

How print culture came to be indigenous

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Visible Language 44.2

McKee, 161–186

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abstract

Western historians working in the first half of the twentieth century established a scheme for writing design history that continues to influence the global histories of today. The historians Douglas McMurtrie, Lucien Febvre, Henri-Jean Martin and Lawrence Wroth believed that the modern history of visual communication began with the advent and spread of typographic printing in fifteenth-century Europe. Within their historical narratives, printing leaves Europe to reappear in other parts of the world as a benign instrument of cultural conversion. These scholars used their histories to assert the privileges of European expansion, and they viewed indigenous design as any form of communication technology practiced outside of Europe after the export of printing. They clung to the notion that American peoples were destined to develop cultural histories that duplicated the European historical trajectory. In their eyes, the history of print culture belonged to Europe, and their histories today read as attempts to silence the “strangeness” of non-Western cultural difference. In this article, I examine design histories of the Americas from the first three centuries of New World settlement and describe the ways that Western historians have misrepresented indigenous

American cultures by suppressing local forms of visual language and communication technology. In opposition to the dominant strand of Western design historiography, I present evidence that local meanings and values migrated with the products that colonial administrators printed overseas for European audiences. I question the degree to which design historians of the Americas have positioned indigenous peoples as subordinate subjects of print culture rather than as agents of cultural difference and productive assimilation. The primary significance of this contribution to this special issue is to contest the worldview of graphic design history as a singular and unified field of representation, and to encourage greater engagement with indigenous design histories in the contemporary movement toward cross-cultural design research and collaboration.



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bringing knowledge to the natives

The Franciscan imperative to Christianize the Nahua people of the Americas inspired Diego Valadés to write and illustrate the *Rhetorica christiana*, one of the first representations of the Old World establishment's attempts to educate a vastly different New World people. In 1571, forty-three years after the Franciscans established the mission of San José de los Naturales within the indigenous city-state of Tenochtitlán, Father Valadés ended his many years of service teaching Catholic doctrine to the Nahuas. Valadés superiors had requested that he leave San José to serve his order in Europe, where he devoted the next eight years to composing the *Rhetorica christiana* as an illustrated instruction manual for Franciscans preparing to teach at Tenochtitlán themselves. The text of the *Rhetorica christiana*, a blend of European knowledge and Nahua description, details how Valadés and his fellow missionaries used classical rhetoric to lessen the Castilian/Nahuatl language barrier while preaching to the natives. Valadés believed in the rhetorical power of both text and imagery, and his complex engraving of San José's *atrio*, or open-air church, mixes realism with the spiritual to reveal what the experience of bringing European knowledge to the natives might have been like.

At the center of Valadés's *atrio* (figure 1), God and two angels watch from the heavens while a procession of Franciscan monks carry a platform cathedral upon their shoulders. Nine scenes of instruction surround them, each with a single Franciscan teacher speaking to an attentive group of natives. Near one end of the courtyard, two teachers stand with pointers in front of illustrated screen-like *lienzos*. On the left, Valadés mentor, Pedro de Gante, directs his students through a sequence of icons depicting Western forms of labor. On the right, another teacher introduces a different group of students to a pivotal scene from the world's creation. Across the courtyard, two Franciscans seated with books translate portions of the catechism to the natives kneeling before them, while another, pen and parchment ready, demonstrates the European practice of signing one's name. In each of these scenes, the work of spreading knowledge happens in a single direction: the Franciscans dominate the lessons, keeping their media to themselves and out of native hands. Although we can only guess as to whether Valadés stretched the truth for rhetorical advantage, we can be certain that he created this particular representation to exemplify Old World attitudes about the spread of European knowledge.

