FROM THE ALDINE PRESS TO ALDUS@SFU
Showcasing Simon Fraser University Library’s Aldines Online

by

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This report stems from a joint commemoration in 2015 of the fiftieth anniversary of the opening of Simon Fraser University and the five-hundredth anniversary of the death of pioneering Renaissance publisher and scholar Aldus Manutius. To mark these occasions, Publishing@SFU and SFU Library Special Collections joined forces to create a web-based resource comprising an outstanding selection of Aldines from the Wosk–McDonald collection, one of the largest such in North America. This report details the creation of Aldus@SFU, a prototype digital exhibition of the collection intended to be as widely accessible as possible on the Internet through ubiquitous technologies. Adopting a syncretic approach that emphasizes the continuous relationship between innovation and tradition, this report outlines and explores the key intersections between Aldus' plan to popularize classical literature and the core mission of our project: to contribute to public knowledge by making SFU Aldines conveniently and freely available online via a flexible, mobile-optimized user interface. With original contributions from both scholars and popular media figures complementing the digitized volumes, Aldus@SFU is more than a mere companion website to a library collection. Instead, it is intended as a larger crossover digital platform: an inclusive, collaborative scholarly environment and a visually appealing educational resource whose audience includes not only scholars but also a wider interested public.

Keywords: Aldus Manutius; Wosk–McDonald Aldine collection; prototype web exhibition; Aldines; Sixteenth-century rare books; Responsive Web Design; networked open social scholarship
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In the dedicatory letter to Pietro Bembo in the 1514 Virgil, Aldus Manutius pays tribute to Pietro’s father Bernardo, describing his intellect and memory as still extraordinarily “green and vigorous” despite his venerable old age. A respected humanist and diplomat, Bernardo Bembo was also a book collector of refined taste. His outstanding library, which comprised some of the finest illuminated manuscripts from the late quattrocento, provided both the inspiration and the material for Aldus’ famous *libelli portatiles*, or portable little books. Aldus had easy access to the treasures of the Bembo collection and, as we learn in the letter, he modelled the small format of his libelli on the slim, elegant handbooks owned by the patrician family. Among the gems of the Bembo library, a copy of Horace’s *Works* (1485) stands out; Bernardo had commissioned it from Bartolomeo Sanvito, one of the most distinguished scribes and illuminators of the Renaissance. In oblong format and decorated in *all’antica*, or ancient, style representing “a marble plaque with a stucco frame as the support of the text,” this beautiful manuscript is likely to have served as a model for the Aldine Horace of 1501, as witnessed by the similarities in dimensions between the two

1 Aldo Manuzio, preface to Virgil (1514) in *La voce dell’editore: prefazioni e dediche* (Venezia: Marsilio, 2015), 118.
volumes (see figure 1). The title page displays Sanvito’s distinctive and widely imitated humanistic cursive. His sophisticated script is thought to have inspired another permanent gift of the Aldine press: the italic typeface cut by “the Daedalian hands” of Francesco Griffo da Bologna, one of the finest punchcutters of the time, who was responsible for designing the most famous Aldine types.

In light of these considerations, one might claim that Aldus’ most celebrated accomplishments—the octavo-sized volume and italic type—were merely a continuation of earlier traditions from manuscript culture. However truthful this statement may be, it should not mislead us into underestimating the value of Aldus’ contributions to printing and publishing. Aldus’ knowledge of and devotion to antiquity never stifled his creativity; instead, they were a constant source of encouragement and inspiration amidst the socio-political and commercial turmoil of the age.

Unlike many aspiring artists of his time, Aldus succeeded in using the forms and values inherited from his ancestors in creative ways, reinterpreting them in light of the fast-changing demands of the present and his personal worldview. In this respect, Aldus was very much a person of his time: a man of the Renaissance who, having interiorized the lessons of the past, remained fearlessly receptive to the ebb and flow of the present and, significantly, to “the stirrings of the future, its evolutions, and its possibilities.”

For, as the philosopher Ágnes Heller argues, “however past-directed the thinking of Renaissance man may have been … there have been few periods in history in which men gave themselves over so unconditionally to the present as they did during the Renaissance.” And, I shall add, few Renaissance men lived so entirely immersed in the present as Aldus did.

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2 These dimensions were 165 x 102 mm (height and width) for the 1485 Horace and approx. 164 x 100 mm for the 1501 Horace printed by Aldus. See Laura Nuvoloni’s entry on Horace’s Opera (1485) in Beltraminii, et al. Aldo Manuzio: Renaissance in Venice (Venezia: Marsilio, 2016), 235.
3 Aldo Manuzio, preface to Virgil (1501) in La voce dell’editore, 61.
5 Ibid., 194.
Figure 1. Horace's Opera (c. 1485), copied by Bartolomeo Sanvito. Image credit: Aldo Manuzio: Il Rinascimento di Venezia: mostraaldomanuzio.it/catalogo/36.
Evidence of this attitude can be found in the prefaces to the earliest Aldine productions. They vividly portray a passionate, determined man who not only lived in the present but also thought, planned, and acted for the future. The following passage from the preface to Aristotle's *Organon* (1495) is a remarkable example:

That a knowledge of Greek is necessary for men of our time is now so well recognized that not only the young, of whom there are a very great number, but in our generation the elderly are learning it. . . .

. . . For that reason Greek books are much sought after by everyone. As there is a surprising shortage of them, I hope, with the help of Jesus Christ, to be able to remedy this great scarcity soon. . . . And although we have fallen on turbulent, violent and unhappy times, in which there is more use for armaments than books, I shall not rest until a supply of good books has been provided [italics mine].

More than a decade later, Aldus, after a two-year period of forced inactivity due to adverse historical contingencies, seems to have retained the same forward-looking disposition, as evidenced by the preface to Erasmus’ translation of Euripides (1507):

. . . I do not regret my great efforts, which I have now performed for many years in editing good authors for your sake and for that of literary studies. . . . If I can produce something more important, as I hope, you will certainly be delighted, but posterity will be the greater beneficiaries; for myself, “with my head I shall touch the stars.”

Such an orientation towards the future should not surprise us. In an age like the Renaissance—when traditional value systems and moral customs were constantly


7 Ibid., 301.
threatened by relentless social, cultural, and technological transformation—any individual with skill and creativity who wished to affect future generations had to ride the tide of change with undaunted courage if they wanted to succeed. Yet Aldus, for all his willingness and ability to embrace the new, was always mindful of the precedents of history. His concern with novelty was firmly anchored to the models of classical antiquity; his outlook for the future, consistently brightened by his Christian sensibility. In other words, Aldus’ innovations, like the masterpieces of Renaissance art, were outcomes of a syncretic combination of creativity and tradition. I use the word “syncretic” rather loosely here to propose an approach that emphasizes continuity over fracture, synthesis over opposition, on the fundamental assumption that innovation—in any field and of any scope—is always a function of tradition, in that it enables change by reshaping what already exists.8

In this context, the words of hope that Aldus speaks to the scholars of his generation in another of his early introductions are unequivocal. In the preface to Castronus’ Greek-Latin dictionary, Aldus wishes the good litterati of his time to remain true to themselves and have enough strength to “challenge antiquity.”9 It is clear that, for Aldus, challenging the ancients does not mean categorically discarding tradition, but rather adapting it to the pressing needs and concerns of the present. The subtext of Aldus’ message is unambiguous: only by looking to the past and carrying on the traditions of our ancestors in the present can the modern maker of culture bring about real change and push humankind forward. At the same time, in order to rival the ancients, the genuine innovator must be brave enough to betray them—that is to break the established rules and practices, and to reinvent them. Significantly, this apparent paradox finds expression in language. Indeed, the word “tradition” shares the same etymological root as “betrayal”: the Latin verb tradere, meaning “to transmit,” “to hand over.” Thus, the word “tradition” simultaneously implies an act of preserving something considered to be of enough value to hand down to the next generation, and an act of betrayal in delivering something (or someone) valuable into untrustworthy hands.

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8 On this topic, see Michael Bhaskar’s insightful analysis “The Creativity Myth,” in Curation (London: Piatkus, 2016, Kindle edition), chapter 3.

(Judas, the traitor par excellence, handed Jesus over to the hostile authorities). An apt metaphor illustrating this twofold dynamic would be the assemblage of a mosaic whose pieces have been artfully crafted by our forefathers, but whose overall picture can only be put together via present conditions, relying entirely on our ability to identify new patterns and rearrange the tesserae accordingly. Creating new patterns by combining the old ones in novel ways—this is the hybrid realm where tradition and innovation exist in a fruitful tension. I am placing special emphasis on this concept for two reasons. First, this syncretic approach has informed every stage of the project from the outset; it seems appropriate, therefore, to use it as an underlying framework for this report. Secondly, on a more general level, in this age of bewildering technological development and overwhelming information abundance, there is an urgent need to reassess our idea of innovation and tradition.

The first reason should be understood in relation to the role of Aldus’ work in the history of Western culture. In addition to being physical and visual artifacts of extraordinary value, Aldus’ books hold great cultural and historical significance, as they proved key in the advancement of human knowledge. In the felicitous words of Yosef Wosk, the Aldine editions represent “an authentic bridge to an eternal continuum,” serving as “the golden ring in the transmission of the treasured legacy of Western civilization.” In producing books that were at once philologically accurate and innovative in design, Aldus created something truly unique: a beautiful, functional, and symbolic product that bridged the gap between past and present and inspired future generations. With all due caution (and humility), we approached this project with the same mindset (and ambition). Like Aldus five hundred years earlier, we are facing a technological shift of unprecedented proportions, a shift “orders of magnitude greater than the momentous evolution from monkish scriptoria to movable type” launched by Gutenberg in the fifteenth century.


It is our duty—as people concerned with the craft and technology of publishing—to explore, understand, and, ideally, harvest the opportunities that the powerful tools of our age afford. It is also our responsibility as heirs of a centuries-old tradition, the culture of the book, to develop an awareness of and commitment to our cultural heritage to ensure not only its survival, but also its renewal through live use. Striking a balance between these two forces—tradition and innovation, faithful preservation and transformative betrayal—has been a main ambition of this project from the beginning.

The second, more general reason relates to our nature as human and social beings. It involves the need to develop a well-grounded and conscious understanding of where we stand in history—our relationship with the past, our collective memory, and, thus, our sense of identity. This becomes crucially important at a time when, confronted with an excess of possibilities, our very sense of self appears under threat. I use the word “self” here in the sense that the philosopher Matthew Crawford used it: as “a coherent self... that is able to act according to settled purposes and ongoing projects.”

Critically engaging with the past seems both difficult and futile in a world that glorifies creative disruption, worships frantic productivity, and fosters distraction. Yet, finding value in traditions—to the point of feeling compelled to transfer them to the next generation—may help us form a fuller, more coherent picture of the world we inhabit, and, thus, establish a closer connection to it.

Today, our mental lives, saturated with ceaseless stimuli from a “highly engineered” cognitive environment, are at risk of fragmentation. Having to navigate an ever-expanding sea of attractive options is not only mentally exhausting but also dangerously impairing, as it hinders our ability to act effectively in the world. Several studies have found that, whereas freedom of choice is generally a positive thing, too


14 Ibid., 16.
much freedom can lead to uncertainty, confusion, and, at worst, paralysis of action. At this particular cultural moment, retracing the steps of our ancestors—understanding and questioning the knowledge and methods of the past—can offer a valuable guide to present action, helping us recognize our own pattern in the noisy, overloaded mosaic of our hyper-mediated existence.

About the Project

John Willinsky from the Public Knowledge Project (PKP) was the first to note that the quincentenary of Aldus’ death coincided with the fiftieth anniversary of the opening of Simon Fraser University, and that such a significant double occasion deserved adequate commemoration. John Maxwell, head of the Publishing program and director of the Canadian Institute for Studies in Publishing (CISP) at Simon Fraser University, warmly welcomed the idea and started gathering the resources necessary to make it a reality. The initial proposal of a physical exhibition at Simon Fraser University’s downtown campus, followed by a lecture series, was soon discarded due to logistical and budgetary issues; instead, the more viable and sustainable path of a virtual-only exhibition was taken. The remediation and (re)publication of these rare sixteenth-century materials into digital forms was seen as a more cost-effective solution as well as a unique opportunity to expose the collection to new, wider audiences.

