Crossing Over: Gendered Reading Formations at the Muncie Public Library, 1891-1902

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Readers are never merely passive recipients of textual messages.[1] One of the most powerful insights of reader-response theory in the 1970s and 1980s is that the meaning of a text never resides entirely within the artifact itself. Commentators from Carlo Ginzberg ("aggressive originality"), to Jauss ("horizon of expectations"), to Fish ("interpretive communities"), and Radway ("Reading is not Eating") have long-since established that readers are creators of meaning.[2] To

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[1] The following participants in the summer fellowship program in the Humanities Digital Workshop provided valuable assistance during various phases of the research process: Tomek Cebrat, Kaitlin Cruz, Kristine Helbling, and Bethany Morgan. Keegan Hughes, post-baccalaureate fellow in the HDW, created a series of visualizations that helped to clarify the gender distribution of borrowers. Cindy Traub helped with the creation of the box plots included in the final section of the essay.

[2] Carlo Ginzburg, *The Cheese and the Worms: The Cosmos of a Sixteenth-Century Miller* (Baltimore, MD: Johns Hopkins University Press, 1992), 31; Hans Robert Jauss, "Literary History as Chal-

quote Tony Bennett, meaning "is not a *thing* that texts can *have,* but is something that can only be produced, and always differently, within the reading formations that regulate the encounters between texts and readers."[3] Yet even as it challenges the very idea that texts exist independently of readers and their institutional and social contexts, Bennett's concept of a "reading formation" also reminds us that there are socio-historically determined limits to creative appropriation. For Bennett, text, context, and reader constitute an inseparable unity; every reading situation is shaped by "discursive and intertextual determinations that organize and animate the practice of reading. . . ."[4] A rich and nuanced account of the complex balance between social determination and autonomy therefore requires a combination of methods, both a consideration of textual features and investigation of book-historical, ideological, institutional, and social pressures.

Computational methods are uniquely suited to contribute to investigations of reader agency along the lines described by Bennett and others. At first glance, this claim might seem surprising. The current focus on pattern recognition within large corpora and the use of such techniques as cluster analysis and topic modeling have tended to downplay reader agency and heighten attention to "objective" textual features. This emphasis need not be viewed negatively. If predictive models can identify detective fiction with 90% accuracy, one is inclined to believe, *pace* Bennett, that at least certain (perhaps rather rudimentary) aspects of meaning are in fact "thing[s] that texts can have."[5] These approaches, however, can also be combined with quantitative analyses of reader behavior to enhance our understanding of how meaning is co-constructed; indeed, much of the reader-response research done outside of the field of literary studies already has a quantitative-ethnographic orientation, and some work within literary studies has made use of such resources as the reader reviews on Amazon.com to draw conclusions about reading and ethnicity.[6] The central challenge for studying nineteenth-century reading practices is to identify datasets that will enable scholars to scale up these

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lenge to Literary Theory," New Literary History 2. no. 1 (Autumn, 1970): 13; Stanley Fish, *Is there a Text in this Class: The Authority of Interpretive Communities* (Cambridge, MA: Harvard University Press, 1982), *passim*; Janice Radway, "Reading is not eating: Mass-produced literature and the theoretical, methodological, and political consequences of a metaphor," *Book Research Quarterly* 2, no. 3 (1986): 7-29.

[3]Tony Bennett, "Texts, Readers, Reading Formations," *Bulletin of the Midwest Modern Language Association* 16, no. 1 (1983): 8.

[4]Tony Bennett, "Texts in History: The Determinations of Readings and Their Texts," *Reception Study: From Literary Theory to Cultural Studies,* edited by James L. Machor and Philip Goldstein (New York: Routledge, 2001), 66.

[5]For a discussion of predictive models of genre, see Ted Underwood, "The Life Cycles of Genres," *Journal of Cultural Analytics*, accessed 6/23/17, doi: https://doi.org/10.22148/16.005.

[6]One recent example is Allison Layfield, "Asian American Literature and Reading Formations," *reception* 7 (2015): 64-82.

analyses. Library circulation records potentially constitute a rich source of such data.

The digitized Muncie database, *What Middletown Read?*, a unique resource for the study of library circulation records with regard to books checked out and the gender, age, ethnicity, and occupation of borrowers, offers precisely such a dataset, one that we have been able to download and convert to forms still more amenable to exploration and computation.[7] We have mined these data to examine popular reading within a specific institution in a particular historical period. Our analysis, which interweaves thick description with a consideration of broad patterns, consists of three parts. We first provide a description and analysis of gender-normative reading among children and adolescents in nineteenth-century Muncie. Some of our results will, in their broad outlines, be familiar to historians of reading.[8] The specificity of the Muncie data, however, also enables us to provide an unusually detailed snapshot of reader choice in an era marked by increasing market segmentation and a surge in the publication of books and magazines specifically targeted toward one or the other gender.[9] Only by con-

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[7] *What Middletown Read*, Center for Middletown Studies, Ball State University, http://www.bsu. edu/libraries/wmr/. The *What Middletown Read* database is normalized to avoid data duplication during data collection, per best practices. However, because the normalized database structure impedes ad hoc queries, we denormalized, or "flattened", the data into one table, each row of which contains all the information for a checkout transaction. After we denormalized the data, we performed several additional transformations. We removed 1,650 transactions for which it was not possible, because of errors in the original paper records, to identify the book being circulated. We flagged some transactions as not having census data. We also flagged transactions where it is likely that the census data, which is connected to the holder of the library card, does not represent the actual borrower (see "Anomalies -'Borrowed Cards'" at http://www.bsu.edu/libraries/wmr/help.php). Finally, for each transaction, we computed the borrower's age at the time of checkout by subtracting his or her year of birth (the census does not provide full date of birth) from the year in which the checkout occurred. The *What Middletown Read* data is an extraordinarily thoughtful and carefully curated set of data, and we are grateful for the work done at Ball State University to collect the data and share them with us. Our transformation of the data in no way implies any criticism. Instead, it reflects a desire to structure them so they becomes tractable for our particular purposes, and to interpret demographic data as carefully as possible.

[8] Relevant discussions of boys and girls reading in nineteenth century can be found in Gillian Avery, *Behold the Child: American Children and their Books, 1621-1912* (London: Bodley Head, 1994); Anne Scott MacLeod, *American Childhood: Essays on Children's Literature of the Nineteenth and Twentieth Centuries* (Athens, GA: University of Georgia Press, 1994); Sarah Wadsworth, "Louise May Alcott, William T. Adams and the Rise of Gender-Specific Series Books," *The Lion and the Unicorn: A Critical Journal of Children's Literature* 25, no. 1 (January 2001): 17-46; Claudia Nelson, "Children's Fiction," in *The Oxford History of the Novel in English,* edited by John Kunich and Jenny Bourne Taylor (Oxford: Oxford University Press, 2012), 3:154-68; and Joel Shrock, "Alger, Fosdick, and Stratemeyer in the Heartland: Crossover Reading in Muncie, Indiana, 1891-1902, in *Print Culture Histories beyond the Metropolis*, edited by James J. Connolly Patrick Collier, Frank Felsenstein, Kenneth R. Hall, and Robert G. Hall (Toronto: University of Toronto Press, 2016), 284-303.

[9] For a discussion of this shift in the market, see Wadsworth, "Gender-Specific Series Books,"

sidering the full range of pressures to conform to gendered reading expectations, as well as their powerful impact on borrowing patttterns, can we grasp the extent to which checking out a particular book constitutes an expression of agency, especially where these choices resist such pressures. Such choices constitute the focus of the second section, in which we turn to crossover reading by patrons seventeen and under. Here we build on and extend recent scholarship on the topic, both by identifying certain categories of books that were read frequently by both boys and girls as well as by providing a more differentiated and relational account of crossover titles. The third part focuses on Horatio Alger, Jr., whose books were widely read by this group but, based on book borrowing patterns, constitute a category unto themselves. With Alger as our springboard, we offer some provisional reflections on how, at the turn of the twentieth century, early popular crossover reading was connected to convergent reading in adulthood. By crossover reading we mean the reading by the non-targeted gender of overtly gender-targeted fiction that was otherwise most frequently read, as intended, by persons of the targeted gender. We use the term convergent reading in turn to refer to the selection of fiction—not overtly specified to gender, e.g., as "books for women" or "books for men"—by persons of either gender at similar rates relative to the respective gender group.[10]

Popular Reading in an Institutional Context

Public libraries of course constituted but one source of reading materials for Americans and their communities in the late nineteenth century. As a public-funded institution, however, the library bore a special responsibility to its users and the greater community, especially given the widely shared belief in the importance of reading for building character, conveying values, upholding community standards of morality and religious belief, and maintaining social order and harmony. Given this understanding of the library, librarians, organized as professionals in the 1870s, took their responsibilities seriously as upholders of the faith, educators, and mediators of social ethics, indeed as what Dee Garrison has termed "apostles of culture."[11] Many of them considered it their mission to ex-

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esp. 22-26. Wadsworth notes that publishers first recognized boys as a niche market in need of a "separate body of literature"; girls were belatedly discovered as a separate audience (25-26).