Valadés's engraving encapsulates the perspective that would come to dominate Western historians' descriptions of the arrival of European print culture into the Americas for the next four centuries: Spanish and English colonists brought

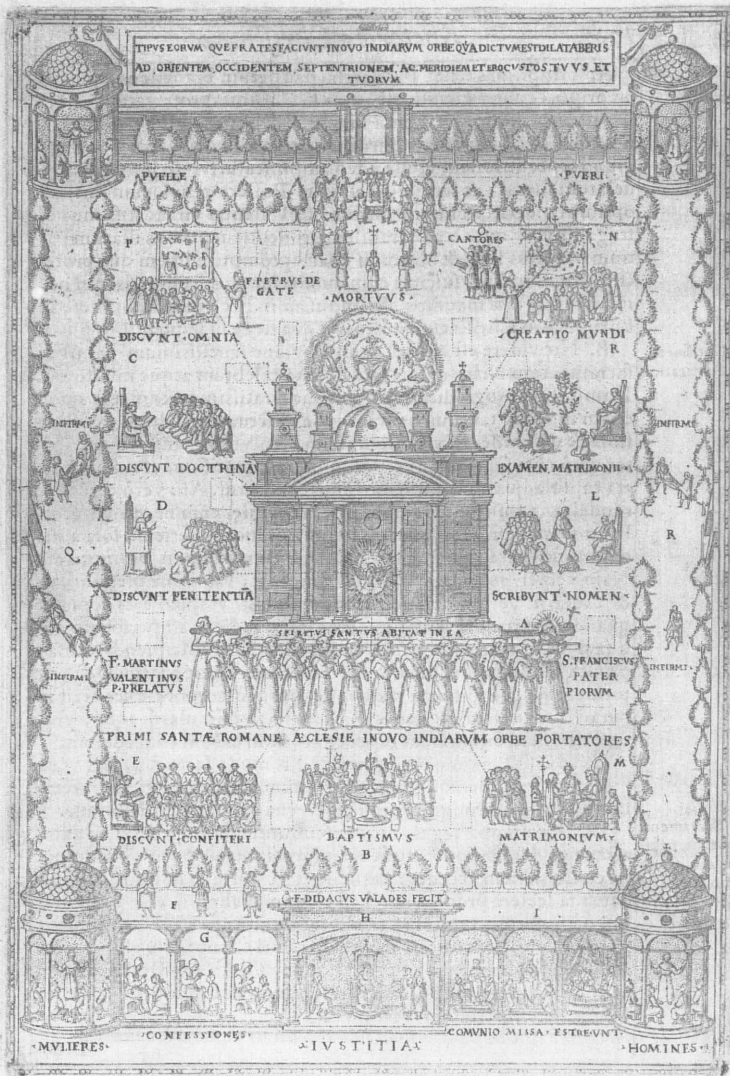


Figure 1: An untitled engraving showing the mission *atrio* at San José de los Naturales
 Publication Title: *Rhetorica christiana ad concionandi, et orandi usum accommodata...*
 Artist/Author: Diego Valadés. Publisher: Pietro Giacombo Petrucci, Perugia. Publication Date:
 1579. Medium: Engraving. Courtesy of the John Carter Brown Library at Brown University.

printing, typography and the book to the illiterate peoples living in the New World, who had little to offer in return. Western historians have characterized the spread of printing and typography as a watershed in the history of visual communication because these technologies revolutionized the manner with which European intellectuals produced and shared knowledge at home. Yet the seemingly dramatic movement of these technologies across Europe during the final forty years of the fifteenth century also established the cultural precedent that Europeans would emulate to impose their knowledge into a wide range of civilizations overseas. Viewed within the context of New World settlement, the celebrated spread of printing and the religious conversion of the world's indigenous peoples are different ways of writing about the process of Christian imperialism. Native forms of visual communication remain absent from histories that describe the introduction of print culture into the Americas, leaving the uninformed reader to believe that indigenous peoples did not have writing systems of their own and that their ways of speaking and writing had no effect on the Europeans.