Within the project, my main role was to conceive, design, and implement the interpretive website for the digitized Aldines. I was also involved in a number of research and editorial activities, such as: editing, and curating the content for the website; building and developing the relationships with the external contributors; and, assisting in the research and development of the bibliographic metadata for the digitized collection. During my four-month internship at the CISP, I worked with a variety of software and

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15 See, for example, the studies by Professor Sheena Iyengar (Columbia University) and Professor Mark Lepper (Stanford University). Mentioned by Robert Matthews in “The agonies of too much choice” (Financial Times, January 6, 2006, http://www.ft.com/cms/s/o/bd2e8764-7e5a-11da-aefd-0000779e2340.html?ft_site=falcon&desktop=true#axzz4jeebRQEi).
front-end frameworks, including the Adobe creative suite, Bootstrap, and Drupal, with a view to creating a full-fledged Drupal-based website for the SFU Aldines. The site Aldus@SFU was soft-launched on August 13th, 2015 as part of the annual PKP Conference.

**Aldus at 500: Digitizing the Wosk-McDonald Aldine Collection at SFU**

*Simon Fraser University marks the five-hundredth anniversary of the death of pioneering printer-publisher Aldus Manutius with a groundbreaking online resource*

2015 is Simon Fraser University’s fiftieth anniversary; it is also the five-hundredth anniversary of the death of one of the leading figures in the history of bookmaking: the Venetian scholar, printer, and publisher Aldus Manutius. To mark these occasions, Publishing@SFU and SFU Library’s Special Collections and Rare Books are joining forces to create an online resource comprising a world-class selection of Aldines from the *Wosk-McDonald Collection*, acquired by the University in 1995.

Turning these precious volumes into a digitized collection available for perusal on the open Web makes the books “public” for the first time in five centuries. The online resource is intended for the benefit and pleasure of not only academics, students, librarians, and collectors, but also the wider community of bibliophiles.

We hope to publicly launch the online collection of SFU Aldines in August 2015 as part of the annual Public Knowledge Project conference.

*Figure 2. Announcement of the site’s soft-launch (screenshot).*
When, at the end of the fifteenth century, Aldus moved to Venice to set up his printing shop, he was already a full member of the leading humanist circles of his time. As a renowned scholar of *humanae litterae*, he had earned all the respect and financial stability that a man in his position could have wished to achieve. The reasons why Aldus—already in his forties and with an established career as a teacher—decided to embark on a commercial enterprise as hazardous as printing are shrouded in mystery. Yet, the scarce information we can gather from the prefaces, letters, and documents that bear his name is consistent enough to allow some reasonable speculation. From this material emerges a portrait of a restless, reserved man of unshakable integrity, unaccustomed to controversy, and more concerned with the public good than his own personal gain. As they may shed light on the motives behind his bold life change and, as a result, help us better understand the guiding principles of his publishing vision, it is important here to mention, if only briefly, three main aspects of Aldus’ character:

1. an overriding love for language as a rich, living phenomenon in constant evolution;
2. a genuine admiration for Greek authors as models of excellence in every field of learning; and,

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17 Ibid., 59.
3. a firm belief in the widespread circulation of knowledge as key to a more enlightened society.

These traits are inextricably woven into the fabric of Aldus' publishing mandate. From the outset, his plan was as clear as it was ambitious. Aldus wanted to publish, without errors and in a brand-new typeface of the “utmost beauty,” all the best books of the Greek tradition. His aim was not only to serve the needs of the established circles of readers already well-versed in classical studies, but also, and most remarkably, to educate a wider reading public by offering them access to the books that he considered key to true learning. In this respect, Aldus’ later career as a publisher should be seen as a continuation of, rather than a break from, his decades-long commitment to education.

Exploring the “Why” of Aldus’ Publishing Venture

To supply all the best books of the Greek authors: Aldus’ cultural endeavour may have been Herculean, but it was by no means impractical. Even from a cursory look at the late fifteenth century book trade, it becomes clear that Aldus’ program was timely in that it addressed a real market need. When Aldus arrived in Venice in the early 1490s, the city was already a leading centre for the production of Latin books—mainly academic and liturgical texts. The same, however, could not be said in connection with Greek literature. At that time, indeed, only a few volumes had been printed in Greek in the entire Italian peninsula. The reasons for this “surprising shortage,” as Aldus himself described it, are, in fact, hardly surprising. Printing in Greek was both technically demanding and financially

18 See Aldus’ petition to obtain a twenty-year privilege for works printed in his own Greek type; cited in Nicholas Barker, Aldus Manutius and the Development of Greek Script and Type in the Fifteenth Century (New York: Fordham University Press, 1992), 92.

19 Martin Davies, Aldus Manutius: Printer and Publisher of Renaissance Venice (Tempe: Arizona Center for Medieval and Renaissance Studies, 1999), 9.

risky. In addition to the obvious difficulties of casting the type, there was the economic challenge of finding a profitable market, as only a small elite had knowledge of classical Greek. Also, there was a problem of accessibility, since the source texts—the impressive collection of Greek manuscripts that Cardinal Bessarion bequeathed to the Republic in 1468—were hard to consult. With little technical experience but a solid vision, Aldus turned the limited sales potential of Greek texts into an opportunity to build a long-lasting, successful commercial enterprise. By tapping a largely unexplored academic market, he did what any modern publisher does: he identified a commercial opportunity and capitalized on it. In its first four years, the Aldine press produced more books in Greek than any other printing shop, and by the time of Aldus’ death in 1515 the company had released at least thirty editiones principes of Greek works. Thanks to Aldus’ tenacious efforts, the Greek classics could finally be read in the original language.

If the dissemination of Greek scholarship can be considered Aldus’ chief contribution to the cultural and spiritual advancement of our civilization, his later decision to extend his program to include Latin and Italian texts further demonstrates the publisher’s receptivity to the cultural tastes of his time. With the publication of Petrach’s poems in 1501, Aldus launched a new series of popular modern classics in the vernacular, thus becoming “a leading player in the diffusion of some masterpieces of the new literature.” We can now see even more clearly how Aldus, in adapting a format used for the classics to the works of modern authors, was operating in the hybrid space between tradition and modernity.

Exploring the “How” of the Aldine Press

So far we have focused on the “why” of the Aldine venture as a fundamental area of enquiry to fully understand the scope of Aldus’ achievements, and, thus, the significance of our project. Deferring a discussion of the “what” to a later chapter, we now turn to another essential aspect of this enterprise: how Aldus’ vision came into being.

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21 Ibid., xv.

22 Beltramini et al., Aldo Manuzio: Renaissance in Venice, 295.
In the preface to Musaeus’ *Hero and Leander*, Aldus openly confesses his contempt for greedy businessmen overly anxious to make money, shortly after conceding, just as openly, that his operation needed “substantial funds” in order to be profitable. “Without money,” he writes, “it is not possible for you to have a good supply of what you particularly desire.”

To some extent, the Aldine press, as an organization devoted to the advancement of knowledge for the public good, could be described as a mission-driven rather than a profit-driven activity. However, we must always keep in mind that the company manufactured books for the open market and its success depended on its ability to promote and sell its titles to the public. The entrepreneurial side of Aldus’ initiative, far from undermining the humanist ideals upon which it was founded, should be understood as part and parcel of its modernity and enduring success.

From the commercial agreement that marked the official establishment of the Aldine press in 1495, we are able to get a sense of the size and complexity of Aldus’ commercial endeavour. That year, Aldus entered into a formal partnership with two high-powered men of the Venetian Republic: Andrea Torresano, a wealthy and well-known printer and bookseller; and Pierfrancesco Barbarigo, an illustrious aristocrat closely related to the doge. While the details of the company organization remain in the shadows, from the documentary sources, two certain facts can be determined: 1) Aldus owned a minority interest in the company (most likely, a share closer to ten than twenty-five percent of the capital); and, 2) he had control of all the activities directly tied to the reputation of the press (i.e., title selection and preparation, staff recruitment etc.).

There is no doubt that this joint venture, with the majority interest controlled by another party, limited Aldus’ freedom of action in business matters. Yet, even under such constrictions, Aldus managed to successfully “challenge antiquity” by never compromising on the contents and quality of his publications. Throughout his life, he remained faithful to the mandate of his press, demonstrating a steady, non-negotiable commitment to the dissemination of knowledge. Aldus’ belief in the free circulation of knowledge was stronger than any personal—political, moral, or religious—agenda. Evidence of this is the catalogue

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24 Lowry, 85-87.
25 Ibid., 86.
of the Press, which reflected a broad range of genres and authors, brought together as they shared, at least from the publisher’s perspective, a form of greatness. This belief explains Aldus’ decision to publish a highly controversial poem such as *De rerum natura*, Lucretius’ philosophical masterwork, for its intellectual merit rather than its moral and religious views (which Aldus openly disapproved, as we read in the dedicatory letter to Alberto Pio).26

While a complete description of the activities of the Aldine press is beyond the scope of this report, an outline of how its products revolutionized the world of publishing is the starting ground for any meaningful discussion about the mission of our digital endeavour, Aldus@SFU. The outline, therefore, should serve as a guide for identifying the main points of convergence between Aldus’ cultural project and our online resource.

*The five Cs of Aldus’ publishing program*

How, then, did Aldus Manutius become the “most glorious of all makers of books” in the history of publishing?27 We should acknowledge upfront that there are no simple answers to this question. It is my hope that months of investigations—including a visit to a recent Aldine exhibit hosted by the Gallerie dell’Accademia in Venice—have provided me with sufficient insight to address the issue clearly and effectively. To this end, I have articulated the “how” of the Manutius venture under five headings. The list is by no means hierarchical, and each item, while identifying a distinct key feature, should be understood as an integral part of a larger whole rather than a single entity: 1) Care; 2) Consistency; 3) Compositional balance; 4) Convenience; 5) Collaboration.28

26 Manuzio, preface to *De rerum natura* (1515) in *La voce dell’editore*, 120-21.

27 This is one of the titles attributed to him by his contemporaries. Cited in Lowry, 217.

28 This outline owes a great deal to the following works: *The Art of the Publisher* (New York: Farrar, Straus and Giroux, 2015), an enlightening reflection on the art of publishing by Italian novelist and publisher Roberto Calasso; the rich and finely curated book and exhibition catalogue *Aldo Manuzio: Renaissance in Venice* (Venezia: Marsilio, 2016), edited by Guido Beltramini, Davide Gasparotto, and Giulio Manieri Elia.
1. Care

Aldus’ passionate care for every title in his catalogue manifested itself in three ways: 1) textual accuracy; 2) concern with the aesthetic appearance of the book; and 3) the tenacious pursuit of a complicit relationship with the reader. Aldus’ primary concern was to preserve the integrity of the original text. His carefully edited volumes relied exclusively on the plain words of the author, unencumbered by the mediation of medieval commentaries and purged of the errors made by shoddy scribes and printers. His philological care was uniquely matched by a refined aesthetic sensibility, as evidenced by the sober beauty of his editions (see Compositional balance). Such careful, nearly obsessive editing, however, was always driven by a sense of urgency to get the book in the hands of readers. According to Aldus, indeed, an unpublished text would benefit neither the reader nor the text. After all, to borrow his words, it is better to publish something imperfect than nothing at all, for “if it reaches the public there will be many people to correct it over a very long period of time.”

Clearly, in Aldus’ workshop, attention to the text and attention to the reader went hand in hand (see Convenience). The term “care” may seem over-simplistic, but it neatly captures the type of commitment that Aldus gave, in equal measure, to every core function of his activity: editing, design, production, and marketing.