    [10]While girls' reading of books in Harry Castlemon's Frank series exemplifies crossover reading, the avid reading by both genders in Muncie of Marie Corelli's best-selling *The Sorrows of Satan* (1895) by men and women presents a case of convergent reading.

    [11]On the social roles of the public library, see Christine Pawley, *Reading on the Middle Border: The Culture of Print in Late-Nineteenth-Century Osage, Iowa* (Amherst: University of Massachusetts Press,

ert control over the choices of library users. The reading of novels in particular occupied center stage in their debates about library holdings and institutional influence on patrons' reading habits.[12]

While the ability of the library as a public institution actually to cultivate good taste was in the end questionable, power over acquisitions and regulation of the length of the borrowing period and the number of books that could be borrowed at one time supported that perceived mission. While some libraries simply restricted the number of novels that readers could check out according to the "two-book system" (two books could be checked out simultaneously if at least one of them was *not* a novel), others restricted their holdings to putatively "wholesome" or important books, be they classic or popular, as prescribed by, for example, the American Library Association's *Catalog of "A.L.A." Library* of 1893, a list of 5,000 books for a popular library representing "the best thought of competent judges in various departments."[13]

Dee Garrison, however, identifies overall a shift in attitudes toward fiction by around 1900, as a new generation of librarians espoused a new realism about the importance of honoring the taste of the publics served. One Charles Bolton, librarian at the Boston Athenaeum, observed that "the libraries which did not buy a novel until it was one year old were driving off influential and educated patrons."[14] While a decade earlier the purpose of the library as institution was seen to be reformative and educational, as the century waned, not only the idea that the library should also provide entertainment, but additionally the notion that the people themselves should exercise authority over what they read gained traction. But the view that people should read what they chose was not new: in 1880 in an essay titled "What to Read," Fred B. Perkins, charting a more self-

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2001), esp. 34; Dee Garrison, *Apostles of Culture: The Public Librarian and American Society, 1876-1920* (New York: The Free Press, 1979), esp. 36; and Wayne A. Wiegand, *Main Street Public Library: Community Places and Reading Spaces in the Rural Heartland, 1876-1956* (Iowa City: University of Iowa Press, 2011), esp. 186.

[12] According to *The Chicago Evening Post*—as but one of many examples of the widespread objection to fiction—nine-tenths of the books borrowed from libraries "consisted of 'stories' . . . leading not only to 'profitless devouring of trash, but a mental and moral enervation, a distaste for real study and serious reading." Such reading, the article maintained, resulted in a "library habit of reading," a "superficial, careless, nonappropriate skipping habit that incapacitates the mind for assimilating and digesting what it reads." Quoted in Pawley, *Middle Border*, 61. Scholarly discussions of the alleged dangers of fiction for nineteenth-century readers are widespread and have been the subject of numerous studies. For one recent overview, see Deborah Wynne, "Readers and Reading Practices," in *The Oxford History of the Novel in English*, 22-36.

[13] Garrison, *Apostles of Culture*, 91; *Catalog of "A.L.A." Library: 5000 Volumes for a Popular Library Selected by the American Library Association and Shown at the World's Columbian Exposition* (Washington: Government Printing Office, 1892), vii.

[14] Quoted in Garrison, *The Apostles of Culture*, 89.

directed reading, undermined Emerson's rules for reading when he observed that such rules amount to "a record of what the codifier has found to suit his individual character." If, however, one added to Emerson's rules "unless you like," he suggests, they would work perfectly well.[15]

The Muncie Public Library erred if anything on the side of giving its patrons what they wanted. In the 1890s Muncie showed a marked "willingness to cater to popular tastes," stocking books not recommended (and sometimes resolutely eschewed) by professional librarians, such as juvenile fiction by Horatio Alger, Oliver Optic (pseud. of William Taylor Adams), Harry Castlemon (pseud. of Charles Austin Fosdick), Edward Sylvester Ellis, Susan Coolidge, and Martha Finley.[16] As Frank Felsenstein and James J. Connolly note, the library in particular "catered to this demand [for children's literature], at times edging close to the line that divided what some considered moral from immoral fiction."[17] Indeed, the "friendly amateurs" who ran the library, "did little to direct users toward what the moral pundits of the day deemed proper reading."[18] The Muncie Library permitted borrowers to check out one book at a time for two weeks, placing no overt restrictions on the choice of book. Still, the holdings of the library from which a given reader could select a book to some degree reflect shared standards and tastes of the period.

While Felsenstein and Connolly assert that Muncie holdings do not indicate that "the Muncie Public Library even took notice of the ALA catalogue," our research indicates, nevertheless, that roughly 68% of the authors (not necessarily the individual books) on the A. L. A. list—a decidedly middlebrow collection of authors—were in fact held by the library and also read. As our research also indicates and as we discuss below, the Muncie library, especially in the last years of our dataset, acquired ever more contemporary novels aimed at adults— many of them bestsellers. These relatively new works, moreover, were generally checked out repeatedly subsequent to their arrival in the library. Nevertheless, Felsenstein and Connolly rightly point out the abundance and popularity of especially juvenile fiction in Muncie, fiction that the A. L. A. catalogue largely ignores.[19]

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[15] Fred B. Perkins, "What to Read," in *Hints for Home Reading. A Series of Chapters on Books and Their Use*, edited by Charles Dudley Warner et al. (New York: G. P. Putnam's Sons, 1880), 26.

[16] Frank Felsenstein and James J. Connolly, *What Middletown Read: Print Culture in an American Small City* (Amherst: University of Massachusetts Press, 2015), 107.

[17] Felsenstein and Connolly, *What Middletown Read*, 103.

[18] Felsenstein and Connolly, *What Middletown Read*, 105.

[19] The catalog recommends many titles of entertaining books, middlebrow fiction, some of it quite recent, such as Arthur Conan Doyle's *Adventures of Sherlock Holmes* (1992), William Dean Howells' *Foregone Conclusion* (1892), and Frederick Marryat's *Jacob Faithful* (1890), as well as classic reading, such as the works of Jane Austen, Henry Fielding, Oliver Goldsmith, Thomas Hardy, and Nathanael Hawthorne and selected works by Balzac, Goethe, and George Sand. It also lists some juvenile fic-

The Muncie Database—First Pass

The Muncie database captures borrowing information from the circulation records of the Muncie, Indiana, Public Library from November 5, 1891, through December 3, 1902, with a year and a half hiatus from May 28, 1892, to November 5, 1894. Of the 6,329 patrons listed in the library's records who were enrolled during the years 1875-1902,[20] 4,024 patrons borrowed at least one book or periodical for a total of 176,912 checkouts during the time period in question. On the basis of these records, Felsenstein, Connolly, and their collaborators were able to pull data from the US census and other sources to determine the sex and additional demographic data (e.g., occupation, year of birth, household size) for approximately 64% of them.[21] In roughly 33,000 transactions, the borrower (the person signing the record for the purpose of checking out the library book) does not match the patron (the holder of the library card); in such cases, even though we have census data for the patron, we cannot use it to describe the borrower, whom we infer to be the actual reader. Culling these mismatches from our dataset as well as those transactions for which we have no demographic information reduces the number of transactions to 112,298. For the purpose of a more finely grained analysis anchored in a particular historical context, we, furthermore, created a still smaller subset consisting of all the transactions from the year 1895 through December 3, 1902, when the records end. These are the years in which the records are nearly complete for the given years (before that they comprise only a few months of each year) and they are also the years for which we have solid information concerning best-selling books in the United

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tion, such as Sophie May's Dottie Dimple stories, Mary Mapes Dodge's *Hans Brinker; or, The Silver Skates*, and Frances Hodgson Burnett's *Little Lord Fauntleroy* (1892). Translated internationally popular fiction, by such authors as Berthold Auerbach, Georg Ebers, E. Werner, E. Marlitt, Bjørnstjerne Bjørnson, and François Fénelon, likewise appears on the list.

[20] For a detailed description of the library, its setting, and its users, see Felsenstein and Connolly, *What Middletown Read*. The gap in the data results in part from the closure of the library during a smallpox epidemic in 1893 and probably from further measures taken in the interest of public health. As the Muncie team theorizes, the library likely "destroyed records kept in ledgers that were in use during the early stages of the epidemic, which included recorded transactions that stretched back to the previous year. There was also a period of time after the reopening of the library when books may not have circulated, which explains why the records of borrowing only resume later in 1894." James Connolly, e-mail message to Lynne Tatlock, November 26, 2017.

[21] Our use of the terms "sex" here as well as "male" and "female" elsewhere is a function of the census categories with which we are working and is not intended to imply any claims about the essential characteristics of those readers who are designated by these categories.