print culture's colonial provenance

With more than one hundred published regional histories, bibliographies and editorial reprints to his name by the time of his death in 1944, Douglas McMurtrie remains the most productive historian of North American printing and typography to date. McMurtrie's collective body of work demonstrates that colonial assumptions about American print culture's European ancestry prevailed well into the twentieth century. Right from the beginning of his comprehensive history titled *The Book: The Story of Printing and Bookmaking*, McMurtrie announces the ethnocentric disposition that will serve as this history's foundation. "The most cursory reflection," he writes, "will make it clear beyond doubt that books are a primary necessity of life in any civilized community" (1938, xxv). Following nineteenth-century historical convention, McMurtrie constructed his history of the book by uniting a series of discrete cultural inventions and triumphs from different civilizations into a single narrative chronology, reinforcing the now common worldview of visual communication history as a global field of representation. McMurtrie begins his history by describing "primitive" humankind's numerous experiments with pictographic writing. Diminishing the breadth of his history, he then transitions to the Phoenician and early Greek societies of the Mediterranean to introduce the origins of the Western alphabet. Following a cursory synopsis of the beginnings of

xylographic printing and experimental printing types in the Far East, McMurtrie narrows his scope further to arrive at the meat of his history, the invention and development of printing and modern bookmaking in late fifteenth-century Europe. The printed book would now be ready for its disjointed yet enterprising advance into virgin territory thousands of miles distant:

The spread of printing throughout the enormous areas of the two Americas presents a picture altogether different from that of the propagation of the art in Europe. In the Old World, printing developed and spread in communities which had each its background of centuries of culture. Across the Atlantic, on the other hand, printing became one of the implements of implanting and fostering the cultural heritage of European civilization in environments that were utterly new and strange. In the Americas the press accompanied the cross and the sword, the ax and the plow, in the world's most magnificent pioneering adventure (McMurtrie, 1938, 435).

In contrast with McMurtrie, the French historians Lucien Febvre and Henri-Jean Martin believed that the printed book came into being as the product of a uniquely European intellectual awakening. Febvre and Martin's influential *L'apparition du Livre* from 1958 (translated into English as *The Coming of the Book*) begins with descriptions of the technologies that led to the discovery of letterpress printing in Germany in the 1440s. This representation of the book's history concentrates on printing's progress into the present-day boundaries of Switzerland, Italy, France, Holland, Belgium, Spain and England during the next three-hundred years. *L'apparition du Livre* has popularized what Febvre and Martin called Renaissance Europe's "little world of the book" and the ways in which the continent's expanding hunger for learning was shaping the culture of its metropolises (1997, 128). The printers, publishers and readers of the late fifteenth and early sixteenth centuries were multilingual scholars who surrounded themselves with the newly published writings of ancient and contemporary authors, promoting the traffic of new ideas and sharing in what the historian Elizabeth Eisenstein later identified as a "knowledge industry" (Eisenstein, 1980, 301). Under the patronage of these men, the technology of the book, in Febvre and Martin's estimation, reached a state of maturity remarkably quickly between the years 1500 and 1510 (1997, 262), only fifty to sixty years after printing begins and at about the same time that it takes a significant geographic departure. Nothing would appear to be out of place when that company of men who founded the "little" world of the book first pondered the bigger world beyond the Atlantic Ocean:

Almost contemporary with the invention of the printing-press, that is during the last fifty years of the 15th century and even more during the very first years of the 16th century, other great 'discoveries' rapidly enlarged the horizons of the world known to Western man. These discoveries were geographical and with them a new epoch began in European history, as Europeans struggled to master the expanses of land and sea which opened up in front of them. They entered into relations with worlds previously unknown to them, or only glimpsed through more or less legendary accounts. The epoch which begins with these discoveries has yet to come to an end, and throughout it Western civilisation has acted to transform the rest of the world. In this process of transformation the printing-press has had its own role to play (Febvre and Martin, 1997, 207).

The preceding passage introduces the section of Febvre and Martin's history titled *Printing Conquers the World* (1997, 198), matching McMurtrie's strategic alignment of the printing press with the cross and the sword. Both histories present the New World at the time of its European discovery as a blank cultural palette. By "opening up" in front of Europe, Febvre and Martin cast the Americas as the happily submissive subject of their incipient colonial masters. In both histories, the printed book enters the New World as the gift of knowledge to indigenous peoples and the primary tool that would secure the natives' conquest. Under the cover of Europe's expanding intellectual horizons, printers, publishers and typographers participated in the project of appropriating indigenous knowledge away from the New World and fashioning it as European knowledge for the markets back home. Together, McMurtrie's and Febvre and Martin's histories reveal that the new epoch that colonial printing engendered would, while consuming the strangeness of the Americas, nevertheless seem markedly familiar. McMurtrie and Febvre and Martin erase native culture from their histories and make it the destiny of indigenous peoples to experience printing and typography as if reliving the European history themselves from its beginnings.