2. Consistency

Not only were the Aldine editions meticulously edited, but they were also unmistakably recognizable. The Aldine anchor—the most famous of all printers’ marks, used by the company until the end of its operations—is only one element of this powerful brand awareness. When we look at the device, however, we need to move beyond the immediate impact of the image and reflect for a moment on the history behind it. The emblem, just like the ancient motto it represents (festina lente, or “make haste slowly”), should be read in the context of a larger narrative: the story of a publishing company that developed a strong, well-defined identity on a few simple, and yet revolutionary ideas:

editorial selectivity and consistency. The 1501 Virgil was the first of a popular series of “portable” classics that brought together in the same catalogue the great ancient authors and the more recent vernacular poets (Petrarch, Dante, Bembo, and Sannazaro). The publisher’s vision was the unifying thread of what, in fact, can be considered the first monographic series—in Italian, collana (“necklace”)—in the history of publishing.30 The development of a consistent editorial line—a concept that in our age of content explosion may even seem anachronistic—is a crucial component of Aldus’ genius, and probably the least discussed of his achievements. As Roberto Calasso keenly observes, Aldus deserves the title of first modern publisher because he was the first to conceive of publishing as an art—the art of giving the book a form “in which all the books published by a certain publisher could be seen as links in a single chain.”31 Such a notion of form, Calasso explains, refers to not only the selection and order of the titles in a publisher’s catalogue but also the way in which books are presented as objects (thus including layout, graphics, typeface, and paper). In short, it also applies to the material and visual qualities of Aldus’ books, some of which will be discussed under the next heading.

3. Compositional balance

There is a quality to the beauty of the Aldine editions that makes them universally pleasing to the eye. Sixteenth-century Italian writer Lodovico Guicciardini summed this up well when he praised Aldus for bringing to the ungraceful world of printing “the perfect order and uniformity” that it had lacked before.32 The ordine e regola perfetta that Guicciardini is referring to is,

30 We should observe, for the sake of accuracy, that the concept of “collana” as editorial series was formally introduced by Giolito in the second half of the sixteenth century. See Stephen Parkin’s entry on Virgil in Beltramini et al., Aldo Manuzio: Renaissance in Venice, 275.

31 Calasso, 5.

in fact, a specific mathematical proportion known since the ancient Greeks, centuries later defined as “golden ratio.” The term, in general, is associated with the harmonious relationship between different elements found in nature, art, architecture, and music. With regard to Aldus’ work, this mathematical beauty finds its most prominent expression in the architecture of the page. Starting from 1501, the Aldine editions developed from earlier, more ornamental designs inspired by twelfth-century Italian manuscripts towards a more sober and elegant appearance. If the adoption of a single-column page layout signals a radical break from the two-column format of Gothic tradition, the harmonious relationship between the printed areas and the white margins on the page demonstrates Aldus’s simultaneous resistance and submission to established forms. As Laura Nuvoloni explains, even if the layout of the page was likely modelled on the ninth- and tenth-century Carolingian codices, Aldus surpassed this tradition, achieving an outstanding level of compositional balance. Key elements of this balance were the skilful use of negative space and the classical proportion between the height and width of the text-block (1:6447, a value close to the golden ratio of 1:61803). Aldus’ concern with classical beauty also informed typography: not only the graceful elegance of the individual characters but also their harmonious arrangement on each page and throughout the text. Peter Burnhill’s fascinating analysis of Aldus’ typography has gone so far as to identify in some Aldines the use of an advanced, combined system of typographical measurements to ensure the structural integrity of the text at several levels of linguistic order: “from the space between words at the level of a phrase, to the grouping of parts at the level of the document as a whole.” The value of Aldus’ work cannot be fully understood without taking this aesthetic dimension into account.


4. *Convenience*

Aldus’ philological care and design concerns demonstrate his heightened awareness of the dual role of the book as both abstract object—a privileged vehicle of knowledge—and physical artefact—an object of beauty to be collected and admired.\(^3\) A significant part of his success as a publisher depended on such an awareness. But there is a third aspect of crucial importance to be considered: the relationship between the publisher and the reader, and, more specifically, the role of the publisher in shaping the reader’s experience of the text. In this respect, too, Aldus’ prefaces prove an invaluable source of information. These short introductory texts, usually written in epistolary form and in an informal style, can be considered per se a device the publisher used to ingratiate himself with the reader, attract their attention, and motivate them to purchase the book. Aldus’ introductions are, in fact, the core piece of a successful marketing strategy aimed at establishing a continuing and mutually beneficial alliance with those readers in whose hands lay the industrial destiny of the press (hence, the prefaces’ persuasive, friendly tone). It was a *do ut des* (“I give so that you will give”) contract: in exchange for the financial support needed to keep his business profitable, Aldus promised to offer his audiences a uniquely valuable product. This alliance thus rested on the publisher’s ability to define the relevance of a particular publication for a particular community of readers. In other words, it relied on the press’ ability to “educate” its (new and existing) audiences about the unique quality of its products and so orient their taste. Which is exactly what a publisher (in the purest sense of the word) does. If we consider the groundbreaking series of portable classics, it becomes obvious that, in grappling with an entirely new product, Aldus was facing an enormous risk. He was delivering to the public something they had never before experienced. Even if the handy size of Aldus’ literary classics had already been used for works of private devotion, it was Aldus who first adopted this format for classical and secular

\(^3\) On this second aspect in particular, see Paolo Sachet’s contribution “Aldine Books for Collectors,” in *Aldo Manuzio: Renaissance in Venice*, 86-89.
texts. His enchiridia, as Aldus notes in his letters, could be carried and read anywhere, during the leisure moments of a public office or even a military campaign. In connecting the feature of “portability” with the concept of reading for pleasure, Aldus made a vital contribution to the diffusion and democratization of knowledge. His insistence on the handy format of his books, moreover, shows that he was well aware of the fundamental relation between text, the physical form, or “support,” through which it is received by its readers, and the particular circumstance in which it is read. As Fletcher points out, “the octavo constituted a fundamental change toward convenience. It was a book one could use in virtually any posture, and at one’s inclination; it required no effort.” By now it should be clear that, in this context, the word “convenience” has more to do with “usability” (efficiency and user satisfaction) than affordability. It is true that Aldus’ octavos were moderately priced but, considering the known average salaries of the time, it would be a mistake to label them as inexpensive, and any comparison with the modern paperback should be taken with a grain of salt. Also, contrary to popular belief, Aldus’ decision to print these smaller books in a new cursive type—the celebrated Aldine italic—was not motivated strictly by economic reasons. Instead, it was a choice driven by the need to meet readers’ expectations. Rather than a strategy to cut the cost of paper by condensing more text on a page, the development of italic type was, in fact, an attempt to serve readers by presenting the text in a more appealing and legible form. As the cursive style had gained popularity among the humanist circles of the time, by adapting it to print (in both Greek and Latin), Aldus was tapping into a trend, “trying to give his printed text the

36 See Aldus’ dedication to historian and statesman Marin Sanudo (Preface to Horace, 1501), and his letter to the high-ranked soldier Bartolomeo d’Alviano (cited in La voce dell’editore, 14).

37 On the complex relationship between text, “physical support,” and reading situations see: Gino Roncaglia, La quarta rivoluzione (Roma: Laterza, 2010); and, Guglielmo Cavallo, and Roger Chartier, A History of Reading in the West (Amherst: University of Massachusetts, 2003), 5.


39 Ibid., 90.
respectability of the most fashionable manuscript books.⁴⁰ Aldus’ *libelli*, thus, were designed to be “convenient” in two ways: they were easy to carry and use (*portable*); and they were easy to read (*legible* and *readable*).

5. **Collaboration**

As a man of great erudition, Aldus was able to gain the favour of the Venetian cultural elite and gather around himself some of the finest scholars of the time. His press was far more than merely a printing shop: it was a vibrant intellectual environment for debate and philological research. It was an academy in the platonic sense of the word: a place of scholarly collaboration and liberal exchange of knowledge and ideas.⁴¹ Indeed, unlike his fellow printers, rather than simply printing the manuscripts that authors brought to his shop, Aldus actively participated in the preparation of the text for publication, working side-by-side with his collaborators, and personally supervising the printing process from start to finish.⁴² Aldus became the central figure in a circle of assorted scholars of international stature, including Marcantonio Sabellico, Pietro Bembo, Marcus Musurus, and Desiderius Erasmus. In the 1508 edition of his *Adagia*, Erasmus singles out open-mindedness and kindness as the key components of the firm’s success. In his detailed portrayal of Aldus’ workshop, the prominent humanist sings the praises of Italian scholars (in comparison with his fellow Dutch) in general, who generously provided him with rare unpublished material, and Aldus in particular for “keeping nothing back” among the treasures of his library.⁴³

⁴⁰ Lowry, 141.


As mentioned earlier, the above list is intended to provide an essential and well-articulated overview of the context, driving forces, and principles behind the “why” and “how” of the Aldine press. My aim is to lay the foundation for a deeper and more thorough understanding of Aldus’ contribution to our culture, and, equally important, to highlight the key intersections between Aldus’ groundbreaking project and the mission and purpose of our digital initiative. The underlying assumption is that, without an understanding and critical awareness of the past, there is no real understanding of the present, and no solid basis for building towards the future.

**The “Why” and “How” of Aldus@SFU**

With more than one hundred Aldine editions, SFU Library holds one of the largest collections of Aldine Press books in North America. In Canada, the Wosk–McDonald Aldine Collection has the most substantial group of Aldines from Manutius’ lifetime, housing thirty-nine volumes published between 1501 and 1515.44 These volumes reflect an array of formats (folio, quarto, and octavo), languages (Greek, Latin, and Italian), and theoretical fields (literature, philosophy, grammar, theology, astronomy, agriculture).

Aldus@SFU is a web prototype exhibition designed to provide universal and ubiquitous access to these unique materials. By showcasing online some of the most important books in the history of Western thought and contextualizing them with original essays from both scholars and popular media figures, the site aims to fulfill a twofold purpose: 1) to serve as a well-documented, flexible, and aesthetically pleasing educational resource, accessible from any device by broad, diverse audiences—inside and outside of academia; and, 2) to provide a networked open social platform to foster scholarly debate and collaboration across multiple disciplines and institutions around the globe.45

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Even though the project is still in the early stages of development, we have established a solid sense of its mission and future direction. Aldus@SFU originated as a commemorative event to mark the quincentenary of Aldus’ death; yet the broader purpose of the initiative extends far beyond that occasion. On the one hand, we aim at raising awareness among contemporary audiences of the significance and relevance of Aldus’ work in today’s context. On the other, we hope that the project will inform the current debate on the role of libraries’ special collections in the digital age and the importance of enhancing access to and exposure of their unique materials via the open Web.

Given its openness and potentially global scope, Aldus@SFU transcends the commonly understood notion of an online exhibition. To some extent, as a virtual presentation of objects coherently organized around a central idea—the many “gifts” that Aldus left us—the project fits the definition of online exhibition. Yet, this description alone falls short of capturing the essence of the project’s identity, which is also what makes it unique. Aldus@SFU is more than merely an “enhancement” to a library’s physical exhibition or a virtual-only digital showcase; instead, it is—and was intended to be from the outset—a crossover digital platform for both academic and-academic audiences: a collaborative and inclusive online environment to advance open social scholarship and raise public awareness of cultural heritage materials of unique value.

*Exploring the intersections between Aldus’ program & Aldus@SFU*

As Aldus’ plan to popularize knowledge has inspired and shaped the founding principles of our project, it is important to illustrate the alignment between his initiative five-hundred years ago and Aldus@SFU today, bearing in mind that, albeit evident, the parallels between the age of Gutenberg and the age of the Internet should be taken with a grain of salt. With a view to highlighting such commonalities, I have summarized the “five Cs,” or core elements, or of the mission of Aldus@SFU. This parallel overview is merely illustrative (and inevitably incomplete, as the project is still ongoing), but hopefully will provide further insights into the cultural, ethical, and intellectual reasons behind Aldus@SFU. The larger goal is to offer a framework that will help situate the project in the same continuum as the Aldine venture.
Care has been a crucial ethical concern of the team leading the project ever since its inception. As Bhaskar reminds us in his latest book, the word “curation” comes from the Latin curare, meaning “to take care of.” All the people who, at different levels, contributed to the conceptualization and implementation of Aldus@SFU reflect a variety of knowledge and expertise, but share a common attitude: they (we) care about books and what they mean for our culture and our society. In this particular context, they (we) care about Aldus’ books and understand their value as part of our cultural and intellectual patrimony to be cherished, shared, and passed on to posterity. This ethic of care and nurturing, too often lost in the “quick-fire world of online curation,” permeated every stage of the research and development process of Aldus@SFU. We hope to translate it into a rich, well-curated online resource capable of attracting multiple communities of users worldwide.