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States. We shall explain below the importance of bestsellers to our analysis.[22]

In 2013, with the permission of Felsenstein and Connolly, we captured this dataset and experimented with ways of querying and visualizing the data it provides.[23] One of the most eloquent visualizations resulting from these first experiments, an interactive bubble graph, tells a powerful story with regard to library transactions. In this visualization reading patterns are plotted according to gender and median age of borrowers as these categories intersect with authors. Each bubble stands for a distinct author; the larger the bubble, the greater the number of transactions. The x-axis indicates the percentage of the transactions attributable to male users; the y-axis indicates the median age of borrowers with reference to authors.

This visualization of the Muncie data suggests a number of striking patterns: 1) the transactions skew toward younger readers, most of them by patrons under 30; 2) the highest circulating authors and the highest circulating titles, moreover, comprise juvenile reading, fiction intended from the start for adolescents and children; 3) at younger ages reading separates by gender into "boy books" and "girl books" concentrated on a few select authors; 4) the majority of adult reading appears to be adult female reading; and 5) some authors appear to be read in roughly equal numbers by both male and female adult borrowers.

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[22]While the database identifies the borrower, it does not tell us 1) whether the book was actually read and 2) who and how many people actually read it while it was checked out. There are certain to be instances of family members checking out a book for another family member. Nevertheless, the fact that borrowers could only select a single book at a time, that multiple family members had library cards, and that clear patterns of book selection show up in individual readers' transaction history over longer stretches of time suggests a degree of reliability, that is, that the book selections do by and large represent the choices of the individuals checking them out. The data in any case far surpass in number the anecdotal information about nineteenth-century reading to which we otherwise have access and complement textual and paratextual information as to implied and intended readers.

[23]For the first attempts to think about these data with the tools created in the Humanities Digital Workshop, see Lynne Tatlock, "Romance in the Province: Reading German Novels in Middletown, USA," in *Print Culture Beyond the Metropolis*, edited by James J. Connolly, Patrick Collier, Frank Felsensten, Kenneth R. Hall, and Robert G. Hall (Toronto: Toronto University Press, 2016), 304-330 and "The One and the Many: *The Old Mam'selle's Secret* and the American Traffic in German Fiction (1868-1917)," in *Distant Readings: Topologies of German Culture in the Long Nineteenth Century*, edited by Matt Erlin and Lynne Tatlock (Rochester, NY: Camden House, 2014), 229-56. The graph instanced here stems from data newly cleaned in the summer of 2016.

Figure 1. Bubble visualization showing the median age and percentage of male readers by author. The size of the bubble indicates the number of transactions relative to the total transactions for the aggregate data. [24]

Reading the Muncie Library by the Book

While suggestive, these patterns of reading by author require a more finely grained analysis. To interrogate them, we therefore elected to examine data for individual books as well. Using data generated from the subset of transactions from January 1895 through December 3, 1902, described in section III, we compiled a list of male and female borrower percentages for each of the titles that circulated for which we had demographic data—a total of 3,797 books and periodicals. Since so many of these titles circulated infrequently, we limited our investigation to the top quartile of titles as measured by number of check-outs and also eliminated periodicals. 907 titles that circulated 39 times or more for a total of 70,798 transactions remained. Our aim was to determine what these data could tell us about the degree to which reading was gendered generally, which high-circulating books were borrowed mainly by one sex only, and which books were most popular with both groups.

In the aggregate, slightly more than half (54%) of all books for which we have demographic data were checked out by girls or women. In order to adjust our

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[24] An interactive version can be found here. Created by Stephen Pentecost, Washington University in St. Louis.

percentage distributions to account for the greater total number of female check-outs and the variety in total number of checkouts for each book, we calculated a simple measure of percentage divergence from the expected value of the number of checkouts for any given book, the expected value being the number of transactions that would have taken place if the distribution for that given book followed the overall distribution of roughly 54% female and 46% male. The result provided a rough measure of gender specificity in borrowing patterns for any given book.

Identifying the top quartile among all of the books with a discrepancy score greater than zero yields 82 books that are heavily skewed male. These books have male checkout percentages ranging from roughly 85% to 98% of the total and an average of 80 total transactions per book. Taking the same approach to the books with a discrepancy score less than zero yields 156 titles with checkout rates between 76% and 92% and an average of 90 total transactions.

A cursory glance at the titles and authors in each group, as in our first look at authors above, immediately reveals that, in the case of male borrowers, markedly gendered reading is almost exclusively adolescent reading of serial fiction. Among the 82 books that skew heavily male, many are written by the aforementioned well-known authors of "boys books": 13 titles by Ellis, 19 titles by Castlemon, 12 titles by Optic, 5 by Kirk Munroe, and 4 by George Alfred Henty. The average of the median age of the borrowers of these five authors, whose books account for almost three-fourths of all transactions in this subset, is 15. In the case of the books that skew strongly female, the situation is somewhat more complex, but the predominance of serial adolescent fiction still holds. We find 21 titles by Finley, 10 by Susan Coolidge, 9 by L. T. Meade, 5 by Margaret Sydney, 4 by Louisa May Alcott, and 3 by Margaret Bouvet. For these authors as well, the average of the median ages is 15, but the checkouts attributed to them amount to a bit fewer than half of all transactions (45%) among the highly skewed texts. In contrast to the male-skewed borrowings, in other words, the female-skewed borrowings for this subset include a wider range of authors and titles that are also checked out by adult readers, including, for example 10 by Clara Louise Burnham (median age 24) and 6 by Rosa Nouchette Carey (median age 22).[25]

Simple text-mining analyses applied to a subset of these texts can help to reinforce and to nuance existing scholarship on adolescent reading in the period, providing us with a differentiated account of how gender-targeted reading material correlates with the divergent book choices of male and female patrons. After

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[25]Although a smaller number of titles accounts for a higher percentage of male transactions, it is also the case that, when measured across all 3,797 titles rather than just the top quartile, the total number of unique titles borrowed by men and boys is greater than it is for women.

compiling an electronic corpus of 69 of the highly male-skewed titles and 88 of the highly female-skewed books, we applied the Linguistic Inquiry and Word Count (LIWC) package to each title to calculate word frequencies across the 93 dimensions measured by the software.[26] We then ran a Mann-Whitney U test on the distributions of scores for each corpus to compare the two corpora across the categories. Tables 1 and 2 list the top 15 most-distinguishing LIWC "output variables" (of 93 total) for the books in each corpus.[27]

	girlboy_stat	girlboy_rho
female referents	6051	1.00
sadness	5887	0.97
positive emotions	5758	0.95
Affect Words	5662	0.93
assent	5545	0.91
home	5524	0.91
nonfluencies	5511	0.91
religion	5498	0.91
family	5468	0.90
certainty	5464	0.90
hearing	5416	0.89
perception	5401	0.89
Social Words	5336	0.88
Emotional Tone	5284	0.87
health	5279	0.87

Table 1. LIWC variables most characteristic of female-borrowed books. Capitalized variables refer aggregate categories in the LIWC dictionaries.

	girlboy_stat	girlboy_rho
comparatives	1933	0.32
work	1883	0.31
Core Drives and Needs	1803	0.30
motion	1657	0.27
anger	1624	0.27
male referents	1555	0.26
space	1498	0.25
reward focus	1468	0.24
3rd pers plural	1331	0.22
risk/prevention focus	1313	0.22
achievement	992	0.16
Analytical Thinking	644	0.11
numbers	574	0.09
prepositions	369	0.06
articles	364	0.06

Table 2. LIWC variables most characteristic of male-borrowed books. Capital-

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[26] More information on LIWC, including the names of all of the dimensions measured, can be found here.

[27] The Mann-Whitney U test ascribes an integer ranking for each LIWC category to each text in the combined boy/girl corpus. The girlboy stat statistic (the "U" statistic) calculates for each girl book the number of boy books it outranks and then sums all of those counts. If each of the 88 girl books ranked higher than each of the 69 boy books, this number would be equal 88 * 69 = 6,072. The girlboy rho statistic is calculated by dividing the U statistic by this maximum to get a consistently scaled number between 0 and 1. Scores closer to 1, indicate that the category is distinctive of the girl books, scores closer to 0, that it is distinctive of the boy books.

ized variables refer aggregate categories in the LIWC dictionaries.