Contemporary historians of North and South American indigenous peoples have begun to reveal that many of the interactions between New World natives and their colonizers were significantly more complex than what earlier historians have allowed. Evidence demonstrates that natives and Europeans worked together to meet both independent and shared objectives, and these historians have moved away from describing colonial interactions as "conquests" in favor of the more neutral term "encounter" (Miguel Leon-Portilla, cited in Gray, 2000, 1; Hall, 2000, 13–25). Returning to the example of the Valadés engraving, much more information traveled from the natives to the missionaries than Valadés would have us believe.

Donald Abbott, a scholar of the *Rhetorica christiana*, has observed that the priests who worked with natives throughout the first century of settlement in New Spain learned to speak Nahuatl and committed the language to an alphabet so that indigenous converts could learn to read and write in their own tongue (1996, 42, 48). These priests worked directly with printers to design and publish devotional materials, dictionaries and grammars in polyglot formats, with Nahuatl appearing alongside the Castilian or Latin languages. The process of learning native languages and “reducing” them into alphabetic form could not have happened without the sustained—and sometimes forced—collaboration of native linguists and intellectuals (Axtell, 2000, 41–42). James Lockhart, who has studied Nahua culture extensively, demonstrates that the Nahuas were no strangers to writing:

That the Spaniards had paper and ink and used them for recordkeeping caused the Nahuas no surprise or puzzlement, for following a centuries-old Mesoamerican practice they had long been doing the same thing, and they quickly made the identification between the two traditions (1992, 326).

From the time of their arrival into Tenochtitlán, the Franciscans had been adapting the Nahua pictographic tradition for use within their own teaching materials in hopes of making their lessons less foreign and more inviting. Many of their illustrated *lienzos* departed from European convention by featuring rebus-like strings of colorful symbols (*figure 2*) similar to those shown within the hand-painted Mixtec codices (Abbott, 1996, 48–49). Within other engravings of the *Rhetorica christiana*, Valadés juxtaposed Nahua pictograms alongside letters of the Roman alphabet as an incentive for the Nahuas to commit the exotic European characters to memory.

Abbott’s research reveals that Diego Valadés contradicts his own representation of the Nahuas as passive recipients of European learning (1996, 42–45). Valadés’s father was a member of the nobility in New Spain and his mother was a native resident of Tlaxcala. Because of his father’s rank, Valadés was able to attend a school for the education of elite native children. As a young man, Valadés joined the Franciscan order before church fathers began to prohibit native membership in the year 1555. Abbott believes that Valadés furthered his studies at the Franciscan Colegio de Santa Cruz de Tlaltelolco, which he describes as “...the first European institution of higher education” in the Americas (Abbott, 1996, 43). At the Colegio de Santa Cruz, Valadés and his fellow students would have participated in an integrated curriculum, reading Aristotle and Erasmus while studying indigenous



Figure 2: An example of Mixtec writing from a Mesoamerican manuscript book
 Publication Title: *Codex Selden*. Publication Date: c. 1556. Courtesy of the Bodleian Library, University of Oxford, M.S. Arch. Selden. A. 2. fol. 11r.

forms of medicine. Abbott writes that the *Rhetorica christiana* was the first book by an indigenous American author to be published in Europe, and the first “comprehensive rhetoric” to make sense of the process of educating indigenous peoples by allowing for their cultural differences (Abbott, 1996, 41–42). Yet nowhere within the *Rhetorica christiana* does Valadés disclose his mixed Spanish-Nahua ethnicity and he does not identify with the native experience in his writing (Abbott, 1996, 44–45).