Consistency is a corollary of good curation. For Aldus, consistency had to do with developing a consistent editorial line to achieve a recognizable identity. For our project, consistency means essentially two things, editorial and visual consistency:

1. editorial consistency: ensuring that the intellectual content is presented as consistently as possible throughout the site in terms of detail, style, and tone; and,
2. visual consistency, which applies on both the aesthetic and functional levels: aesthetic consistency ensures that all the graphic and typographic elements responsible for the overall appearance of the site are aesthetically consistent with one another and with the original design concept in order to establish a clear identity and improve the user experience; functional consistency enhances the usability and the ease of learning of the interface by “leveraging existing knowledge about how the design functions.”

Visual consistency was a central guiding principle in developing the prototype UI for the site.

46 Bhaskar, 67.
47 Ibid., 164–165.
Compositional balance was another important design principle for Aldus@SFU. In fulfilling our mission of presenting rare sixteenth-century materials to twenty-first century audiences, we—like Aldus—are navigating unstable territory, finding ourselves caught between the simultaneous need to honour tradition and betray it. In this respect the whole iterative process of designing and building Aldus@SFU can be understood as a balancing act between these two forces, with a constant awareness that they are not opposite but complementary and interconnected. Not surprisingly, the aesthetic principles embodied by Aldus’ books—the Renaissance ideals of classical beauty and architectural integrity—inspired many of our design decisions. At the same time, in our design considerations, we strove to take into account the audiences’ tastes and preferences. In other words, while attempting to achieve a balanced design in keeping with the aesthetics of Aldus’ books, we were also seeking to serve the needs and expectations of our audiences (see related section on page 36). In light of this, the notion of compositional balance is closely tied to another design method that any user-centred design approach should consider: the MAYA principle. The acronym, coined by legendary industrial designer Raymond Loewy in the fifties, stands for “Most Advanced, Yet Acceptable,” conveying the idea that the success of a design is achieved through the perfect balance between novelty (advanced) and typicality (acceptable), or innovation and familiarity. According to this approach, the design with the greatest aesthetic appeal is the one that succeeds in engaging the audience in ways that are at once stimulating and familiar enough to be easily understood. The big challenge of the project then, was to craft an online environment that would simultaneously celebrate the work from which it was created and bring it closer to the public for whom it was intended.

Convenience is the most adequate term for describing the quintessential characteristic of the Aldine editions: the small, oblong format that could easily be carried and held in the hand—is also the central point of connection between Aldus’ world and our own. In many ways, Aldus’ octavos are the direct ancestors of the modern portable reading devices that enable ubiquitous and convenient access to information. In the words of John W. Maxwell, “[w]ith his line of portable classics, Aldus ended the ‘desktop paradigm’ of the fifteenth century. Today, we approach the same point with digital media and networks. While most of us still sometimes use the Internet while chained to a desk and wired to
the wall, we now increasingly take the Internet—the world of ideas—with us wherever we go.” Today, thanks to the affordances of new digital technologies, Aldus’ ambitious goal of “building up a library which has no other limits than the world itself,” as Erasmus portrayed it, can be realized to an unprecedented degree. The requisite condition for this to happen, however, is a willingness to “challenge antiquity” with the same forward-looking excitement that animated Aldus. At the dawn of the printing revolution, the Aldine press broke away from the closed and fixed system of communication inherited from scribal culture to enact a more open and dynamic model of access to scholarly knowledge. In the same way, we need to move beyond the fixed limitations of the print medium and embrace the new opportunities for the circulation of knowledge that the dexterity of the Web allows. The long-term goal of the project, then, is to make a functional and flexible interface that enables users to conveniently access and browse SFU Aldines (and the contextual material) on all devices. This kind of “universal convenience” of the user interface relies on two main components: 1) screen resolution and device independence; and, compliance with open web standards (or, freedom from proprietary software). The most cost-effective way to build a standards-based website that delivers the same content across multiple devices is by thinking and designing responsively. (The benefits of Responsive Web Design will be discussed further in the relevant section on page 49).

Collaboration as a form of mutually profitable intellectual exchange among scholars was at the core of Aldus’ cultural program; it is also a vital aspect of Aldus@SFU. From Erasmus’ testimony, we can reasonably infer that the prestige of the Aldine Press owes much to the fertile atmosphere of intellectual exchange and fellowship that characterized Aldus’ shop. Perhaps the most fascinating manifestation of this collaborative spirit is the foundation of the New Academy (Neakademia in Greek) in the early sixteenth-century. The Academy, which included some of the finest Hellenists of the time, served as “a learned


society, an editorial board, and a dining club,” and was to assist Aldus in his endeavour to disseminate Greek scholarship. Leaving aside the many obscurities and discrepancies surrounding the aims and activities of the Academy, the idea of an international community of scholars united by common interests, practices, and values is of particular relevance to the future direction of Aldus@SFU. If a culture of sharing, collaboration, and open-mindedness permeated the intellectual life of the Aldine circle five hundred years ago, it would seem paradoxical, if not plainly incoherent, to discount it today, in the age of digital connectivity. The Internet has offered research libraries—and their crown jewels, special collections—a unique opportunity to fulfill and advance a core aspect of their mission: disseminating knowledge to the public. In order for this to be possible, however, special collections and archives professionals need to overcome the perceived conflict between digital and physical artifacts and acknowledge that they exist as part of a continuum. It is not a matter of worshipping technological innovation in a techno-utopian fantasy; nor it is a matter of idealizing tradition in a paralyzing nostalgia for the past. It is a matter of taking care of our cultural heritage by taking full advantage of the benefits that new technologies have to offer: unprecedented opportunities for visibility, discovery, collection, and collaboration. For this reason, as a long-term goal, Aldus@SFU aims at becoming the central node of an extended network of scholars across geographic and disciplinary barriers: a virtual place where like-minded scholars can actively contribute to public knowledge by simultaneously sharing and developing their ideas/research through discussions, suggestions, and even criticism. We hope that in the near future the project will result in the successful creation of an authoritative, inclusive, and collaborative online environment that will contribute to the practice and culture of networked open social scholarship.


56 Beth Whittaker, and Lynne M. Thomas, Special Collections 2.0 (Santa Barbara: Libraries Unlimited, 2009), xix.
The hearth of the Wosk–McDonald Aldine Collection is a group of volumes published during Aldus’ lifetime (1501–1515). All of them are works of considerable visual and scholarly merit as they are both remarkable examples of Aldus’ contributions to the art of printing and publishing and milestones in the development of Western thought. In theory, all of them deserved to be digitized and shared with the world. In practice, our criteria for selecting the materials for digitization were inevitably affected by the physical condition of the books. Due largely to the fragility of the paper and the tightness of the bindings, the preliminary list of titles for digitization proposed by our department was reduced from thirty-two to twenty-one items, after Special Collections staff had completed their assessment. Luckily, the value, rarity, and significance of the titles included in the final list more than made up for those “lost” in the selection process. The table on page 29 (figure 3) presents an updated list of the Aldines selected, or rejected, for digitization.

Digitize well, digitize once

The digitization process was completed in July 2015. One by one, following the original prioritization, the twenty-one Aldines were scanned from cover to cover at the highest resolution allowed by the system (600 pixel/inches). When discussing the project’s
digitization requirements with Mark Jordan and Ian Song from SFU Library’s Systems Division and Digitization Centre, our department’s team was particularly adamant on two points:

1. We aimed for the maximum image resolution to address long-term preservation and workflow efficiency needs. (High resolution scanning ensures storage of better quality images for the benefit of posterity. It is also a strategic approach that allows for maximizing conversion efforts: digitizing a book at maximum resolution means that you only have to do it once.)

2. We wanted to capture, along with the book scans, the handwritten notes and other ephemera found in some volumes, considering them as part and parcel of the unique value of the materials.

Despite its relatively small scale, the Aldine digitization project was not without risks and anxieties. Initially, there were concerns about the potential drawbacks of high resolution scanning, preoccupations exacerbated by software and infrastructure issues related to the impending, massive migration of SFU Library’s digital collections to a new repository platform, Islandora. (At the time of the website’s soft-launch in August, the digital Aldines still resided on the CONTENTdm server, the Library’s former digital asset management system). Thankfully, adopting a future-oriented approach from the outset paid off. Once the migration of the collection from CONTENTdm to Islandora was complete, the experience of viewing (and zooming in on) the high-resolution images of the books was truly a pleasure, and it was possible to see on the browser window “not only the detail of the type, but also the ink’s spread on the paper.”

Several other digitization initiatives took place on the occasion of the five hundredth anniversary of Aldus’ death. None of them, however, compares to our

57 Maxwell, “Aldus’ Gifts.”

resource in terms of the extent and quality of the digitized materials. Unlike other digitization projects in the field, SFU digital Aldines are not just partial reproductions; each volume has been digitized from cover to cover, in high resolution, to form the richest online repository of Aldine books worldwide to date.

<table>
<thead>
<tr>
<th>APPROVED</th>
<th>REJECTED</th>
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<tbody>
<tr>
<td><strong>Greek editions</strong></td>
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<tr>
<td>1502 Stephanus Byzantinus (folio)</td>
<td>1503 Euripides</td>
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<tr>
<td>1502 Sophocles (8vo)</td>
<td>1509 Plutarch (folio)</td>
</tr>
<tr>
<td>1503 Greek Anthology (8vo)</td>
<td>1513 Pindar (8vo)</td>
</tr>
<tr>
<td>1503 Lucian (folio)</td>
<td>1514 Suda lexicon (folio)</td>
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<tr>
<td>1504 Demosthenes (folio)</td>
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<tr>
<td>1505 Aesop (folio)</td>
<td></td>
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<tr>
<td>1505 Quintus (8vo)</td>
<td></td>
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<tr>
<td><strong>Latin editions</strong></td>
<td></td>
</tr>
<tr>
<td>1501 Juvenal &amp; Persius (folio)</td>
<td>1501 Horace (8vo)</td>
</tr>
<tr>
<td>1501 Martial (8vo)</td>
<td>1502 Valerius Maximus (8vo)</td>
</tr>
<tr>
<td>1502 Catullus. Tibullus. Propertius (8vo)</td>
<td>1502 Statius (8vo)</td>
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<tr>
<td>1503 Origen (folio)</td>
<td>1502 Ovidii (8vo)</td>
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<td>1505 Pontano (8vo)</td>
<td>1508 Pliny (8vo)</td>
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<td>1505 Augurellus (8vo)</td>
<td>1509 Sallust (8vo)</td>
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<td>1513 Perottus (folio)</td>
<td>1513 Cicero (8vo)</td>
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<tr>
<td>1513 Strozzius (8vo)</td>
<td>1514 Valerius Maximus (8vo)</td>
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<td>1514 Cicero (8vo)</td>
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<tr>
<td>1514 Scriptores rei rusticae (4to)</td>
<td>1514 Valerius Maximus (8vo)</td>
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<td>1515 Lucretius (8vo)</td>
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<tr>
<td><strong>Italian editions</strong></td>
<td></td>
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<tr>
<td>1514 Sannazaro (8vo)</td>
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</tbody>
</table>

*Figure 3. List of SFU Aldines (1501–1515) approved or rejected for digitization.*
Figure 4. SFU Digital Initiatives Librarian Ian Song and the digitization assistant for the project. As shown above, the book pages were photographed using a two-camera scanner, which allows the simultaneous capture of the right and left pages of the book, reducing the risk of damage.