Grammatical categories—e.g., "comparatives" and "prepositions"—while intriguing, are hard to interpret in terms of gender.[28] More immediately revealing in this regard are such semantically resonant categories as "sadness," "positive emotions," "home," "affect words," and "family" for the female-borrowed books and "analytical thinking," "achievement," "risk/prevention focus," "space," and "anger" for the male-borrowed books. We also used topic modeling in order to identify more specific indicators of thematic content. Fitting a 10-topic model to the male-skewed and female-skewed corpora individually returns the following topics.[29]

Girl Borrowers		
0	0.3571	face hand eyes back door voice head room looked moment turned hands stood cried words heard arm suddenly child
1	0.40228	good thought make people made time mind knew looked felt thing asked talk things speak face girl suppose kind
2	0.21032	eyes face looked beautiful pretty dress hair de girl room made girls flowers blue sweet beauty long bright lovely
3	0.2317	men house long side water road back time day place horse night trees made stood light sea sun air
4	0.20247	day letter read book time work chapter girls home school good life write things made paper books letters days
5	0.1791	papa dear mamma father asked good mother children captain glad daughter returned time child answered replied love home ah
6	0.29939	good thing cried make didn won back things time mother dear put asked isn give aunt wouldn home till
7	0.36303	love heart father mother life god child thought words face poor woman world day long eyes loved lord years
8	0.23685	time wife dolly men made father house years herr husband day family country captain replied left son present make
9	0.24667	room night door morning bed house time day back table good mother sleep aunt window tea thought hour long
Boy Borrowers		
0	0.1915	boys good time back didn make thing uncle thought find replied boy put told money asked long made give
1	0.0828	indian time indians deerfoot face made red camp back party long knew warrior warriors moment point hand make left
2	0.14232	day night time made good men camp fire country morning large trees village wild found people work water
3	0.09665	captain ship deck vessel board men crew officer war boat steamer vessels time lieutenant schooner commander passford cabin officers
4	0.20695	moment back head time side feet hand men stood heard eyes began door made looked face cried long thought
5	0.09512	men general army troops guns fire enemy colonel force fort hundred soldiers battle officers time position attack charlie back
6	0.05559	replied boat major father colonel engine added waddie time tommy wolf lake captain engineer steamer run make asked wimpleton
7	0.01851	cloth illustrated series story boy book price life boys books volume adventures box chapter stories club full history gold
8	0.0909	water island river boat shore time feet engineer made miles sea bank stream replied work day house long land
9	0.2113	father time good boy day made mother home make life years asked house replied men captain people room friend

Table 3. 10-topic model of male-borrowed and female-borrowed books

The topic words generally point toward ships, wars, exploration, and the frontier for boys, on the one hand, and family, appearance, emotional life and domestic spaces for girls, on the other. One also finds, however, a certain amount of overlap in the concern with familial life (see "boy" topic 9), suggesting that at least some gender-normative books might have been addressing convergent interests, even if the appeal to those interests was packaged along gender-specific lines.

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[28]LIWC is by no means flawless, but it proves effective for this type of analysis, especially since the vocabulary in these novels is straightforward, which is to say that a high percentage of the words in the novels appear in the LIWC dictionaries.

[29]For the topic modeling, we divided the novels into 500-word chunks, dropped all words that occurred in fewer than two percent of the novels and also applied a curated stopword list. We used Mallet defaults for alpha and number of iterations and set the "interval" and "burn in" at 10.

Gendered Juvenile Fiction in the Late Nineteenth Century

The above results help to make visible the multiple self-reinforcing and self-perpetuating influences that channeled books to or away from children based on gender in late nineteenth-century America. By the 1890s the importance of reading, especially to the socialization of children and adolescents, had long been professed and was virtually uncontested in the United States. Moreover, the central role of what we now term gender in the reading socialization of children and adolescents of the era was then and is now obvious. "Boys literature of a sound kind," Edward G. Salmon maintained in 1886 in "What Girls Read,"

> ought to build up men. Girls' literature ought to help to build up women. If in choosing the books that boys shall read it is necessary to remember that we are choosing mental food for the future chiefs of a great race, it is equally important not to forget in choosing books for girls that we are choosing mental food for the future wives and mothers of that race.[30]

Such prescriptions for gendered reading were, moreover, variously reinforced by the players in the "communication circuit." As Sarah Wadsworth outlines, in the 1860s, authors, supported by the publishing industry began self-consciously to write gendered literature as opposed to the putative "unisex" literature that had preceded it:

> Just as [William T.] Adams helped to define not only boys' series but also the audience for boys' books, so Alcott, as the most important contemporary American author to write books specifically for girls, was instrumental in defining, shaping, reinforcing, and revising the qualities, interests, and aspirations of the girls who comprised that market. [31]

If readers had previously gravitated toward certain books in gendered patterns, print culture now deliberately targeted the gender of juvenile readers.

By the 1890s this gendered market was well established. One finds ample evidence of it in publishers' lists of reading for boys, on the one hand, and for girls, on the other; decorative covers that suggest the intended adolescent audience; and authors who wrote for one gender or the other, as often signaled by the book title itself.[32] The covers of books intended for boys frequently depict an active

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[30] Quoted in Wadsworth, "Gender-Specific Series Books," 27. For Salmon's original article, see Edward G. Salmon, "What Girls Read," *Nineteenth Century* 20 (October 1886): 515-29.

[31] Wadsworth, "Gender-Specific Series Books," 19.

[32] As Pawley observes in her important study of the Sage Public Library, "in the late nineteenth

male figure or a male figure with props that project future action; books for girls often feature girls reading. The respective covers quite obviously suggest that for boys the pleasure of reading is to identify with a male protagonist, with "action figures"—often in the company of other boys and men who play a role in that fiction. By contrast, for girls the pleasure of reading is, according to many covers, the act of reading itself, absorption, time alone and in one's own head, be it indoors, by the seashore, or even among the leafy boughs of a tree (see Figs. 2 and 3). The contents of this girl reading remain unclear in such cover art. One can in any case, reasonably assume that Muncie borrowers over seventeen in 1895 had in the previous two decades been exposed to such gender-specific literature in their childhood and adolescence as were those patrons seventeen and under who checked out books (1895-1902) in Muncie.

Figure 2. Nineteenth-century covers of books by Horatio Alger and Harry Castlemon.[33]

century, commercial publishers assumed that men and women liked different types of books and targeted publications toward these putative gendered needs. Cultural authorities held that gender differences in reading (and writing) were normal and natural. . . . Toward the end of the nineteenth century, age was also assuming the characteristic of a 'natural' basis for differentiation." In the 1880s and 1890s, moreover, some publications displayed both an awareness of gender and a more prescriptive designation of what constituted "children's" books. Pawley, however, also asserts that borrowing patterns do not conform with strict differentiation in book choices. Pawley, *Reading on the Middle Border*, 105-6.

[33] Harry Castlemon, Frank the Young Naturalist (Philadelphia.: John C. Winston Co., n.d.); Harry Castlemon, Frank on a Gunboat (Philadelphia: John C. Winston Co., 1892); Horatio Alger, Jr., Ragged Dick (Boston: Loring, 1868).

Figure 3. Three covers of books targeting girls from the late nineteenth century. [34]

As the transaction data and the text mining results outlined above indicate, in the aggregate, gender-specific book borrowing in Muncie, Indiana, occurs most frequently among young readers, and the books borrowed by these readers, to a large degree, conform with contemporary notions of gender-appropriate reading as simplistically modeled by the divisions supported and constructed by the book market. Consideration of crossover reading needs to be framed against this backdrop of powerful forces mobilized against it. Such crossover reading did occur in Muncie, however, with some frequency and among all groups of readers, as Joel Shrock has recently demonstrated.[35] Our further probing of these transaction data helps to flesh out this complex story. As we shall explain, while these data do supply evidence of gender-appropriate reading in Muncie, they also reveal patterns of convergent and crossover reading in various life phases that increase with advancing age. As such, these data prompt questions about reading choices (and reading tastes) as forms of subjectification, on the one hand, and individualization, on the other, and about the texts themselves, i.e., about the contents, formal elements, and messages delivered by gender-targeted books that potentially informed and supported both processes *across* the gender divide they appear to uphold.[36] They also raise the question of reading context: how might the same text "read" differently for those formed by early reading of largely "masculine" books from the way it reads for those formed by early reading of "feminine" books. Might adult convergent reading comprise texts containing a mix of elements that provide multiple points of entry and attachment that cater to the

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[34]W. Heimburg, *Gertrude's Marriage* (Chicago: Donohue Brothers, n.d.); W. Heimburg, *Misjudged*(Chicago, M. A. Donohue and Company, n.d.); E. Marlitt, *Princess of the Moor*(New York: Hurst and Company, n.d.).

[35]Joel Shrock, "Alger, Fosdick, and Stratemeyer."

[36]In using the terms "subjectification" and "individualization," we follow the lead of the historian Ute Frevert in her studies of the history of emotions. Ute Frevert, "Defining Emotions: Concepts and Debates over Three Centuries," ch. 1 of *Emotional Lexicons: Continuity and Change in the Vocabulary of Feeling 1700-2000*, edited by Ute Frevert (Oxford: Oxford University Press, 2014), 5.

divergent pre-formations of childhood and young adult reading?

General Reading Trends in the Muncie Public Library—Second Pass

Adolescent reading that breaks down along predictably gender-specific lines, in other words, is hardly the whole story. While we can identify powerful forces of subjectification driving reading choices, in particular gender expectations, we also need to ask about patterns that might indicate individuation.[37] Even among adolescents, one finds a subset of authors and individual books that are read with relative frequency by both boys and girls, notwithstanding the obvious pressures exerted on young readers in the period to separate reading by gender. Establishing the parameters of this subset, however, demands careful attention to shifts in library use among different age groups.