From the time of Valadés right into the twentieth century, anyone who published a history about the early American colonial experience needed to identify and describe the indigenous societies that the early colonists encountered. Western

historians have popularized ethnocentric definitions of indigenous peoples and their cultures in narratives that associate native identity with specific cultural attitudes or practices. The contemporary anthropologist Héctor Díaz Polanco has used the term “indigenism” to describe the range of representational positions upheld by state governments and indigenous peoples alike throughout the colonial period of South American history to both contest and defend indigenous claims for cultural autonomy (1997, 23–24). Following Polanco, I will use the term “indigenism” throughout this article to describe the historical practice of representing “nativeness” as a definitive type of cultural identity. Historians of printing, typography and the book have used the term “indigenous” and the related terms “native” and “vernacular” not simply to identify a New World peoples’ isolation and independence from the people of Europe, but to publicize national and imperial attitudes about the collective deficiency of the American peoples’ cultures. As a result, New World societies like the Nahua along with many others to follow have *become* indigenous through the process of writing colonial history.

the question of native ingenuity

Within a decade after the first Franciscans arrived in New Spain another group of Franciscans traveled to South America to establish the *reducciones guaranícas*, the Guaraní missionary settlements of Old Paraguay. The Franciscans became the first evangelists to work with indigenous populations in the Spanish Viceroyalty of Río de la Plata, a region that today comprises parts of Paraguay, Argentina, Uruguay, Bolivia and Brazil. A group of Jesuit missionaries followed closely behind the Franciscans, arriving at the *reducciones* themselves in the first few years of the seventeenth century, and they maintained the stronger colonial presence there until the time of their expulsion from South America in the year 1767. The representation of the Jesuit introduction of print culture to the Guaraní people has been a standout for many historians of South American printing. Hensley Woodbridge and Lawrence Thompson describe the Jesuit/Guaraní encounter as a “remarkable” tale of printing history (Woodbridge and Thompson, 1976, 52) and Julie Greer Johnson identifies it as the most “dramatic” of the New World histories of Christian evangelism (1988, 73).

Going against the directives of the colonial administration, an early Jesuit leader of the *reducciones*, Father Antonio Ruiz de Montoya, began to learn the Guaraní language while living in the Jesuit seat of Córdoba, Argentina and became what Johnson calls a native language “specialist” (1988, 73). Montoya wrote religious

primers for the Guaraní using an alphabet he customized himself and requested that the administration send him a printer and the necessary equipment to begin his own printing operation. His request was denied, and Montoya ended up shipping his early manuscripts to printers in Spain despite the considerable production lag and his concern that European type founders would not be able to reproduce his new alphabet faithfully without supervision.

Accepting the typefounders' inability to have Montoya's manuscripts printed quickly and easily, the Jesuits decided to teach the Guaraní to copy, by hand, the volumes held within their mission library. What appears to inspire the awe of printing historians was the Guaraní ability to reproduce any European writing hand or printing type with exquisite attention to accuracy. The historians Hensley Woodbridge, Lawrence Thompson, Guillermo Furlong and Lawrence Wroth cite the testimony of Father Francisco Jarque (for Wroth, "Xarque") who, writing his *Insignes Misioneros*, declared the Guaraní to be such proficient craftsmen that he was not able to distinguish a native manuscript from a missal printed in Antwerp (Woodbridge and Thompson, 1976, 53; Furlong, 1953, 50; Wroth, 1926, 275-276). Furlong provides additional affirmation from Father José Peramás, who described the Guaraní's "ingenious" skill at mimicking even "the most elegant printed book" or "ornamental printing" (1953, 50). Furlong notes that this was no singular or anomalous skill, writing that as many as thirty *indígenas* collaborated to reproduce the many hundreds of pages of Nicolás del Techo's *Decadas* (1953, 54). Peramás himself was so impressed that he shipped a selection of Guaraní manuscripts back to the continent to inspire the admiration of European readers (1953, 50).