Figure 5. Zoomable image in full screen displayed using the OpenSeadragon viewer.
**Rare books on the open Web**

The experience of a book on a screen as a two-dimensional object both adds to and takes away from the experience of “the real thing,” the book as a physical object. In a way, a rare book—whether displayed in a glass case or cautiously handled in a supervised Special Collection room—emanates a quasi-magical “aura” that derives directly from its uniqueness, cultural significance, and, above all, its simultaneous resilience and physical vulnerability. Such an aura vanishes when the book “loses” its third dimension in moving to the digital realm. What a book gains in the transition, however, is something just as powerful, if qualitatively different. Thanks to the new fluidity gained in the digital environment, a rare book opens up to entirely new possibilities, for not only circulation but also engagement and representation. These gains, of course, will never replace the loss of certain visual, tactile, and olfactory sensations associated with the emotional and physical experience of holding a rare, beautifully printed volume. The volume’s new online life does, however, involve the opportunity for novel forms of meaningful and pleasurable engagement with the text, breaking down the physical and temporal barriers, as well as the “precautionary measures” inevitably associated with examining rare materials.

A personal anecdote may be appropriate here. As I was turning the pages of Aldus’ *Hypnerotomachia Poliphili* (1499)—inarguably one of most beautiful books ever printed—at the Ambrosiana Library in Milan, I had a mixed feeling of excitement and anxiety. I wanted to absorb as much as I could from the privileged experience, but the limited time at my disposal, combined with the restrictive procedures for handling incunabula (I was

59 See Tim Berners-Lee’s comment at the announced merger (now, a reality) between the World Wide Web Consortium (W3C) and the International Digital Publishing Forum (IDPF): “The book content we know today is becoming highly interactive and accessible with links to videos and images from actual historical events and original research data. This provides greater authenticity and a more engaging learning environment.” In this context, Berners-Lee is referring to educational textbooks, but his words can be applied to other book types as well. International Digital Publishing Forum, “World Wide Web Consortium (W3C) and International Digital Publishing Forum (IDPF) Explore Plans to Combine,” press release, May 10, 2016, http://www.w3.org/2016/05/digpub.html.en.
required to leaf through the book using a small piece of cardboard) left me wanting for
more. Not only did I want to spend more time looking closely at those marvelous woodcut
illustrations, I also wanted to interact with them, study them, take notes on my laptop, and
share my experience with the rest of the world. All this would have enhanced, rather than
undermined, the value of my experience.

Increasing access and exposure to these unique materials can also lead to new
scholarly discoveries, shedding light on details or discrepancies that may otherwise go
unnoticed. Let’s take the SFU copy of Demosthenes’s *Orations*, for example. The colophon
carries the date of 1504, but this edition was printed at least a decade later (Renouard dated
this later impression to 1513, while Fletcher assigned it to an even later period, from 1520 to
1527). This important piece of information emerged only upon closer scrutiny of the Aldine
device on the book’s title page displayed in full-screen mode. The evidence at our disposal
and the availability of high-resolution scans made it possible to establish that this copy of
Demosthenes was in fact a second edition and emend the information accordingly.

*A few highlights of the digital collection*

The second edition of Demosthenes (see figure 7), particularly valuable for its philological
accuracy, is only one of the rare volumes forming our collection. The twenty-one Aldines
showcased online have been organized in three sections according to language: Greek,
Latin, and Italian. The group of Greek editions, which includes several works published
between 1501 and 1503, boasts some of the most valuable volumes published during Aldus’
lifetime.

The 1502 Sophocles, for example, in addition to being the *editio princeps* of
Sophocles’ tragedies, is the first Greek text in octavo as well as the first book to use the
fourth and highly praised Aldine Greek type. Furthermore, the colophon to this edition
contains the first mention of the famous Aldine Academy (see figure 6).

Another remarkable volume is the Aldine Aesop of 1505 (see figure 8). The SFU
copy stands out for two reasons: 1) the volume is ruled throughout with red ink, and enriched
with beautiful initials in gold and other colors; and, 2) it is incomplete, as it only contains the
last part of the original work, with some Greek text and all the Latin text missing.
In addition to Aesop’s *Fables*, the complete volume included several other works, such as the Greek text of Horapollo’s *Hieroglyphica*, Babrius’ *Fables*, Tarrha & Didymus’ *Collection of Proverbs*, and others. The original work was arranged so that “the Greek and the Latin could be printed separately or with parallel texts... Here again [Aldus] took the opportunity to present a different work in the center fold of each gathering.”

These texts are just a small portion of the overall Aldine collection housed in SFU’s Library, which comprises 106 volumes, about one-third of which published during Aldus’ life. Yet they offer a representative sample of the many groundbreaking innovations introduced by Aldus, which are still relevant today.

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60 See Collection notes from SFU Library.


62 Stanton, “Simon Fraser’s Wosk-McDonald Aldine Collection.”
Figure 7. Screenshot of the title page of the Aldine Demosthenes (1513), displayed in full screen mode.
Figure 8. Screenshot of the first written page of the 1505 Aldine Aesop, displayed in full screen mode.
For Whom? The Audience of Aldus@SFU

Part educational online exhibit, part digital rare book collection, and part networked platform for open social scholarship, Aldus@SFU attempts to reach large and multiple audiences. The biggest challenge of the project, not surprisingly, derived from its fundamental crossover nature: how can a website present sixteenth-century materials in a format that engages twenty-first-century publics? In an attempt to deal with this challenge, we designed and curated the website to meet the expectations of different groups of visitors/users, which can be divided in two main categories:

1. a general audience of eager and curious-minded students, teachers, and bibliophiles with an interest in book history and print culture and a variety of related fields, including publishing, typography, graphic design, and digital humanities; and,

2. a specialist audience of Aldine scholars and book historians with a common desire and willingness to advance and share their knowledge in an open, collaborative online space.

It is important to understand that the specialist/non-specialist distinction is a fluid one: we see the potential interaction among these diverse user groups as an enriching element that will amplify reach and significance of the project. It should also be emphasized that by no means is this a clueless dismissal of the risks involved in opening up the conversation to the “never-ending stream of unfiltered user-generated content.” It is, on the contrary, an acknowledgment of the beneficial opportunities for knowledge building and exchange that such forms of collaboration (between specialists and non-specialists) allow.

Furthermore, in our endeavour to expose cultural heritage materials to larger publics, we have an important advantage: we are targeting multiple audiences, but our information is not “mainstream.” In fact, as Whittaker and Thomas point out, “cultural

63 Andrew Keen, The Cult of the Amateur: How Blogs, MySpace, YouTube and the Rest of Today’s User-Generated Media are Killing Our Culture and Economy (New York: Doubleday, 2008), 64.

64 Whittaker and Thomas, xv-xvi.
heritage institutions . . . are often as far from the ‘beaten path’ of mainstream information sources as is possible to be.” In this sense, special collections can be considered “the ultimate long tail” of research collections. This means that the people drawn to special collections materials are passionate and knowledgeable about their niche interests. Thus, “[r]ather than worrying about whether the greater community will ‘dilute’ our resources, we need to serve as an example for knowledgeable creating collaboration.”

While keeping in mind the preferences of our different audiences, we strove to create clear and simple paths to the most important content of the site. Because Aldus@SFU is a stand-alone virtual exhibit without a physical counterpart, it was even more important to provide background information and contextualize the materials to guide the viewer through the visit and satisfy their desire for additional knowledge after. To this end, we complemented the book scans and bibliographic metadata with essays. The Commentary section on the site’s navigation menu currently includes eight essays on various topics: from the many contributions Aldus gave our culture to the history of SFU’s acquisition of the Collection; from Aldus’ fruitful collaboration with some leading humanists of his time (Erasmus and Bembo) to the financial challenges faced by the Aldine Press in early sixteenth-century Venice. We wanted our content to be not only accurate and relevant but also accessible, in the sense of being “reader-friendly” and easily understood. For this reason we strategically solicited short/mid-length informative essays from both scholars and popular media figures. Our contributors include distinguished scholars such as John Willinsky and Randall McLeod, SFU Library directors, and “mainstream bibliophiles” such as TV rare-book specialist Rebecca Romney and New York Times bestselling novelist Robin Sloan.

Aldus designed and edited his editions to serve the needs of different groups of readers. The Aldine Press “luxury editions”—printed on vellum and richly decorated by hand—were targeted at an affluent readership; the same works were also available

65 Ibid., xv.
66 Ibid., xvi.
67 Amanda Lastoria and Alessandra Bordini, “Unbound and Undone: Digital Reprints of the Wosk–McDonald Aldine Collection on Aldus@SFU,” (presentation at the annual Conference on the Study of Book Culture, CASBC, Calgary, AB, May 28-June 3, 2016).
in cheaper, less sophisticated editions designed for non-elite readers. Moreover, Aldus’ editions with Greek and Latin parallel texts were prepared to suit the needs of learners with different Greek and Latin proficiencies. In a similar way, Aldus@SFU has been designed and developed to reach a wide range of users, in line with Aldus’ belief that knowledge should circulate widely and without barriers.

Figure 9. The opening pages of Martial’s *Epigrams* (1501). This beautiful volume from the British Library, illustrated by Benedetto Bordon, is a remarkable examplar of the Aldine Press “luxury editions.” Image credit: mostraaldomanuzio.it/catalogo/36.

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68 Lutz, 360.
Having Aldus Manutius’ books as a model for your design is both a blessing and a curse. A blessing because you know from the start that if you remain faithful to the aesthetic standards of these works—order, uniformity, and compositional balance—you will produce a work of universal visual appeal. A curse because, no matter how strictly you adhere to these norms, you can be certain that the physical and temporal distance from the original model—between the print and digital medium, and between Aldus’ time and ours—will always put you at a loss. In light of this, the entire creative process of designing Aldus@SFU can be described as a progressive overcoming of two forms of tyranny: that of the blank page and that of Aldus’ (beautifully) printed page.

In some respects, the first design challenge with which I had to contend—finding the right typeface for the project—was also the least daunting. Robert Bringhurst wrote that “if a text calls for a Renaissance type, it calls for Renaissance typography as well. This usually means Renaissance page proportions and margins, and an absence of bold face.” This consideration was a good starting point, but needed to be complemented with an understanding that, in addition to honouring tradition, our typeface had to serve the needs of web design usability. In other words, in order to be perfect, the typeface for

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Aldus@SFU needed to be both classically beautiful and technologically cutting-edge. Thus, when selecting the type, two fundamental factors were taken into account: adherence to Francesco Griffo’s original typeface(s); and, screen readability and legibility.

At this point, we need to be more specific as to what we mean by Griffo’s characters. The punch cutter, credited for designing the first italic type in history, also designed and cut several roman typefaces for the Aldine Press. The most famous is inarguably the fourth Roman type, which first appeared in Bembo’s fictional dialogue *De Aetna* (see figure 10). The so-called Bembo type gained instant popularity and affected generations of type designers for years to come. George D. Painter provides a convincing explanation:

> Aldus’s new Roman . . . was for the first time consciously designed according to purely typographic ideals, in liberation from manuscript models. Rounded and strong, tall in uprights and firmly seriphed, both bold and delicate, equally dark and radiant in its blacks and whites, Aldus’s Bembo type is the most modern in appearance of fifteenth-century types.70

Not surprisingly, the most beautiful Aldine roman served as the primary source of inspiration for the typography of our site. It is also not surprising that, Griffo having engraved the first cursive script in history, in our search we paid special attention to the italic style. Ruling out the “web-unfriendly” option of setting the entire text in italics, we nonetheless made a point of choosing an italic type that would faithfully convey the spirit of Griffo’s work.

After compiling a list of possible web fonts, which included some obvious choices such as the old-style serif typefaces Aldus, Poliphilus, and Garamond, we arrived at a shortlist of two ‘candidates’: Sabon, a contemporary font from a Garamond lineage, and Dante, a mid-twentieth-century book typeface designed by Giovanni Mardersteig. Dante, with its “finely tooled and stately neohumanist roman coupled with a very lively and lucid italic,” is considered to be the overall most faithful type to both the Aldine roman and the

We eventually opted for its digital version, Dante eText, which offered the best compromise between functionality (on-screen readability) and fidelity to Griffo’s typeface.