One of the key features of the Muncie borrowing data, but one whose impact was not immediately clear to us, is the significant variation in the total number of male and female borrowers at various ages, as can be seen in figure 4.
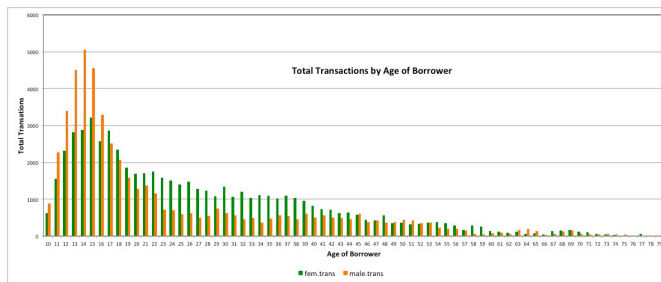

Figure 4. Total male versus female transactions by age of borrower.

While the numbers of transactions for patrons sixteen and younger are significantly higher for boys than girls, the number of male transactions decreases markedly beginning at age seventeen proportional to female transactions, even

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[37] Whereas Shrock addresses crossover reading as a general phenomenon across authors, age groups, and class affiliations, we seek to identify those specific authors and categories of books that proved *most* likely to be checked out by readers of both genders. By combining a consideration of authors as well as individual texts and by using basic text-mining tools, we can gain a better sense of which particular features of a book made it more likely to appeal to a wide range of readers. Our approach also highlights the fact that the crossover appeal of different books by a single author often varied substantially. See Shrock, "Alger, Fosdick, and Stratemeyer," esp. 291-96.

as the number of transactions per life year for both genders diminishes overall.[38] The preponderance of boys among younger borrowers means that, in order to identify crossover books correctly for this group specifically, we need to rescale the raw checkout percentages. Our scaling procedure has been heretofore based on the average checkout percentages for all patrons (54% female and 46% male). For patrons seventeen and under, however, that is, patrons likely still in school (students who stayed in school usually graduated at age seventeen in this period), the average percentages are 40% female and 60% male. Scaling the checkout numbers to reflect this new proportion pushes some books that—in terms of raw percentages—appear to be boys' books more towards the middle of the rankings.

The transactions of borrowers seventeen and under separate into three groups: two groups of titles that were checked out almost exclusively by boys or girls and a third group that apparently appealed to both genders as crossover or convergent reading. If we take the top quartile of titles checked out by this age group, re-scale the percentage distributions as described above (to account for the different aggregate gender break-down among these younger borrowers), and then take all the books in the first decile for each group of borrowers, we are left with 74 books that can be described as minimally skewed toward either male or female borrowers.[39] In this case as well, authors and titles prove revealing. A number of Indiana authors, some of whom were also bestsellers nationally, make it into this subset of books; these include three titles by Edward Eggleston (1837-1902), Booth Tarkington's *A Gentleman from Indiana* (1899), Lew Wallace's *Ben-Hur* (1880), and Maurice Thompson's *Alice of Old Vincennes* (1900).[40] Local authors, in other words, constitute one focus of convergent reading. The same can be said of "right reading," or those books that, in the words of the editor of the popular late nineteenth-century guide *Best Reading* (1st ed. 1872), "from their acknowledged literary merit, or from their value in representing some important historical period, social movement, or phase of thought, have come to be regarded as belonging to standard literature."[41] A disproportionate number of the mini-

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[38]The data for numbers of borrowers (as opposed to transactions) exhibit a parallel pattern, with the small difference that the number of male borrowers drops below the number of female borrowers at age 18 rather than age 17.

[39]As before, we eliminated periodicals and non-authored works and took only titles whose total number of checkouts were in the top quartile, which was 15 or above in this case. These reductions left us with 729 titles and 30,518 total transactions. This younger group of borrowers is dominated by boys by a ratio of roughly 3:2, that is, of the 30,518 non-periodical transactions, 18,238 can be attributed to boys, as opposed to 12,280 for girls.

[40]The period between 1880 and 1920 has come to be known as the "Golden Age" of Indiana Literature. Indiana was not merely the setting of some of these best-selling novels or the point of origin of their authors, but also the location of Bowen-Merrill, a press that published a number of the best-selling novels in the years 1895-1902.

[41]*The Best Reading: Hints on the Selection of Books; on the Formation of Libraries, Public and Private,*

mally skewed texts are in fact by authors who receive the highest rating in *Best Reading*. Some of these works are by authors we would now consider canonical, including Hawthorne, Dickens, Shakespeare, and Walter Scott, whereas others (e.g., William Black, Thomas Hughes) received this ranking for reasons that seem opaque in retrospect. Nonetheless, with regard to the 74 minimally skewed titles under consideration, 36% (18) of the 50 unique authors receive an "A" rating by *Best Reading*, as opposed to fewer than 6 % of the authors of the girls' books (3 of 53) and roughly 8% of the authors of the boys' books (3 of 36).

One author figures prominently in this third group but fits into neither the category of regional reading nor that of "right reading": Horatio Alger. The presence of his work in this subset of minimally skewed texts might seem surprising. No fewer than 11 Alger titles belong to it, despite the author's self-proclaimed writing of "boys' books." Furthermore, 9 of these 11 titles rank among the top 20 overall in terms of total transactions. In fact, among the other prolific and high-profile children's authors mentioned, including Ellis, Castlemon, and Adams (Optic) for boys and Finley, Coolidge and Meade for girls, only books by Alger and Alcott appear in the subset of minimally skewed titles. In Alcott's case, however, only one title, *Under the Lilacs*,[42] makes it into this group, suggesting that, among authors writing for children and adolescents, Alger is unique in the Muncie library in combining extreme popularity with regular crossover appeal. While juvenile fiction by Castlemon and Finley, Adams and Alcott, Munroe and Meade also logged high circulation numbers in Muncie, Alger's books may have functioned differently in the reading socialization of Muncie library users, namely, they may have anticipated, and even predisposed their readers, toward a different kind of popular reading, i.e., a certain kind of adult fiction whose popularity depended on the positive preferences of both genders.

One indication of such a formation might be sought in the shift in the relationship between popularity and gender-specific borrowing patterns. If, focusing on the 10-17 age group, we remove the Alger titles and then calculate the correlation between 1) the degree of gender-specific borrowing and 2) the total number of transactions, the result is .122, indicating a slight positive correlation between the popularity of a book and the likelihood that it will be checked out predominantly by either boys or girls. In the case of adults between the ages of 18 and 28, however, the correlation coefficient is -.235, suggesting the opposite result; in other words, for adults the most popular books are those with the greatest appeal to both groups of readers.[43] This negative correlation holds for Alger as well

on Courses of Reading, etc. (New York: Putnam and Sons, 1872), 84-85.

[42] Alcott's novel couples girlish heroines who are first seen playing with dolls with a boy run away from the circus, providing points of entry across markers of gender division.

[43] We chose the range 18-28 to mitigate the effect of patrons as parents borrowing books for their

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Alger's works, a brand unto themselves, were an enduring source of controversy nationwide. Exhibiting an unmistakable moral-didactic intention and touted by some as a hedge against still worse reading choices, Alger's books fell, nevertheless, in the opinion of some pundits, educators, and librarians, into the category of sensation fiction, given their depiction of their upward-bound heroes' seamy starting points on the streets among suspect company and the drastic turns in their plots.[44] The Muncie Public Library apparently harbored no such concerns and in the years 1891-1902 stocked fifty-seven juvenile books (fifty-one titles) by Alger, the first accessioned as early as 1875, the last in 1901. Most of the Alger volumes acquired on December 30, 1891, or later experienced 100 or more transactions during the years 1891-1902.

Digging more deeply into the transaction data, one finds that Alger's popularity in Muncie surfaces on multiple levels. In terms of total transactions, the borrowing of Alger exceeds that of any other author in the library. In fact, in the aggregate, Alger remained during that decade the top-circulating author in the library. The 8,965 check-outs of his books surpass those of his closest competitor, Castlemon, by 1,566 transactions. 1,351 different patrons (180 more individuals than for Castlemon) of the total 4,024 patrons checked out at least one book by Alger. In the aggregate Alger transactions constitute 5 % of the 176,912 transactions recorded for the years 1891-1902, and multiple Alger titles rank in the top twenty titles borrowed in these years. The average number of loans of books by Alger per patron—6.8—suggests a high degree of serial reading of the author; in fact some patrons checked out 50 or more.[45] His books, written and packaged largely in series, were, after all, formulaic and overtly promised readers more of the same, what had presumably delighted them upon first reading. Some male readers in our dataset continued checking out Alger's books well into adulthood and even after they had otherwise turned to more complex reading featuring more mature protagonists.

Boys' and men's unfailing and repeated reading from 1891-1902 of the Harvard-educated and one-time minister Alger unquestionably plays a critical role in his

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children.

