to economic stratification, and the influx of higher-paid workers helped increase per capita income in the last quarter of the century. (Burton, 3)

By the middle of the 19th century, about one third of the country’s nonrural workers fell into this growing category. Stuart M. Blumin, a historian of the American middle class, wrote (74) that in less-industrialized cities the portion was probably closer to 40 percent.

Blumin also noted that many business owners who described themselves as artisans—as hatters, tailors, smiths, and so on—were in fact artisan-entrepreneurs who owned and managed businesses.

Their roles included sales and marketing, financial management, and supervision. Employees made the goods; the owners themselves were middle-class proprietors, not working-class craftsmen.

To an unprecedented degree, employees produced and owners managed—and herein lay a new alignment of economic relations, familiar enough to a mature industrial society but revolutionary in its implications for a society still so close to a world of small artisan shops and leather-aproned masters.

A set of common values became associated with this new class, with its rising disposable income and changing notions of how it should be spent. The emergence of the middle class and its dramatic effect on magazine publishing at the close of the century is a story told in more detail in a later section.

Literacy Rates

It's indisputable that literacy rose throughout the 19th century, in tandem with income and population size. But because there is no cut-and-dried definition of literacy, it can be challenging to quantify growth with precision in this (or any) period. It's worth noting that people who can read well, poorly, and barely are all literate. One expert has said, "It is depressing but instructive to note how rarely debates and discussions about literacy levels pause to consider what is meant by 'literacy.'" (Graff, 1986, 64)

Perhaps the best working definition of literacy from the publisher's perspective is Robert C. Solomon's. He wrote that literacy is among

...the skills that everyone in this society must learn if they are to have any possible chance at decent jobs and fair treatment and protection. This is "functional" literacy... Its practical importance is unquestionable. (41)

For publishers, functional literacy in the 19th century meant the ability to read popular periodicals with the least challenging content. People who shared this "common denominator" of reading ability formed the potential audience for books, periodicals, and other printed matter.

Whether or not a person was likely to achieve this level of literacy depended on several factors. Obviously, the key variable is education—it goes without saying that access to education raises literacy. Among the other major factors affecting 19th-century literacy were:

Social status: Literacy rose with social status. (Stevens, 103).

Urbanity: Literacy rates were higher in urban areas, although there seems to be an upper limit to the phenomenon. (Graff, 1987, 88).

North vs. South: Throughout the 19th century, literacy was higher in Northern states (Soltow & Stevens).

Gender: In the 19th century, men were more likely to be literate than women, although the gap diminished as the century progressed (Stevens, 99ff).

Race: There were dramatic differences between white and African-American literacy rates throughout the 19th century.

Age: Children naturally have lower literacy levels than adults. Because of the trend of rising literacy, however, older adults were less likely to be literate than younger adults at any point in the 19th century.

Institutions: In the same way that schools contributed to literacy, similar institutions like libraries, churches, and tradesmen's associations also had a positive influence. (Graff, 1987).

Access to printed materials: As the amount of printed material in a location increased, so did the likelihood of literacy. Areas of the country where a higher percentage of people were employed in publishing enjoyed higher literacy rates. (Soltow and Stevens)

Country of birth. Literacy was generally higher among native-born Americans than among immigrants, although literacy was higher among immigrants from some areas, such as Scandinavia, than among Americans. (Graff, 1987).

Enlistment records for soldiers and sailors provide one of the few consistent measurements of literacy throughout the 19th century. U.S. Army records show ongoing increase in literacy between the 1820s and the 1880s. Literacy rose fastest in two periods: first between the 1840s and the 1850s, and later between the 1870s and the 1880s. Merchant seamen's enlistment records yield similar data.

Literacy Rates: U.S. Army Inductees, 1799-1894

Years	Percent literate
1799-1809	58%
1810-1819	58%
1820-1839	61%
1840-1849	65%
1850-1859	75%
1860-1869	76%
1870-1879	83%
1880-1889	93%
1890-1894	93%

Note: From Soltow & Stevens (1981)

Although the Census began to measure literacy in 1840, the information gathered was inconsistent prior to 1870, self-reported, and untested. In other words, census-takers simply asked how many members of a family could read and write, and accepted what they were told. Census data in the following table reflect a rate of growth in literacy that differs slightly from the U.S. Army data, because army enlistees didn't represent a random sample of the population, by race, age, gender, or socioeconomic level. Nevertheless, both sources arrive at approximately the same point by the end of the century.