Montoya died in 1652 and his followers Father Juan Baptista Neumann and Father José Serrano received permission to begin a letterpress operation around the year 1700. Typography did not make its way into the *reducciones* as an imported technology, however, and once again, it is the Guaraní's aptitude for duplicating European culture that gives printing historians pause. Neumann and Serrano were unable to acquire printing equipment or materials from Europe; the natives, "...under the instruction of the Jesuit fathers," as John Clyde Oswald describes it (1937, 548), fabricated a printing press, constructed a foundry and crafted the technology to cut and cast their own printing types and print their own books (figure 3). From here opinions vary as to the amount of historical recognition the Guaraní should receive for their work with Neumann and Serrano. Furlong begins his account by giving the natives considerable credit: he believes that the Guaraní built much of the facility themselves using wood from the Paraguayan jungles, and that they helped Neumann and Serrano to devise an unconventional alloy for

their foundry by mining local sources of lead and tin (1953, 56–57). Yet Furlong cites a letter in which Serrano himself removes credit from the natives, describing the Guaraní accomplishment as “work from the finger of God, an achievement so much more admirable when the instruments are these poor *indios*, new to our faith, and lacking the guidance of European masters” (1953, 67–68; author’s translation). Furlong later concedes: “In truth, it is nothing short of amazing, that those natives, even though *tamed* by the missionaries, gained the capacity to make such sizeable progress in the art of the foundry” (1953, 68; author’s translation and italics). Furlong, Oswald and Wroth offer the recollections of the visiting Father Labbé, who arrived at the Río de la Plata in the year 1711. As Labbé describes the Guaranís:

These Indians have no inventive genius; however, they are able to mimic whatever works they see with admirable dexterity. I have seen them produce, by hand, beautiful paintings, printed books, delicate writings, organs and all kinds of musical instruments which are very common there. They make pocket watches, draw plans, and engrave geographic maps, and, in the end, they are excellent in all handcrafted works provided that they have a pattern or model in front of them (Furlong, 1953, 70–71, author’s translation; Oswald, 1937, 548–49; Wroth, 1926, 276).

Woodbridge and Thompson suggest that Neumann and Serrano alone created the press and foundry letters, honoring them as “the first to establish a printing press...and to produce the first Argentine books” (Woodbridge and Thompson, 1976, 54). Wroth too, in a dismissive tone, places sole credit with the Jesuits:

No one who has smelt printer’s ink can be indifferent to the reproductions here shown of this crude example of the typographical art, executed by savages in the heart of the South American wilderness. The “finger of God” which guided them to this end was the patience, the industry and the zeal for souls of the Jesuit missionaries (Wroth, 1926, 283).

Furlong, Oswald and Wroth define the Guaranís as an indigenous people by representing their craftsmanship as a native limitation. They discount the Guaranís not simply because of their skill at mimicking European culture, but because that mimicry cannot be performed without reference to an exemplar. By representing the practice of mimicry as an activity that is innocent of ambition and lacking in intellectual substance, Furlong, Oswald and Wroth identify indigenous peoples as a subset of humanity that has been isolated from culture. A people which lacks culture also lacks artifice and remain closer to nature, reinforcing the characterization of indigenous peoples as simplified and purified by that supposed proximity. In

Para saber si se puede usar en semejantes oraciones el Recip. tengase esta regla que dicen dió el P. Simo Bandini.

Quando el caso obliquo mudado en Nominar, que la oracion con el mesmo sentido, se puede usar de dicho relat. Pero si mudando el caso obliquo en Nomin. queda el mesmo sentido, esforçoso, usar de reciproco. E. G. decia la primera oracion: Pedro esta enfermo en el estomago (Peru haçi ypiape) muda se aora el Abl. Nom. desta suerte (Peru pia haçi) dice el estomago Pedro esta enfermo, resiene el mesmo sentido. la canoa se quebró en la popa (haguape l. hugarupi yga oyeca) mudando el caso obliquo en Nom. dira (ygarugua oyeca) la popa de la canoa se quebró, que es lo mesmo. Por todas las vezes que hecha esta mudança la proposición que saliere equivallere á la otra, se puede usar de relat. Al contrario esta oracion (Peru haçi ocoñipe) Pedro es enfermo en su aposento, no se puede decir, (ycoñipe) que si se hiziera la dicha mudança diciendo (Peru coñi gi) no quedara el mesmo sentido que antes, sino que dexara el aposento de Pedro esta enfermo y así se há de decir forçosamente (ocoñipe) por recip. sino es que el enfermo, no en su proprio aposento, sino en el aposento de otro, que es otra su posición.