[44] For a sampling of views on Alger in the public library, see "Who Should Read Alger? Alger and the Public Library," in Horatio Alger, Jr., *Ragged Dick, or, Street Life in New York with Boot Blacks*, edited by Hildegard Hoeller (New York: W. W. Norton & Company, 2008), 157-63. His books do make it on to some of the *Best Reading* lists under the category "Young People's Books" but are given the grade of "b."

[45] These numbers are taken from our edited version of the Muncie database. They thus differ slightly from those provided on the Muncie website. See "Data Summaries: Top Twenty Books." What Middletown Read.

top ranking in the Muncie library. Indeed the authors ranked in second, third, fifth, and eleventh place, also authors of "boy" books (Castlemon, Optic, Ellis, and Henty respectively), evidence the same serial and repetitious reading by male patrons. The interest of these patrons is not surprising. Overtly labeled as stories for boys and intended by the author (by his own declaration—"I leased my pen to the boys"[46]—for male readers, Alger's nearly 100 juvenile novels almost uniformly feature boy protagonists. Nineteenth-century book covers underline the "masculinity" of the reading with images of boys in action or of boys poised to take action, as in figure 5.

Figure 5. Nineteenth-century covers of books by Horatio Alger.[47]

Girls too checked out Alger as crossover reading; indeed, neither the statements of the author nor the paratextual gendering of the books prevented Alger books from being borrowed by female patrons in substantial numbers. When in fact Muncie checkouts are calculated by life year and gender, Alger consistently ranks in the top ten authors borrowed by female patrons, seventeen and under.[48] Young women and girls typically read Alger alongside Finley; Meade; Alcott; Coolidge; Sidney; and, in Nina Baym's formulation, "woman's fiction."[49] Male serial borrowing and re-borrowing in fact somewhat mask the fact of female borrowing of Alger books.

For all the overt orientation of these books to boys, some publishers and librarians did come to acknowledge that girls too read them. Charles Cutter, for ex-

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[46] Quoted in Gary Scharnhorst, *Horatio Alger, Jr.* (Boston: Twayne Publishers, 1980), 33.

[47] Horatio Alger, Jr., Slow and Sure or, From the Street to the Shop (New York: Street & Smith, 1902); Horatio Alger, Jr., Strive and Succeed (New York : A.L.Burt, [18–]); Horatio Alger, Jr., The Errand Boy or, How Phil Brent Won Success (New York : A.L.Burt, 1888).

[48] See also Shrock, "Alger, Fosdick, and Stratemeyer," 292.

[49] Nina Baym, *Woman's Fiction: A Guide to Novels by and about Women in America, 1820-1870* (Ithaca, NY: Cornell University Press, 1978).

ample, in 1878 grumpily referred to Alger's work as "not very good company for well-educated boys and girls," thereby acknowledging the possibility of a female Alger readership.[50] By circulating a series entitled "Horatio Alger's Books for Boys and Girls" along side other Alger series late in the century, the publisher John C. Winston Co. too eventually conceded a potential appeal to girls of Alger's books for boys.

In the late twentieth century, Alger's phenomenal popularity in the previous century prompted literary historians and critics, such as Michael Moon and Glenn Hendler, to take a fresh look at his corpus in ways that prove relevant to our own investigation. Although they focus on close textual analysis rather than reader choice, their work questions the facile understanding of these books as merely about boys' "luck and pluck," as their "rags-to-riches" stories. Especially Moon's observations concerning the so-called success story for which Alger is known suggests that Alger is not so removed from those popular genres typically written for and read by women and girls. These boys' stories, Moon maintains, in some respects resemble domestic fiction. As he observes,

> That Alger's books are not only homoerotic romances but also represent a genuine reformulation of popular domestic fiction is made evident by the regularity and narrative intensity with which the tales highlight the boy hero's moving from the street or from a transitional charity shelter into his own modest little home (usually a boardinghouse room). That this transition is perhaps the most crucial in the boy's development is manifested in the elaborate care that Alger expends on discriminating the fine points of comparative domestic amenities at this point in his narratives.[51]

Hendler similarly identifies an affinity in Alger's works to the tropes and mechanisms of the domestic fiction most often aimed at women: "this description of sympathy recalls the sympathetic identification valorized above all in the women's sentimental novel, which entails a potentially self-negating surrender to the emotions of a suffering heroine."[52] While some contemporaries regarded sympathetic identification as potentially feminizing, Hendler contends, advice books represent the bond between male readers and authors as "an affectively charged form of homosocial companionship," with the book figuring as a

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[50] Charles C. Cutter, "The Public Library, and Its Choice of Books," *Boston Advertiser* (February 12, 1878), reprinted in Alger, *Ragged Dick*, 157.

[51] Michael Moon, " 'The Gentle Boy from the Dangerous Classes': Pederasty, Domesticity, and Capitalism in Horatio Alger," *Representations* (Summer 1897): 87-110; reprinted in Alger, *Ragged Dick*, 209-33, here 221.

[52] Glenn Hendler, "Pandering in the Public Sphere: Masculinity and the Market in Horatio Alger," *American Quarterly* 48, no. 3 (1996): 415-38; reprinted in Alger, *Ragged Dick*, 233-54, here 247.

responsive male friend.[53]   Alger himself touted his boy heroes as "manly boys" and not "goody-good boys," with whom the male reader could appropriately identify.[54]
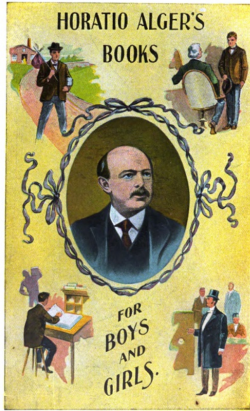

Figure 6. Book cover for Alger's books, ca. 1896. [55]

VII. Understanding Alger's Appeal

Moon considers Alger's works in isolation and with an eye toward a broadly conceived critique of ideology, but his focus on domesticity also provides a starting point for identifying Alger's position within the constellation of authors who make up the nineteenth-century juvenile corpus. Additional quantitative analysis offers one avenue for developing an adequately relational understanding of his distinctiveness, that is to say, an understanding based on how his works differ from those of other popular authors in the late nineteenth century. Using an electronic corpus of 48 of the 51 Alger novels available at the library, we re-ran the LIWC analysis described previously in order to get a sense of the features that Alger shares with both the "boys'" and the "girls'" books. Plotting a series of distributions for each corpus for each of the variables measured by LIWC enables us to gain a rough sense of where the Alger books overlap with or are distinct from the other two corpora under consideration. In the visualizations below, the x-axis indicates the score for a particular LIWC variable, and the y-axis indicates the frequency density for a given x-value. The curves show the distribution of

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[53] Hendler, "Pandering in the Public Sphere," 248.
[54] Hendler, "Pandering in the Public Sphere," 247-48.
[55] Horatio Alger, Jr., *Frank Hunter's Peril* (Philadelphia: The John C. Winston Co. [1896?]).

texts for each of the three corpora using the kdeplot function from the seaborn library, which follows the rule of thumb developed by D. W. Scott to determine a reasonable bandwidth for the distribution.

As evidence for the general plausibility of this approach, we first present two distributions that indicate Alger's uniqueness in areas for which he has long been known: work and a focus on the future.
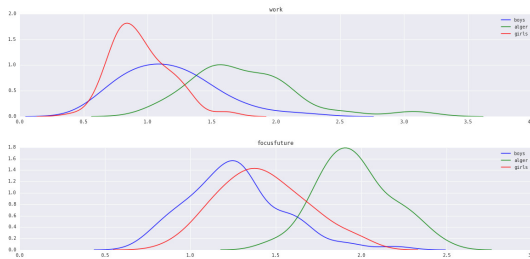

Figure 7. Frequency density distribution of three corpora for LIWC categories "Work" and "Focus on the Future."

In both cases, the distribution for the Alger novels departs from those for the other corpora, with frequency densities shifted significantly toward higher scores for the variables under consideration.

Results for some of the other variables, however, suggest a different way in which Alger stands apart, namely in his inclusion of elements characteristic of one or the other of our comparison corpora. In the case of the categories of "risk" (words such as "danger" and "doubt") and "achievement" (e.g., "win," "success," "better"), the Alger distribution parallels that of the boy corpus quite closely, whereas it departs from the girl corpus.
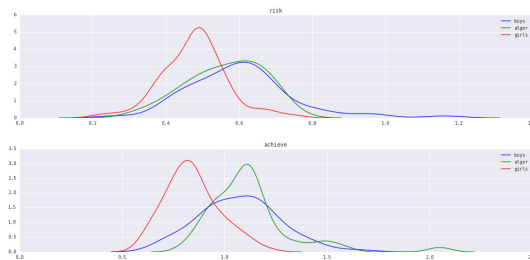

Figure 8. Frequency density distribution of three corpora for LIWC categories "Risk" and "Achievement."