For the sake of better legibility and readability, we used the roman version of Dante eText for the body text. At the same time, we managed to give italics pride of place in our web copy: we used Dante eText italic not only to add emphasis, but also, and most importantly, to capture the user’s attention and keep their eyes focused on the text. We used italics for the first-level headings and block quotes at the top of the page; we used it for the tagline and navigation menu. We even went so far as to italicize all the ampersands of the titles and body text to enhance the overall Aldine mood of the site. Font size and colour contrast were instrumental in establishing a clear hierarchy between headings and body text and improving legibility. Web typography has evolved at extraordinary speed in recent years, providing us with a wealth of webfont options and, however paradoxical it may sound, unprecedented opportunities to create clear and meaningful connections with the

\[71\] Bringhurst, *The Elements of Typographic Style*, 227.
past through type. Our deliberate but thoughtful departure from the typographic norms governing the use of italics on the web enabled us to enhance the aesthetic and evocative impact of the exhibition without compromising usability.

Our first decision about the logo design for the site came early in the process and, thankfully, without pain. Our site was intended to showcase the work of the publisher who created of the most famous printer’s device in history: the Aldine anchor. The mark didn’t need to be advertised. In fact, it already had a prominent presence in the collection, impressed on the title page and/or at the back of our select Aldines. There was no need to “displace” it from the printed page by making it the dominant element of the site. Most importantly, we wanted our logo to clearly and distinctively convey the identity of our initiative. We needed something unique, immediate, and memorable. Specifically, our logo had to take into account and accurately portray the following: 1) the theme of the online exhibit (Aldus’ work and innovations); and, 2) the identity of the academic department leading the project. We tried to fulfill the first requirement by including Aldus’ name in the logo and focusing the design solely on typography; we addressed the second problem by repurposing the most distinctive element of our department’s official logo (Publishing@SFU): the @ symbol. In addition to being the most popular and evocative character of the Internet, the @ sign is a centuries-old invention. In fact, recent studies have revealed that the @ symbol, which represented a measure of capacity, an amphora,
derived from a mercantile script developed by Italian traders in the sixteenth-century.\textsuperscript{72} Given that Venice, Aldus’ adoptive hometown, was the maritime city that used the amphora as a unit of weight for the longest time, the @ sign, or “snail,” as Italians call it, seemed the perfect symbol to connect Aldus’ time with ours.\textsuperscript{71} At first, we considered emphasizing the commemorative aspect of the project, by including a reference to the five-hundredth anniversary of Aldus’ death in the logo. But we quickly realized that this solution was not future-oriented. The impact of a logo attached to a fixed event in time is inevitably short-lived. Instead, we aimed for longevity. We wanted the message of our logo to remain relevant and impactful for a long period of time.\textsuperscript{74} For this reason, after a few design iterations, the easily outdated Aldus@500 was replaced with the enduring Aldus@SFU (see figure 13). At a later stage, we decided to complement the logo with a short tagline identifying the rare book collection (see image below).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{logo.png}
\caption{Logo of Aldus@SFU with tagline (final version).}
\end{figure}

\textsuperscript{72} The study was conducted Giorgo Stabile, science history professor at La Sapienza University. Source: Philip Willan,”Merchant@Florence Wrote it First 500 Years Ago,” The Guardian, July 31, 2015, https://www.theguardian.com/technology/2000/jul/31/internetnews.internationalnews.

\textsuperscript{73} Ibid.

The typography and layout of Aldus’ books was, predictably, the main source of inspiration for the appearance of the site. What was less predictable was that I would have to wait several months before I could gain full access to the digitized volumes. Of course, I had paid more than one visit to SFU Library’s Special Collections to consult the Aldines. But it is one thing is to leaf through a fragile book while sitting at a table of a supervised reading room, and quite another to be able to do so in a relaxed and leisurely fashion, free from anyone’s supervision and the fear of damaging the book. This second kind of immersive and playful engagement with the material was exactly what I needed to get the creative process started. Thankfully, given the stature of Aldus as a major figure in the history of publishing, I was able to gather a wealth of information from various sources, including (and especially) the Internet. Inspired by the finely decorated edition of the Aldine Aesop (1505) from SFU Library, I started my online research sourcing images of the luxury
editions—either illuminated or illustrated—printed by the Aldine Press from 1501 to 1515. Interestingly, one of the first results from Google’s Image search was the title page of the very first Aldine octavo: Virgil’s *Opera* (1501). This stunning specimen—printed on vellum and illustrated by hand for the Pisani family—is held by the University of Manchester’s John Rylands Library, which houses one of the richest Aldine collections in the world. I was especially dazzled by the harmonious colour combination, at once delicate and intense, of the illustration decorating the border of the first page (see figure 14). The illustration—with its subtle nuances of red, green and gold—inspired the colour palette of Aldus@SFU.

The basic colour scheme—red, green, and a pale cream approaching vellum—was maintained throughout several design iterations, from the first mockups to the live website. I was warned several times about the problems involved in mocking up the website using a print-oriented applications such as InDesign. While I understood all the benefits of wireframing or “designing in the browser,” especially given our goal of creating a responsive website, I decided to use the tools with which I was most comfortable in order to be able to work faster and better. I tried to keep a “mobile-first” approach in mind, by working simultaneously on the desktop version and the responsive version of the site. This helped me prioritize the components of the layout and keep the visual design minimal.

That said, if we compare the early mockups with the current version of the site, it is evident that the design process has steadily evolved towards simplicity, through the removal of superfluous elements at every iteration (see figures on page 47 and 48).

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Figure 14. The 1501 Aldine Virgil from the John Rylands Library.

*Image credit:* John Rylands Library.
The Wosk-McDonald Digital Aldines

"Gutenberg may have developed mass-production movable type for the Western printing press, but Aldus developed the movable book."

— Yosef Wosk

2015 is Simon Fraser University's fiftieth anniversary; it is also the five hundredth anniversary of the death of one of the leading figures in the history of bookmaking.

Figure 15. Early InDesign mockup for Aldus@SFU (1st iteration).

The Wosk-McDonald Digital Aldines

"Gutenberg may have developed mass-production movable type for the Western printing press, but Aldus developed the movable book."

— Yosef Wosk

Figure 16. Early InDesign mockup for Aldus@SFU (2nd iteration).
Figure 17. Aldus@SFU, live site (home page).

Figure 18. Aldus@SFU, live site (Greek Editions section).
Prototyping a Portable User Interface

The Benefits of Going Responsive

Aldus developed italic type to give his readers a familiar script that would make them feel comfortable. The same can be said for the development of the octavo format, which allowed, for the first time in history, convenient access to classical literature. In light of this, we can reasonably claim that Aldus’ beautiful little books were the successful outcome of a reader-centric approach that is extremely relevant in today’s publishing and media landscape. There is no reason why we—as custodians of Aldus’ tradition, with an eye towards the future—should not adopt the same approach today. We live an age in which the boundaries between online and offline are becoming increasingly blurry, leading to an increasingly populated onlife world. In such circumstances, ubiquitous access to information has become as important as the very act of publishing online.


77 The term “onlife” was coined by Luciano Floridi to describe pervasive impact of Information and Communication Technologies (ICTs) on human condition. See chapter 3 (“Identity: Onlife”) of Luciano Floridi’s The Fourth Revolution: How the Infosphere is Reshaping Human Reality (New York: Oxford University Press, 2014).
On mobile Internet usage: facts & stats

Online users don’t care much about whether or not content that may interest them has been published online if they can’t find it; they care about being able to access it at their own convenience, which means 24/7 and from the device they are using at the moment. According to a recent Nielsen survey of 30,000 online respondents worldwide, three quarters of global consumers (76%) “enjoy the freedom of being connected anywhere, anytime.” Another report released by Zenith’s Media Consumption Forecasts in 2016, predicts that mobile Internet consumption will increase by 27.7% globally by the end of the year, at the expense of other, traditional media. A more recent study by StatCounter confirmed this trend, reporting that, for the first time in history, mobile internet usage officially surpassed desktop Internet usage, and that “mobile and tablet devices accounted for 51.3% of internet usage worldwide in October 2016 compared to 48.7% by desktop.” Interestingly, if we look exclusively at tablets, the percentage changes only slightly, which means Internet consumption is increasingly shifting towards smartphones.

The global trend towards mobile Internet usage is unquestionably growing and very likely to continue thanks to increasingly advanced functionalities and the appealing features of new mobile devices, among them larger screen size. Another Nielsen study specifically addresses another current trend on the rise in the mobile mobile device industry: the increasing usage of phablets—or smartphones with a screen size of 5.5 inches


or larger. The white paper, unsurprisingly, reports that one of the top reasons people buy a phablet is precisely the screen size.\textsuperscript{82} Considering that larger screens offer better viewing and, in general, a higher-quality online browsing experience, the growing popularity of phablets among certain consumer groups (especially “high-tech adopters” with greater media consumption) should not surprise us.\textsuperscript{83} Also, it is certainly not surprising that, according to a Google survey released in 2012, 74\% of users are more likely to return to mobile-friendly websites and 61\% are more likely to leave if the site is not mobile-optimized.\textsuperscript{84}

What the data tells us is that, with today’s technologies, we have no justifiable reason to assume that a mobile user must have a lesser-quality browsing experience than a desktop user. If that’s true, as we believe, then our future efforts need to be oriented towards making SFU’s Aldine collection accessible on all devices. Moreover, if we consider that the average (trimmed) page of our Aldine octavos is 158.2 mm (6.23 inches) tall—precisely the same height as an iPhone 7 Plus—we can safely claim that browsing Aldus’ libelli on a last-generation mobile device can offer a more authentic viewing experience than that provided by a desktop browser (see figure 19).

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\textsuperscript{83} Ibid., 5.

Figure 19. An Aldine octavo (Sannazaro’s Arcadia) displayed on the screen of an iPhone 7 Plus.
A viable solution for future-friendly websites: Responsive Web Design

Such stats and numbers, of course, should be read and interpreted cum grano salis; nonetheless, they all point to an undeniable fact: mobile devices are increasingly and rapidly becoming a vital access point to online information. In light of this fundamental realization, the belief shared by many library professionals that “no one wants to search the library on their phone” simply doesn’t hold water.55 Acknowledging this is the first step towards increasing access to research library collections. The second step is to address the problem posed by the proliferation of mobile technologies in a way that won’t place an additional burden on to the already slim budgets and staff of public and academic libraries.56 Responsive Design offers library web designers and developers a viable solution to deliver their online services and content on all devices, regardless of screen size and resolution. More specifically, responsive means that the website is designed and developed in a way that “respond[s] to the user’s behaviour and environment based on screen size, platform and orientation.” In practice this means that through “a mix of flexible grids and layouts, images and an intelligent use of CSS media queries…[a]s the the user switches from their laptop to iPad, the website should automatically switch to accommodate for resolution, image size and scripting abilities.”57 A technology that adapts fluidly to fit all screen sizes is not only convenient for the user but also cost-effective for libraries and web developers. Unlike separate mobile sites or apps, Matthew Reidsma explains, a responsive website has one URL and a single set of content, which means it’s easier to update and maintain.58 Also, a single URL makes it easier to optimize social sharing functionalities, which has now become a standard of any user-friendly website. These tangible benefits make Responsive


86 Ibid, 8.


88 Reidsma, 5.
Web Design a financially viable method that allows for containing staff and infrastructure costs. In Reidsma’s words, “[r]esponsive web design lets us build one site for all devices—now and in the future—with just HTML and CSS, skills many of us already have.”

Prototyping with Bootstrap 3

After defining the appearance and structure of the website and identifying the most effective design approach to adopt, the next step of the project development involved translating the static mockups in InDesign into dynamic prototypes. Amid the uncertainty of not knowing, at that early stage of the project, which front-end platform we would use to build the site, but always keeping a responsive design approach in mind, we started experimenting with Bootstrap, the most intuitive prototyping tool for mobile-first projects. Bootstrap is an open-source HTML, CSS, and JS framework designed to build responsive web interfaces quickly and easily. Before becoming one of the most popular projects on GitHub, Bootstrap was a standardized toolkit developed at Twitter by Mark Otto and Jacob Thornton as an internal solution to the many inconsistencies within the company’s development team.

Ever since its first public release in 2011, the project has evolved considerably and is currently in its fourth version (Bootstrap 4 Alpha 5). The prototypes for Aldus@SFU were developed using version 3.3.5.