Excepcion 2. El modo de hablar siguiente mas parecia de ser relat. que recip. y los Indios lo usan por reciproco. E. G. (amoñ opemo l. equicebo) puse lo de quina (opebo) de plano (oquebo) de lado (emoñ guaquebo l. guapuabo) pon lo de punta &c. y desta mane

alican la postura de las cosas, que se haze poniendo el
 iproco(o)vel (G) ~~antes~~ antes del nombre. y luego la par-
 ula (bo) breve, que con narigales es (mō) y talqual
 a relativo, como luego veremos.

En sentido de estar, caer, andar &c. usando de la mis-
 ma manera, y con mas conformidad á la regla de los
 iprocos ut (opibo roicoemē) no esté en cueros, desnudo
 (opibo oá) caído, ó nacio de pies (oacāmo oá orbo) de
 boca vino caiendo (Guenñpiamo oho oicobo) anda de
 dillas (Guaguebo. l. oyurubo, Guegabo &c. oye,
 aaoña) hasta á la mitad, ó hasta á la boca, ó hasta á
 los ojos se ve, dixera se de uno merido en un rio &c. y á
 los sepueden reducir los primeros porque diciendo
 quicebo amos) lo puse de esquina, dice lo puse ha-
 cendo que estubiese de esquina (opebo) que estubiese
 plano. &c.

Los otros, que apunta el P. Ruiz, son,

Guacupēbo)	de barriga	Oybabō)	aravelsado.
Guebibo)	de nalgas	Opēbo)	de manos.
Guenñbāngāmo)	de codo	Opotiābo)	de pecho.
Guopirābo)	por el cuento ó testero	Opuubō)	por lo largo.
Gutucupēbo)	de espaldas	Gupibo)	idem.
Gayubo)	de cuello		

A los quales se pueden añadir.

Guapīpebo)	de revers	Guerebo)	Entero, l.
Guanñcamo)	de quixadas	(oábo l. oábari	
Guegapicāmo)	de cejas	l. nanibari)	
Gueendague ndaguebo)	de aqui por alli		

KK

Oapi.

Figure 3: Two pages showing the foundry types developed by Neumann, Serrano and the Guaraní people. Publication Title: *Arte de la lengua guaraní*. Author: Antonio Ruiz de Montoya. Publication Date: 1724. Medium: Letterpress printing. Courtesy of the John Carter Brown Library at Brown University.

his *Marvelous Possessions: The Wonder of the New World*, Stephen Greenblatt has questioned many of the “documentary” observations made by the first European explorers, who were themselves trying to make sense of the New World peoples’ incomprehensible languages:

On the one hand, there is a tendency to imagine the Indians as virtual blanks—wild, unformed creatures, as naked in culture as they are in body. On the other hand, there is a tendency to imagine the Indians as virtual doubles, fully conversant with the language and culture of the Europeans. These tendencies seem like opposites, but they are in fact versions of one another...one moment the Indians have no culture; the next moment they have ours (Greenblatt, 1991, 95).