Percent Literate: U.S. Census, Ages 10 and Older

Year	White	African-American	Total
1870	88.5%	20.1%	80.0%
1880	90.6%	30.0%	83.0%
1890	92.3%	43.2%	86.7%
1900	93.8%	45.5%	89.3%

Note: From Soltow & Stevens (1981)

Although any calculation of literacy in this period will be an approximation, the preceding information sets the stage for a “publisher’s estimate” of America’s literate population during the 19th century, using the following assumptions as guidelines:

1. Children under 10 are not considered part of the literate population. This probably understates the country’s total readers, but even the most literate children under 10 didn’t purchase printed material in significant quantities.
2. African-American literacy is estimated at 5 percent from 1800 through 1820, rising to 15 percent by 1860, then factored as reported in the 1870 and subsequent Censuses. Until the Civil War slaves constituted between 86 percent and 89 percent of the total African-American population.
3. Army enlistment literacy records are broadly representative of literacy rates for white men.
4. Literacy rates for white women are factored lower than the rates for white men through the period, beginning with a 10-point differential in 1800 which narrows to a 2-point differential in 1900.

Taken together, the estimates in the next four tables show that the first quarter of the 19th century was a period of slow growth in literacy. Growth began to accelerate as the middle of the century approached, especially between 1840 and 1850. By 1870 more than half of the total population was literate, and by the end of the century, nine out of ten adults could read.

Growth in total population and increases in literacy rates compounded to create conditions throughout the 19th century in which the literate population grew significantly faster than the overall population. For example, the total population grew by a factor of 2.4 between 1860 and 1900. The literate population increased more than 3.5 times in the same period.

Estimated U.S. Literacy Rates: 1800-1830

Population segment	1800	1810	1820	1830
Total population	5,308	7,240	9,639	12,866
Children under 10	1,168	2,485	3,170	4,225
Population 10 and over	4,140	4,755	6,469	8,641
African-Americans	1,002	1,378	1,772	2,328
Literate African-American men	20	23	31	55
<i>Percent literate</i>	5%	5%	5%	7%
Literate African-American women	20	23	30	55
<i>Percent literate</i>	5%	5%	5%	7%
Whites (races other than African-American)	4,306	5,862	7,867	10,538
Literate White men	993	1,138	1,550	2,202
<i>Percent literate</i>	58%	58%	58%	61%
Literate White women	790	923	1,284	1,873
<i>Percent literate</i>	48%	49%	50%	54%
Total literate population	1,822	2,107	2,896	4,184
<i>Percent of total population literate</i>	34%	29%	30%	33%
<i>Percent of population 10 and over literate</i>	44%	44%	45%	48%

Note: In thousands

Estimated U.S. Literacy Rates: 1820-1850

Population segment	1820	1830	1840	1850
Total population	9,639	12,866	17,069	23,192
Children under 10	3,170	4,225	5,440	6,738
Population 10 and over	6,469	8,641	11,629	16,454
African-Americans	1,772	2,328	2,874	3,639
Literate African-American men	31	55	98	192
<i>Percent literate</i>	<i>5%</i>	<i>7%</i>	<i>10%</i>	<i>15%</i>
Literate African-American women	30	55	98	195
<i>Percent literate</i>	<i>5%</i>	<i>7%</i>	<i>10%</i>	<i>15%</i>
Whites (races other than African-American)	7,867	10,538	14,195	19,553
Literate White men	1,550	2,202	3,206	5,306
<i>Percent literate</i>	<i>58%</i>	<i>61%</i>	<i>65%</i>	<i>75%</i>
Literate White women	1,284	1,873	2,796	4,758
<i>Percent literate</i>	<i>50%</i>	<i>54%</i>	<i>59%</i>	<i>70%</i>
Total literate population	2,896	4,184	6,198	10,452
<i>Percent of total population literate</i>	<i>30%</i>	<i>33%</i>	<i>36%</i>	<i>45%</i>
<i>Percent of population 10 and over literate</i>	<i>45%</i>	<i>48%</i>	<i>53%</i>	<i>64%</i>