The pros & cons of a standardized front-end framework

The main benefits of using Bootstrap for building web interfaces are speed of development and responsiveness. Bootstrap 3 ships with a useful set of pre-built widgets and features—such as the bootstrap.css file and the bootstrap.js Javascript file, and a wealth of JavaScript

89 Ibid.


plugins, icons, and buttons—that make it possible to build a website or a web application in very little time.\textsuperscript{92}

Moreover, Bootstrap comes with an out-of-the box twelve-column grid system designed specifically with a mobile-first approach, which dynamically scales to fit the size of your browser window. Bootstrap’s predefined column classes (based on four different sized grids: extra small, small, medium, and large) make it easy to configure a responsive grid-based layout, by first determining the number of grid units you need for your web page, and then specifying “at which point you want your columns to stack horizontally rather than vertically to display properly on mobile devices.”\textsuperscript{93}

Bootstrap 3 also comes with a set of ready-made responsive utilities for hiding and showing content based on the width of the screen via media queries. Although these visibility classes can be very helpful when crafting a responsive layout, they should be used with caution. For example, if you hide too many images on the page as the viewport resizes, you will be likely to affect the speed of page loading (a frequent problem for mobile sites).

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|}
\hline
.row-col-class & Description & Media Query Range \\
\hline
.col-xs-\$ & Extra Small & Phones Less than 768px \\
\hline
.col-sm-\$ & Small Devices & Tablets 768px and Up \\
\hline
.col-md-\$ & Medium Devices & Desktops 992px and Up \\
\hline
.col-lg-\$ & Large Devices & Large Desktops 1200px and Up \\
\hline
\end{tabular}
\caption{Overview of different column sizes across multiple devices.}
\end{table}

In addition to being well-supported and frequently updated, Bootstrap is also highly customizable. All this flexibility, huge community support, and ready-made utilities, however, have their downsides. As a standardized front-end framework, Bootstrap includes blocks of code that you will never use for your project; this means you will need to spend a lot of time overriding the default CSS code if you want your website to have a unique

\textsuperscript{92} The online course “Bootstrap 3 up and running” from Lynda.com was extremely helpful in helping me gain a basic understanding of the tool.

\textsuperscript{93} Ibid.
look and feel. This code bloat is not the only problem. The fact that Bootstrap is updated on a regular basis, however admirable, makes it hard to integrate the updates into your downloaded Bootstrap files."

**Learning “the Drupal Way”**

The soft-launch of Aldus@SFU was scheduled for August 13th 2015, in conjunction with the Annual PKP (Public Knowledge Project) conference held at SFU Harbour Centre. By that date, we had set ourselves the goal of implementing our Bootstrap prototypes in our chosen CMS platform, Drupal 7. Before proceeding further, it is worth explaining the reasons for this choice. Why did we choose Drupal over other more straightforward and user-friendly content management systems, such as WordPress or Omeka? The answer is easy: Drupal was the most future-friendly solution, in view of the imminent infrastructure changes at SFU Library. While we were working on the current version of the site for the August launch, SFU Library was getting ready for the “big migration” of its digital collections (involving hundreds of thousands of digital objects) from ContentDM to a new, more flexible and scalable repository system, Islandora. Given that Drupal is the natural front-end for the Islandora platform, it is not surprising that we chose it for our project.

Islandora is a flexible open-source framework developed by the University of Prince Edward Island’s Robertson Library to assist institutions in managing and discovering digital assets. The architecture of Islandora can be understood as a layered ecosystem consisting of three main components: Fedora commons, the base or preservation layer where all the content models and metadata are stored; Drupal, the front-end or presentation layer that controls how content is displayed; and, Islandora, the binding layer or “glue” that holds everything together and enables communication across the different

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It is worth noting that, unlike Fedora, which is a flat file system where there are no hierarchies among the files/digital objects, Drupal requires a relational database (usually, MySQL) to store the site content. For this reason, defining Drupal as a front-end framework can be somewhat deceiving: Drupal is both a front-end and back-end system, in that it allows the storing and organizing of data in multiple tables—by breaking it down into smaller units—and the defining of relationships between the data.

\[\text{Figure 21. Islandora Architecture. The diagram is an adaptation from Mark Leggott's blogpost on Islandora. Source: D-Lib Magazine.}\]


In describing Drupal as a “data-based powered content management system,” Townsend and Pakrul provide a simple and accurate explanation of how such a database works:

Think of it like working with multiple spreadsheets; each spreadsheet (that is, table) has columns containing specific types of data (ID number, date, name, and so on), and each row is a separate record containing values for each column. Drupal stores all website content in multiple tables throughout the database, saving information such as the web page title, web page content, time created, and more.  

The information stored in the database is displayed through a complex theming system of PHP templates, CSS, Javascript, and image files saved in a separate folder. In essence, understanding Drupal means becoming familiar with its idiosyncratic way of separating content from presentation and structure. Learning the Drupal way means you have to forget about static HTML pages and let Drupal templates and functionalities (modules) do the bulk of the work for you. Learning the Drupal way means embracing the fact that, if you are looking for a specific technical solution for your site, there’s a high chance that someone else (a Drupal developer) has already thought of it, developed it, and shared it online (on drupal.org). It also means, unsurprisingly, that there’s an equally high chance that the above mentioned solution won’t fully address your specific needs—precisely because someone else devised it: in other words, expect and accept frequent setbacks and frustrations along the way.

**Drupal pros & cons**

I have already touched, if only indirectly, upon some of the reasons for Drupal’s worldwide popularity: its high flexibility and great potential for customization. It is true that, compared to WordPress, Drupal is a more complex CMS involving more configuration

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efforts and a steeper learning curve for newcomers. It is also true that Drupal’s vast functionality—contributed by one of the largest and most diverse open-source developer communities in the world—enables the building of complex websites without writing a line of code. These benefits, however, are not without drawbacks. As Quinn Dombrowski observes, “one consequence of Drupal’s extreme flexibility and customizability is that a Drupal site can easily become a convoluted mess … in a way that’s simply not possible with WordPress or Omeka.”

As a Drupal novice, when building Aldus@SFU, I found myself in a Catch-22 situation similar to that experienced by many young people during their first job interview: you are expected to have experience in order to get a job, but you need a job in order to gain experience. Similarly, as a beginner-Drupalist, you need to understand Drupal in order to be able to work with it, but the only way you can gain an understanding of Drupal is by actually working with it.

Some Drupal key terms

Even if the popular adage “learn by doing” seems particularly appropriate in this context, it is always worth spending some time becoming familiar with Drupal terminology before starting the hard work. Drupal has its own jargon and having a sense of the concepts behind these terms can save you a lot of headaches. For the sake of space and for the purpose of this report, I will address only a few of them here.

Modules

Drupal is an extensible and modular framework. This means that its core functionality (provided by Drupal Core) can be extended by adding features or contributed modules that can help you customize your project. Drupal Core comes

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99 Ibid.
with a set of pre-installed modules that you can easily manage from the relevant button in the admin toolbar. You can expand this area by downloading additional modules on the Extend and Download section of drupal.org.

Tip: Installing and enabling a new module may be easy, but it doesn’t mean you should do it lightly. Keep in mind that several contributed modules have dependencies, meaning that before enabling a specific module, you must first install and enable other modules. (Doing some research in advance can spare you the frustration of discovering that a module you need has a long list of sub-modules only after the installation).

Content types

A content type is essentially a template for storing and structuring the data of your site. The number and kind of content types depends on how you want your site content to be stored and displayed to the end user. Drupal 7 has two default content types enabled: Basic Page and Article. The names are rather self-explanatory: the Basic Page content type is generally used to store static content that doesn’t require frequent updating; the Article content type is intended for regularly updated content such as news, feeds, blog posts, etc. Using the same content types for different kinds of data is not advisable. For example, we used a Basic page content type to create the Who’s Who section of Aldus@SFU, which included the short biographies of the project team and collaborators. What at the moment, due to time constraints, seemed the most practical solution was, in fact, a flawed decision. By storing all that personal information as undifferentiated data—as opposed to individual units of information (for example treating each name and biography as a separate field)—we lost ourselves the opportunity to connect the data in meaningful ways. Speaking of information about people, it is worth mentioning that content types are not the only way to store information. If your site contains a great deal of personal data, you may consider storing information as user profiles rather than as content types. This option enables users to manage their own information.

See in particular Chapter 5 of Drupal for Humanists.
Tip: The opportunity to create data models uniquely tailored to your material is one of Drupal’s biggest advantages. It is also a daunting task. Aldus’s principles of care and selectivity may come handy during the delicate stage of site development that is content modelling. Understanding how your data should be structured, queried, and visualized in advance involves a great deal of time, patience, and foresight. Quinn Dombrowski puts it well: “Restructuring content types can be time-consuming, even more so if data entry has already begun. Content types that are actively used will inevitably evolve to some extent, but investing work in getting the content types reasonably ‘right’ for your project upfront will pay off considerably.”

Nodes

Defining a content type means creating a model for each type of content you wish to publish on your site. In order to actually add content, you need to create a node, which is any piece of content on the site, but only after assigning it to a specific content type. Think of the different content types as a number of drinking glasses of various shapes and sizes; based on what you decide to drink (the information you want to publish), you will choose one glass (or content type) over another (because there is no point of drinking wine in a water glass!). Adding new content is very easy. Go to Content > Add content > Basic Page (or any custom content type previously configured).

Tip If you are a beginner, this term can be very confusing. A node can be understood as an individual page of content, but it is important to know that in Drupal, a page represents a larger piece of the site’s architecture. Indeed, a page refers to “the entire interface shown in the browser,” including other components of the site such as header, footer, menus, etc.”

101 Ibid.

Fields

Adding fields to a content type (or a file or user profile) is another way of further structuring your data by breaking it down into smaller units. Drupal core has a number of predefined field types for files, images, lists, numbers, and texts, each with their own settings. Additional fields types are available for download as contributed modules.

From content modelling to implementation

Even if the timeline for Aldus@SFU was rather tight, with the public launch of the site scheduled two weeks from the development of the first interactive mockups, we approached the last phase of the project with serene confidence. We had on our side the advantage of having articulated a well-defined vision for both the site’s layout and the material we wanted to present. We also had the advantage of an equally clear awareness of our limitations: given the time constraints and the very nature of the project itself as an ever-evolving digital prototype, there was no point in aiming for a “finished product.” Instead, we focused our efforts on making that latest version of our prototype exhibition the best possible iteration with the time and resources at our disposal.103

Data models for Aldus@SFU

The structure of our site was fairly simple; yet, it was clear from the beginning that Drupal default content types were insufficient to serve our project’s needs. We needed a more refined data model to ensure that all of our data were accurately captured and structured. We started by adding the Carousel content type to Drupal’s default Basic Page. To be precise, this new content type was automatically generated through the Bootstrap_carousel module. The idea of a home page carousel of images representing the three main

103 For a theoretical discussion on the role of digital prototyping as a way to advance knowledge, see Alan Galey and Stanley Ruecker, “How a Prototype Argues,” Literary and Linguistic Computing 25, no. 4 (2010): 405-424.
sections of the Aldine collection (Greek editions, Latin editions, and Italian editions) was present from the early mockups of the site, and we were particularly keen on implementing it as the most effective way to introduce the Aldines to those visiting our exhibition. The next step was to configure a content type for each of the two core pieces of the site: the digital Aldines and the essays. We constructed the A_Book and Essays content types based on the following preliminary considerations:

1. The Collection section of the site would feature the thumbnail images and short title of all the digitized Volumes, categorized by language (Greek, Latin, Italian). By clicking through either the thumbnail or the title, the user would be directed to the book description page containing an enlarged image of the book, some useful contextual information and key bibliographic metadata such as author, short-title in English, Format, and short title in the original language. (Note that as the digital objects—the book scans—still resided in the now “old” institutional repository, we were unable to integrate a functional page browsing software/book viewer into the CMS. Instead, we included a link that pointed to a page of the digital collection on SFU Library’s website).

2. The Essays section would feature a list of essays and their authors as a gallery of thumbnail images, with each image pointing to the full text of the essay.