In certain respects, then, Alger's texts have much in common with those of other high-profile authors for boys. In the case of the "social" (e.g., "mate," "talk," "they") and "family" (e.g., "daughter," "dad," "aunt") variables, however, the Alger corpus is much more closely aligned with the girl corpus.[56]
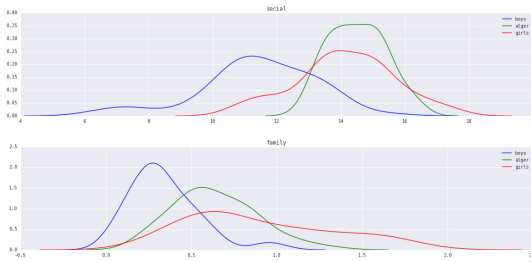

Figure 9. Frequency density distribution of three corpora for LIWC categories "Social" and "Family".

Any analysis based on the LIWC dictionaries paints with a broad brush; nonetheless, these results, when combined with the evidence from the circulation data, prompt reconsideration of Moon's claims regarding Alger's "reformulation of domestic fiction."

According to Moon, "Alger's writing provides a program cast in moralistic and didactic terms for maximizing a narrow but powerfully appealing range of specifically male pleasures."[57] Moon makes a compelling case for understanding Alger's success in terms of the ideological function of his novels, the way they resolve potential threats to "the smooth unfolding in the America of the time of the exclusively male homosocial institutions of corporate capitalism."[58] Reading Moon's finely grained analysis against the backdrop of the aggregate data, however, also enables us to acquire a richer sense of how Alger novels position themselves vis-à-vis other popular texts from the period. By providing a comparison of the contents of Alger's books with a range of books by other authors for children and adolescents, we can link their success to the particular position Alger occupied in the literary field of the time.

Alger was indeed a wildly successful author at the end of the century, but so were

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[56] The LIWC dictionaries include subordinate and superordinate categories. For example, "perceptual processes" (436 words), "biological processes" (748 words), and "social processes" (756 words) are all higher-level categories. "Home" (100 words) is categorized as a subset of "personal concerns." The latter category differs from "perceptual processes," "biological processes," and social processes," however, in that LIWC does not calculate an aggregate score.

[57] Moon, "The Gentle Boy," 211.

[58] Moon, "The Gentle Boy," 231.

Castlemon, Adams, Finley, and Coolidge. Unlike these authors, however, Alger was, as documented by the Muncie data, popular with both boy and girl readers. It is hard to disagree with Moon's claim about Alger's "powerfully appealing range of specifically male pleasures," but the circulation data indicate that his novels also engendered pleasures that resonated with girl readers. Moreover, our content analysis suggests that he represented these pleasures and created reading pleasure through a compelling fusion of individual elements typically separated out into books intended to appeal largely to one gender or the other.

This crossover popularity raises the possibility that Alger's books, notwithstanding their specific ideological function with regard to nineteenth-century capitalism, also tapped into fundamental sources of appeal with implications for reading socialization over the long term, in particular for boys who otherwise checked out books not typically favored by girls. As we have seen, the most popular adult reading in Muncie tends, with some exceptions, to consist of books checked out frequently by both men and women in large proportion to their respective reader groups.[59] In what ways might avid reading of Alger among adolescents be related to avid reading in Muncie of such turn-of-the-century bestsellers as *Red Pottage* (1899), *Richard Carvel* (1899), *The Redemption of David Corson* (1900), *When Knighthood was in Flower* (1898), *Alice of Old Vincennes* (1900), and *The Virginian* (1902), all of which flew off the Muncie library shelves in the year of their acquisition?

Alger and the Bestsellers in Muncie, 1895-1902

In the years 1895-1902, as it began to appeal more to adult readers, the Muncie Library reliably acquired identified bestsellers, and most of these sparked immediate interest among patrons. *Red Pottage*, first acquired on March 13, 1900 (a second copy was added on November 18, 1901), was, for example, checked out 110 times from March 13 through November 25, 1902, that is, on average 5.5 times a month. The library acquired four copies of the best-selling *The Redemption of David Corson* (1900) in 1900, in the very year of its first publication. Over the course of the following two years and four months, 244 patrons borrowed the book 259 times. Moreover, Marie Corelli's best-selling *The Sorrows of Satan* (1895; available in two copies and first acquired on August 12, 1897), which was checked out 342 times over roughly five years, ranks No. 10 of all titles checked

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[59]The correlation calculation in section VI provides evidence of this phenomenon.

out over the entire period (1891-1902).[60] The nine titles ahead of it are all juvenile fiction. 96 of these 342 transactions are by patrons in the age group 18-85 who are identified as female. At 96 transactions, Corelli's book thus ranks as the highest circulating novel recorded for women overall in this age group. 54 transactions are by men in the same age group, making *The Sorrows of Satan* the number one novel checked out by all men in this age group. What, then, might reading Alger have to do with reading such bestsellers?

Alger died in 1899, writing to the end but having completed most of his juvenile fiction by 1893 and earlier, indeed, most of it much earlier. The fifty-one titles held in the Muncie Library first appeared, starting with the serialization of *Ragged Dick* in 1867, in the years 1867-1899, the vast majority of them between 1867 and 1889. While read by children and adolescents in Muncie in the 1890s they most certainly also provided the stuff of the early reading of the very adults who in the years 1895-1902 were borrowing bestsellers. The library had, after all, held some of Alger's books since at least 1875. Alger circulated in Muncie, that is, not as new bestselling titles of the 1890s, but as long-term trendsetters and possible precursors of adult convergent reading.

One way to gain a better sense of how Alger might have been setting the stage for later reading by both genders is to identify those LIWC categories in which his books most closely approximate the average scores of popular adult novels. To this end, we compiled a corpus of 105 late nineteenth-century "bestsellers" that were also checked out regularly by patrons of the Muncie Library. We started with the ten top-selling novels recorded each year by *Publishers Weekly* for the years 1895-1902.[61] Since the Muncie Library did not actually acquire all of these novels within these years and since there was some overlap from year to year in the bestsellers, this first attempt to compile a corpus yielded only 62 viable titles. We then sought to expand our list of newly published nationally best-selling works circulating frequently in Muncie by digging deeper into contemporary lists of bestsellers. We therefore combed the monthly records for book sales recorded in *The Bookman*, January 1895-August 1902, vols. 1-15. From January 1895 to September 1897, *Bookman* listed bestsellers month by month in the form of an Eastern letter from New York and a Western letter from Chicago—for our purposes we took note of the lists of best-selling books provided in the Western letter. Beginning in October 1897, the journal changed its format and instead listed six bestsellers each month based on data gleaned nationwide. After compiling a mas-

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[60]"Data Summaries: Top 20 Circulating Books," *What Middletown Read*, www.bsu/edu/libraries/wmr/reports.php?report=top_books.

[61]These bestselling titles are summarized in Daniel S. Burt, ed., *Chronology of American Literature: America's Literary Achievements from the Colonial Era to Modern Times* (Boston: Houghton Mifflin Company, 2004), 289, 299.

ter list and eliminating the many duplications, we then cross-checked the titles actually held against our subset of frequently circulating books in the Muncie collection and proceeded to capture all the texts readily available online, that is, 105 texts in all.[62]

Upon re-running our frequency density curves, now with four corpora (boys, girls, Alger, and bestsellers) rather than three, we detected some suggestive patterns. Taken as a whole, it should be noted, the results indicate a diverse range of similarities and differences across various groupings. In two closely related instances, however, namely with regard to the category of words denoting "social processes" as well as the category of "personal pronouns," the Alger books, the girls' books, and the bestsellers all have a notably higher average frequency of dictionary terms than the boys' books. These two categories are closely related inasmuch as personal pronouns comprise a large percentage of the words included in the "social processes" dictionary; in other words, the former is more or less a subset of the latter.
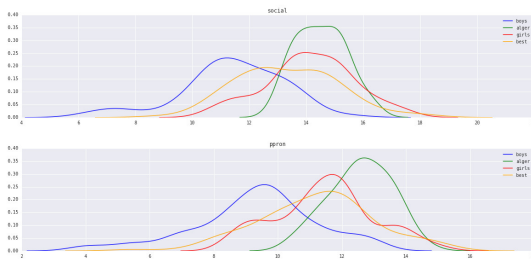

Figure 10. Frequency density distribution of four corpora for LIWC categories "Social" and "Personal Prounouns".