Note: In thousands

Estimated U.S. Literacy Rates: 1850-1880

Population segment	1850	1860	1870	1880
Total population	23,192	31,443	38,559	50,156
Children under 10	6,738	9,013	10,329	13,394
Population 10 and over	16,454	22,430	28,230	36,762
African-Americans	3,639	4,442	4,880	6,581
Literate African-American men	192	237	348	712
<i>Percent literate</i>	<i>15%</i>	<i>15%</i>	<i>20%</i>	<i>30%</i>
Literate African-American women	195	238	367	735
<i>Percent literate</i>	<i>15%</i>	<i>15%</i>	<i>20%</i>	<i>30%</i>
Whites (races other than African-American)	19,553	27,001	33,679	43,575
Literate White men	5,306	7,466	10,437	15,148
<i>Percent literate</i>	<i>75%</i>	<i>76%</i>	<i>83%</i>	<i>93%</i>
Literate White women	4,758	6,795	9,666	14,085
<i>Percent literate</i>	<i>70%</i>	<i>72%</i>	<i>80%</i>	<i>90%</i>
Total literate population	10,452	14,736	20,818	30,680
<i>Percent of total population literate</i>	<i>45%</i>	<i>47%</i>	<i>54%</i>	<i>61%</i>
<i>Percent of population 10 and over literate</i>	<i>64%</i>	<i>66%</i>	<i>74%</i>	<i>83%</i>

Note: In thousands

Estimated U.S. Literacy Rates: 1870-1900

Population segment	1870	1880	1890	1900
Total population	38,559	50,156	62,948	76,294
Children under 10	10,329	13,394	15,209	18,045
Population 10 and over	28,230	36,762	47,739	58,249
African-Americans	4,880	6,581	7,189	8,834
Literate African-American men	348	712	1,233	1,838
<i>Percent literate</i>	20%	30%	43%	55%
Literate African-American women	367	735	1,240	1,871
<i>Percent literate</i>	20%	30%	43%	55%
Whites (races other than African-American)	33,679	43,575	55,759	67,460
Literate White men	10,437	15,148	20,272	24,954
<i>Percent literate</i>	83%	93%	94%	95%
Literate White women	9,666	14,085	18,856	23,471
<i>Percent literate</i>	80%	90%	91%	93%
Total literate population	20,818	30,680	41,601	52,134
<i>Percent of total population literate</i>	54%	61%	66%	68%
<i>Percent of population 10 and over literate</i>	74%	83%	87%	90%

Note: In thousands

U.S. literacy rates: 1860-1900

Year	Total Population	Literate Population	Percent Literate
1860	31,443	14,736	47%
1870	38,559	20,818	54%
1880	50,156	30,680	61%
1890	62,948	41,601	66%
1900	76,294	52,134	68%

From a publisher's perspective, this represents a rate of market expansion that has not repeated itself since, at least not in the United States, and an opportunity to which the publishers of the day were not blind. As the literate population doubled between 1870 and 1890, publishers enjoyed a period of dramatic growth and innovation.

The Common School

The most important factor in increased literacy was undoubtedly the common, or public, school movement, which began to gain momentum in the 1830s. Expert Carl F. Kaestle wrote that "the big story in 19th-century American literacy is the development of common-school systems" (1988,113).

In the same vein, Edward Stevens wrote:

One of the basic features of the literacy campaigns after 1830 was their focus on the public school as the chosen instrument of reform. . . It is extremely difficult, then, to disentangle the effects of literacy from the effects of schooling, at least at the elementary level. (100)

Throughout the 19th century, increasingly higher numbers of children attended school, for increasingly longer periods, and reached increasingly higher grades. Enrollment rates peaked in 1880 and declined between 1880 and 1900. Absolute numbers of students increased throughout the second half of the century, however, due to population growth.

School Enrollment Rates per 100 Children 10 and Under: 1850-1900

Year	Male and female			Male			Female		
	Total	White	Non-White	Total	White	Non-White	Total	White	Non-White
1850	47.2	56.2	1.8	49.6	59.0	2.0	44.8	53.3	1.8
1860	50.6	59.6	1.9	52.6	62.0	1.9	48.5	57.2	1.8
1870	48.4	54.4	9.9	49.8	56.0	9.6	46.9	52.7	10.0
1880	57.8	62.0	33.8	59.2	63.5	34.1	56.5	60.5	33.5
1890	54.3	57.9	32.9	54.7	58.5	31.8	53.8	57.2	33.9
1900	50.5	53.6	31.1	50.1	53.4	29.4	50.9	53.9	32.8

Note: From Historical statistics of the United States (1975)

In the same period the school year expanded significantly for most pupils. The average elementary or secondary student attended school 78.4 days in 1870. This rose to 99.0 days by 1900 (*Historical Statistics of the United States, 1975*).

Between 1870 and 1900, the number of institutions of higher education in the United States almost doubled, from 563 to 977. Faculty at these institutions more than quadrupled, from 5,553 in 1870 to 23,868 in 1900. In the same period, enrollment increased from 52,000 (1.1 percent of the population between the ages of 18 and 24) to 238,000 (2.3 percent of the population between 18 and 24) (*Historical Statistics of the United States, 1975*).