The screenshots (figure 22 and figure 23) offer an overview of the Essays content type and its various custom fields. It is important to notice that the image field “Essay_thumbnail” was created for a specific presentation purpose. We wanted the thumbnail to be displayed only on the main Essay section (as part of the image gallery mentioned before) and not in the actual node. To this end, we set the content of this field to “hidden.” Then, thanks to the power of the Views module, we were able to recall the data stored in this specific field (alongside other text fields containing relevant information such as the essay title and the name of the contributor) and generate a thumbnail view of the files.

Drupal is a powerful tool for developing websites of various kinds. For a novice, the learning curve can be rather steep; a good way to start (and avoid feeling overwhelmed) is carefully considering the research questions at the core of the project and constructing a content-model as well-developed and comprehensive as possible. In other words, when it comes to Drupal, the advantages of thinking ahead can never be underestimated.
Figure 22. Drupal node created using the Essay content type.

Figure 23. An Essay node as seen by the end user.
VI  ALDUS@SFU: CLOSING REFLECTIONS & FUTURE STEPS

While exploring some of the practical challenges and opportunities associated with building a digital exhibit for a rare book collection, I have focused in this report primarily on the project’s significance and potential contribution to public knowledge. With this aim, I have articulated and contextualized the cultural, technological, and ethical affinities between Aldus’ democratizing mission and our own project of creating a crossover digital resource for the benefit of both scholarly and non-scholarly audiences. At the beginning of the report, I clarified the reasons for adopting a similar syncretic approach—which emphasizes continuity over disruption—by articulating a need for a fundamental reassessment of the role of innovation as an increasingly pervasive notion of our era. Such a syncretic perspective—which informs the entire paper—is grounded on the assumption that even the most radical innovation exists in a seamless continuum with tradition. Aldus managed to simultaneously betray and incorporate elements of tradition into his publications—whether the conventions of the earlier manuscript culture or the lesson of the ancients—to radically transform the landscape of bookmaking. In doing so, he heralded the beginning of a new era in the history of Western culture—an era in which “the world of ideas, and of scholarship, went from being one which relied on personal networks and the necessity of physical presence of individual manuscripts . . . to one in which the now scalable medium of scholarship suddenly ‘leveled up’ to the point of relative ubiquity, enabling scholars—now scalable as well—to attend to the abstract thing called ‘the text.’”

104 Maxwell, “Aldus’ Gifts.”
In a similar way, we hope with this project to simultaneously continue and advance Aldus’ contributions to the evolution of human communication and society, by fully exploring the potential for knowledge sharing and creation offered by the new formats and technologies.

In remediating and circulating these inestimable records of human discourse on a global scale via the digital medium, we have an extraordinary opportunity to both apply and amplify the humanist ideal of knowledge in the service of the public good, and, in doing so, take a step towards building a better future—and a better humanity.

My intent in this report has been to capture the multi-faceted identity of the project as: 1) a digital-only educational exhibit; 2) a library’s online special collection; and 3) a possible future platform for networked open social scholarship. The hybrid nature of Aldus@SFU is undeniably complex, and it is not my intention to conveniently dismiss the variety of problems that may arise from such scope and complexity. That said, in this report, my efforts have been oriented towards emphasizing the enormous potential that a similar hybrid digital environment can unleash.

As an educational exhibit with a strong aesthetic orientation, intended for multiple audiences, Aldus@SFU wants to present the information in an accessible way, while also doing justice to the aesthetic of the objects showcased. These two main focuses—didactic and aesthetic—are equally important and should not be understood as separate or competing. But there is also another important dimension to this aspect of the project. In this report, Aldus@SFU has often been described as a prototype web exhibition. This notion of prototype needs further elaboration. A physical exhibition—intended as a display of objects (re)presented and (re)contextualized for a particular audience in a limited time and space—is, by definition, a transitory event. Thanks to technology, the life of such a circumscribed event can continue beyond its inherent chronological and spatial constraints in the fluid online space. Launching an exhibition on the web, however—and this holds true for both a digital counterpart to a physical display and a virtual-only showcase—is not a necessary guarantee of longevity and relevance over time. A twenty-first-century online exhibit tied to a specific commemoration risks becoming not only technologically obsolete

but also, and most dangerously, culturally irrelevant if the efforts (and care) of the project leaders (and team) are not future-directed. This means acting with the thought and the interests of future generations in mind. In the particular case of Aldus@SFU, we worked towards ensuring that the project had a longer life-span and a wider impact than those of a traditional exhibition. From the outset, rather than envisioning the online showcase as a finished product to be released at a specific time and place for a specific audience, we conceived it as an iterative process—a work-in-progress capable of improving, adapting, and growing over the years with the contributions of wider, multiple communities. Instead of focusing on creating a “simple,” short-lived commemorative exhibition, we directed our energies towards building a long-term digital prototype in constant flux, open to change and challenge.

In the most colourful passage from the preface to the *Thesaurus Cornucopia* (1496), Aldus expresses his satisfaction with the fact that his books were “very well received and of great benefit to all, with increasing benefit in the future;” he also expresses all his contempt for those “book-buriers” who were “mean enough to be dismayed to see a benefit shared by all,” wishing them to “die of envy, succumb to grief and a miserable end,” to the point of “finally hang[ing] themselves when in the future they see all the work of Aristotle printed in [the Press’] typeface.”¹⁰⁶ The passage is a sharp departure from the deferential tone found in other prefatory texts, and represents a powerful stance against any form of resistance to the wide circulation of knowledge. The dream of a universal library in the service of the public—cherished by many Renaissance scholars, humanists, and bibliophiles—could finally become a reality thanks to the invention of printing. It is true that, as Andrew Pettegree explains, during the sixteenth-century such dream had too often been thwarted by the intervention of destructive forces such as “predators, politics, or neglect.”¹⁰⁷ Yet, in the face of these obstacles, Aldus had succeeded in compensating for the “great and deplorable losses of good books” that Italy and Greece had suffered over

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the centuries, by producing a number of volumes that was unprecedented in Europe.\footnote{108} (The output the Aldine Press was indeed impressive, with a print-run up to 3,000 copies of a single edition.)\footnote{109} Aldus made a leap of faith by investing in the new technology, and, thus, contributed to building the largest “public library” of his time. Today’s university libraries are in the privileged—albeit certainly problematic—position to ensure long-term access to scholarship on a global scale by leveraging on the potential of digital technologies and social media. As mission-driven institutions, they have an opportunity to be at the forefront of this revolutionary moment in history, by devoting their knowledge and expertise to building digital collections that are easily discovered, widely accessible, usable and—equally important—networked. Libraries’ special collections are particularly well-suited to pursuing this goal, as not only the traditional caretakers of our cultural heritage but also a natural locus to build and nurture fruitful collaborations between faculty, experts, and the knowledgeable “niche” community of patrons that use their services.\footnote{110} From the beginning, Aldus@SFU has enjoyed the regular support of SFU’s Special Collections and Library Systems; it is our hope that this collaboration—which brings together a wide range of skills and expertise—will continue to flourish in the near future as the initiative moves to the next stage.

We believe that the complex and multi-faceted nature of Aldus@SFU is also its greatest strength. From the beginning, we sought to define the project in terms of openness, public engagement, and collaboration—cross-institutional, cross-disciplinary, and, significantly, across multiple communities of users (visitors/patrons/citizens); in doing so, we laid the groundwork for a new model of knowledge sharing and collaboration in line with the emerging culture and practices of \textit{networked open social scholarship}. The number of initiatives organized across the globe has been growing steadily since the quincentenary

\footnotesize{\item\ref{108} These are Aldus’ words. See preface to Euripides’ \textit{Seven Tragedies} (1503), in \textit{The Greek Classics}, 113.\item\ref{109} Lowry, \textit{The World of Aldus Manutius}, 257.\item\ref{110} Whittaker and Thomas, xvi.}
commemoration of Aldus’ death in 2015.\footnote{For a comprehensive overview of the Aldine events that took place across the globe as part of the quincentenary celebrations, visit the Manutius Network website: https://www.cerl.org/collaboration/manutius_network_2015/main.} This shows that the interest in preserving and carrying forward the legacy of the most important scholarly publisher of the Renaissance is alive and well. At present, Aldus@SFU is already one of the richest online repositories of Aldine books worldwide, enabling access to cover-to-cover scans of more than twenty volumes. We have reason to believe that in the near future, it will also become the largest online community on the figure and work of Aldo Manuzio, gathering around this common area of interest broad and multiple audiences and thus, ideally, contributing to larger conversations, beyond the traditional boundaries of the academy.

In an attempt to resurface the sunken bridge that connects us with our cultural heritage, Aldus@SFU strives to meet the needs of diverse and large publics, motivated by the belief that breaking down the barriers between “scholarly” and “non-scholarly” communities will create new opportunities for human growth and enrichment.
REFERENCES


A P P E N D I X

A Practical Example: Building a Responsive Menu with Bootstrap 3

Rather than providing a step-by-step technical documentation of the entire development process for Aldus@SFU, I will in this appendix limit myself to detailing the first challenge I encountered when developing the initial prototypes with Bootstrap: creating a functional navigation system. The following section is a revised excerpt from the development log created in July 2015 to record all the dates and activities throughout the process.

After creating the first html for the site, I was able to create an active navigation and drop-down menu using the power of JavaScript. In order to get the menu to work, I had to ensure that the Javascript files located at the bottom of the page were in the right order (see code snippet below).

```html
<!-- footer -->
<!-- javascript -->
<script src="http://code.jquery.com/jquery-latest.min.js"></script>
<script src="js/bootstrap.min.js"></script>
```

The following step was to create a custom stylesheet to override bootstrap.css default properties and modify the appearance of the navigation bar. I was able to customize the navigation bar and link states in the custom .css file, but the result was still unsatisfactory, as the background colour of the menu was not being displayed properly and the blocks of content were not positioned correctly.
Ordering and positioning the page elements using an out-of-the-box framework like Bootstrap proved trickier than expected. The hard part was not getting lost in the maze of nested divs and rows.

After a few attempts, I managed to correctly position the navigation bar and the logo using Bootstrap `navbar` component. As shown in the screenshot below, I used the HTML5 semantic tag `nav` to indicate the major piece of navigation on the website.

Below is a snippet of the corresponding CSS code:

```css
.navbar-fixed-top, .navbar-fixed-bottom {
  padding: 0px;
  margin: 40px;
  position: relative;
  right: 0px;
  left: 0px;
  z-index: 1030;
}

a.navbar-brand {
  margin-bottom: 45px;
  position: relative;
  right: 0px;
  left: 0px;
  z-index: 1030;
}
```
The next challenge was to create a responsive navigation bar. Thankfully, Bootstrap comes with a wealth of responsive utilities that make the job easy. By using Bootstrap glyphicons, buttons, and a bit of JavaScript code, I was able to turn the primary navigation bar into a responsive dropdown menu, with the classic hamburger icon showing on the top left of the page when resizing the screen to 767px (max-width). I started with a button with a type="button" attribute (within the div with a class of “navbar-header”) and a class of navbar-toggle; then I added two attributes data-toggle="collapse" and data-target="#collapse." The data-attribute indicates that JavaScript is working with HTML5 to make an event happen; the toggle indicates that when the button is clicked the menu will collapse (and anything inside that div will be affected). After that, I added a span with a class="sr-only" (for screen readers only), which makes the toggle accessible. The next step was to place the hamburger icon inside of the div with a class="navbar-header," responsible for the entire navigation. I did that by adding a span with a class="icon-bar" (the Bootstrap glyphicon for the hamburger button) and repeating it three times, as shown in the following code snippet: In short, I created a horizontal navigation that is going to collapse and turn into the specified button as the screen gets smaller (the data target “#collapse” at the top goes with the ID “collapse” further down the page).

The following step was styling the appearance of the button, which by default has an unappealing whitish colour. I achieved this with the CSS code on the next page.
Note that the default Bootstrap property for the icon-bar is float: right; I changed it to float: left. The screenshot below shows the collapsed dropdown menu as displayed on Google Chrome:

ALDUS @ SFU

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