We are of course dealing with a complex set of relationships among multiple samples here, such that any simple binary claims regarding Alger and the bestsellers would be problematic. These graphs, however, do permit the hypothesis that girls' serial fiction and Alger place an emphasis on the kind of human interaction that is also characteristic of adult bestsellers but less so of other boys' serial fiction, especially if we take explicit pronoun references to human beings ("it" is not included in these numbers) as a proxy for this interaction. The specific nature of this human interaction emerges if we consider how the divergence is driven by individual personal pronouns. The boxplots below indicate the range of values for each of the four corpora for the entire "personal pronouns" category and also

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[62] Frequently circulating books are those checked out at least 39 times, which minimum number represents the top quartile in terms of borrowing frequency, as described at the beginning of section IV.

for the individual pronoun forms "I," "you," "we," "they," and "she/he."
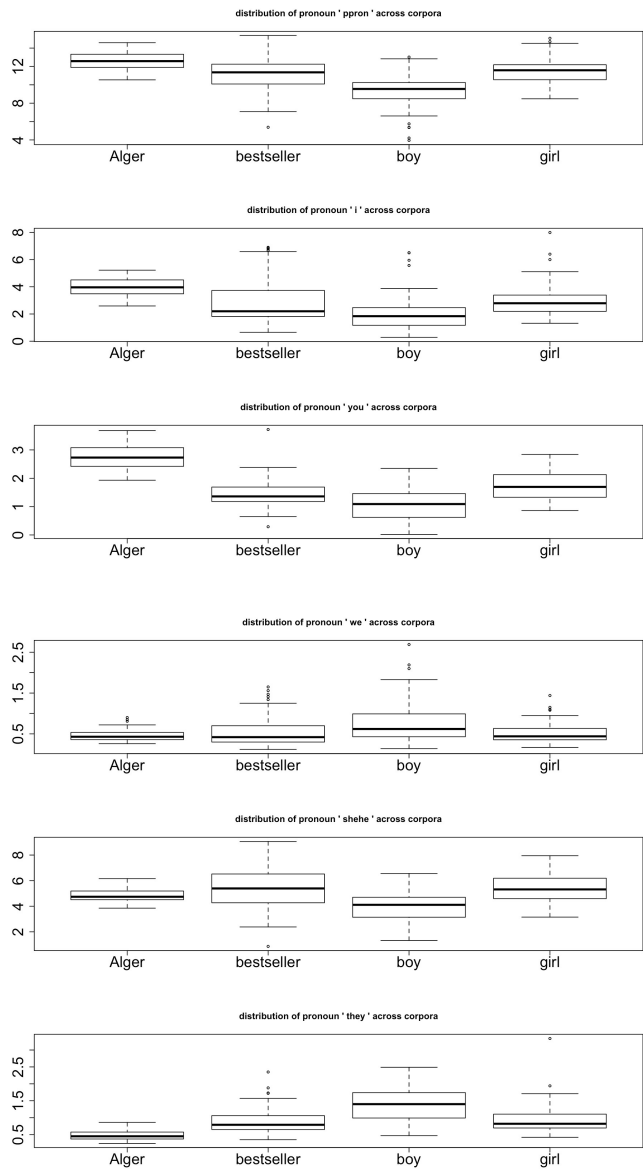

Figure 11. Boxplots indicating range of scores for each of the four corpora for per-

sonal pronouns. The y-axis indicates the prevalence of the feature as a percentage of total words.

If we take the boy corpus as our baseline, we see that in every single case the Alger, girl, and bestseller corpora trend in the same direction as one another and away from the boy corpus. We also see that in the case of "I," "you," "she/he," these three corpora have significantly higher medians than the boy corpus, whereas in the case of "we" and "they" they have significantly lower medians.[63] These data suggest differently figured social worlds. Boy books trend toward social worlds conceived in terms of a collective first-person "we" and a collective third-person "they," whereas the three other corpora share higher relative frequencies of the singular "I," "she/he," as well as the dialogic "you," thus favoring one-on-one exchanges and individualized actors. In this respect, Alger's books, in their representation of intimate social interaction as captured by the high relative frequency of "I" and "you" skew boys' preferred reading away from the rest of the boy books and toward the mixed pleasures of bestsellers shared by both genders.

In Lieu of a Conclusion

In *The Bestseller Code: Anatomy of the Blockbuster Novel*, Jodie Archer and Matthew L. Jockers assert that "topic transcends genre" with regard to the likelihood of a given novel becoming a bestseller.[64] Their computational model, they claim, unfailingly and correctly identified as bestsellers novels as generically different from one another as those by Danielle Steel and John Grisham from among several thousand contemporary authors. On the surface of it, the works of these two best-selling authors have little in common; these novels do, however share significantly in the topic Archer and Jockers believe to be the best predictor of success with contemporary American readers, namely the theme of "human closeness and human connection."[65] As they elaborate, "Scenes that display this most important indicator of bestselling are all about people communicating in

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[63] Pairwise t-tests for the boy corpus and each of the other corpora yielded the following p-values:

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ppron, i, You, we, they, she/he
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Alger - Boys: < 2e-16, 2.8e-13, 2e-16, 2.3e-05, < 2e-16, .0012
Bestsellers - Boys: 6.1e-12, 9.6e-05, 9.7e-06, 5.1e-05, 9.6e-16, 1.2e-11
Girls - Boys: 7.7e-14, 0.00019, 1.9e-05, 2.3e-13, 5.4e-12, 8.5e-11

[64] Jodie Archer and Matthew L. Jockers, *The Bestseller Code: Anatomy of the Blockbuster Novel* (New York: St. Martin's Press, 2016), 51.

[65] Archer and Jockers, *The Bestseller Code*, 67.

moments of shared intimacy, shared chemistry, and shared bonds."[66]

The relative frequencies of personal pronouns in our four corpora may point to a similar conclusion with regard to shared reading preferences across gender among adults in late nineteenth-century Muncie. A closer look at five diverse bestselling novels from the top-circulating novels in Muncie among both genders—*The Gentleman from Indiana*, *David Harum*, *Richard Carvel*, *The Prisoner of Zenda*, and *Eleanor*—shall serve here to parse the significance of these pronoun frequencies. All of these novels, though differently told and belonging to different genres, are heavy on friendship, include a romance plot (though not necessarily as the central plot), and feature the protagonist's conflict with a particular nemesis, indeed, consist of one-on-one interactions of many kinds—in the aggregate, they include close up and personal encounters from sword fights in *Richard Carvel* to intense conversations between a would-be writer and his most important female interlocutor in *Eleanor*. They depict a social world articulated by relations between individuals, identified as "I" and "you" and "he" and "she" and not by groups, labeled "we" or "they." Their heavy reliance on dialogue between individuals is but one of their many methods of constructing and conveying "human closeness and human connection." An episode in *The Gentleman from Indiana* with the Whitecaps, a Ku Klux Klan-like group in a neighboring town, on the other hand, constitutes a rare exception among these five books, when a town is pitted against a neighboring town, becoming a "we" in conflict with an undifferentiated "they."

Character relations are similarly plotted in Alger's high-circulating novels, such as *Ragged Dick*, *Mark the Matchboy*, *Strive and Succeed*, and *The Train Boy*. These works consist strikingly of dialogue between individuals in the process of bonding with or swindling one another. Alger's stories of connections between a boy and a series of men and between a boy and another boy, like the plots of the bestsellers, proceed by connecting the hero to others, one by one, through the dialogue between an "I" and a "you." They repeatedly figure their boy protagonist as, in Moon's words, "that exceptional, 'deserving,' 'attractive' underclass youth who defies his statistical fate," the one boy who is discovered by those who dispose over wealth and power.[67] While Moon goes on to offer a political reading of these homosocial bonds, we here highlight them instead as anticipating the themes of human closeness and contact that fuel the bestsellers that male and female adults read in late nineteenth-century Muncie. Like the bestsellers, Alger's texts remain consistently concerned with affective, close relationships between individuals—both friends and enemies.

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[66] Archer and Jockers, *The Bestseller Code*, 76.
[67] Moon, "The Gentle Boy," 233.

It is of course certainly not the case that "boy books," which, after all, also numbered among the most popular books in Muncie, completely lack human closeness and connection. Yet the tallies of the relative frequency of personal pronoun suggest a different sort of social world, one articulated corporately and communally through "we" and "they," where the boy hero's action is situated within a group to which he belongs and where conflict is likely to arise not from confrontation with a single nemesis but with an entire group. Castlemon's *Frank on a Gunboat*, the sixth-most circulating book in Muncie, one disproportionately preferred by boys, is a case in point. This novel commences with our hero's decision to join the Union cause in the Civil War and concludes with his return home to his family. When Frank joins up, he boards a so-called receiving-ship along with other boy recruits "where they were speedily examined and sworn in . . . and, when they were rigged out in their blue shirts and wide pants, they made fine-looking sailors."[68] Castlemon's second-most popular book in Muncie, also heavily preferred by boys, *George at the Fort; or, Life among the Soldiers* (1882) promises from the outset a similar orientation and indeed on the first page we read of a "they," a group of deserters that must be apprehended. Unlike such boy books, which favored group identity and action, Algers' books for boys rely on individualized human intimacy that apparently was palatable to boys who also read Castlemon and other authors like him and also to girls who were already accustomed to such fare—though in other guises—in the books they selected. In so doing Alger perhaps delivered to his boy readers the mainstream reading pleasures of adult men and women in Muncie that awaited them should they choose to continue reading fiction in adulthood.

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[68] Harry Castlemon, *Frank on a Gunboat* (Cincinnati: R. W. Carroll & Co., 1869), 14.