To complicate Greenblatt’s paradox, the empty linguistic signs that the Guaraní made their own originally came into European culture as the products of machine technology, placing the Guaraní’s accomplishment one developmental step further still from nature. What may be the affront to Furlong, Oswald and Wroth is that the Guaraní people make printing seem surprisingly human, challenging that which, for them, made letterpress printing both modern and historic. By accentuating the making of copies within the Guaraní histories, Furlong, Oswald and Wroth suggest that European culture itself is being repeated, allowing European history to maintain its continuity within South America. By suppressing evidence of the Guaraní’s own cultural ingenuity, indigenous peoples remain safely within a remote if not backward evolutionary state that European cultures had long since surpassed. The Guaraní’s culture makes history by appearing as an *absence*, a lack of communication technology and indigenism becomes modernism’s pre-existing condition, alternately pre-Christian, pre-literate, pre-industrial or pre-historic.

native identity and difference

In what ways did indigenous peoples’ encounters with printing and typography diminish evidence of native cultural identity in other New World histories? In what ways did it encourage the portrayal of such disparities? The Puritan minister John Eliot, who came to be known as the “Apostle to the Indians,” shared the conviction of his contemporaries in the Río de la Plata that the American peoples should be able to read a Bible for themselves. Eliot was recognized in his day for translating the complete scriptures into a native language and printing them for native use.

Isaiah Thomas, Douglas McMurtrie, John Clyde Oswald, Lawrence Wroth, David D. Hall and Hugh Amory have all described Eliot's arduous undertaking within their colonial histories, yet each presents a somewhat different account depending upon what he believes to be the significance of Eliot's project for North American printing's beginnings.

There are many details of John Eliot's life and work that receive general historical agreement. While presiding over his Roxbury congregation in the Massachusetts Bay Colony of the 1630s, Eliot began to live among various tribes of the Massachusett Indians and, within a few years' time, was able to preach to them in their shared language. As Eliot's experience with native culture increased, he requested that the English Parliament provide him the funds to create a "society" for "propagating the Gospel among the Indians of New England" (Thomas, 1810, 393). Eliot's request was approved in 1649 and the Society (sometimes identified as the "Corporation") enabled Eliot to build native churches and a charity school for the education of Indian youths within the missionary community he called Natick, upstream from Boston on the Charles River.

Around 1650, Eliot completed an alphabet for the Massachusett language and used this alphabet to author his first missionary work, the *Primer or Catechism*, in 1654. Eliot informed the Society that he wanted his publications to be printed in the Colonies so that he could assist with the production. The society approved of his request, giving Eliot little choice but to work with the inexperienced printer Samuel Green in the only North American printing workshop of the time, Cambridge's Harvard College Press. Green printed Eliot's *Primer* as well as two subsequent translations, *The Book of Genesis* and *The Gospel of Matthew*, within the following year. Green, now benefiting from the expertise of the expatriate printer Marmaduke Johnson, began to print Eliot's translation of the New Testament as a unique edition in 1661, and finalized the 1,000-copy edition of the complete Bible, titled *Mamusse Wunneetupanatamwe Up-Biblum God*, in the year 1663 (figure 4).

From here the details differ as each historian decides whether Eliot's history is exceptional as the first printing of a North American Bible or as a beginning of indigenous peoples' participation in Western cultural history. For Isaiah Thomas, Eliot's story stands out as a native accomplishment. Thomas, who wrote and printed *The History of Printing in America* in the year 1810, identifies Eliot's project as the *Indian Bible*, and he offers much information about a key participant in the project, the indigenous James Printer. According to Thomas, James was born within one of the "principal" native families in the Indian village of Hossanamesitt (1810, 290) and he attended Eliot's Indian school. Samuel Green hired James as an apprentice

*Booke Wefuonqash ut Biblent konamuk ohtagish, kah wuttenqah
Chaptersash nishnoh Bookute*

G enesis.....	30	Proverbs.....	32
Exodus.....	40	Ecclesiastes.....	12
Leviticus.....	27	Solomons Song.....	3
Numbers.....	36	Isaiah.....	66
Deuteronomy.....	24	Jeremiah.....	2
Joshua.....	24	Lamentations.....	5
Judges.....	21	Ezekiel.....	8
Ruth.....	4	Daniel.....	2
I. Samuel.....	31	Hosea.....	4
II. Samuel.....	24	Joel.....	3
I. King.....	22	Amos.....	9
II. King.....	24	Obadiah.....	1
I. Chronicles.....	29	Jonah.....	4
II. Chronicles.....	26	Micah.....	7
Ezra.....	10	Nahum.....	3
Nehemiah.....	13	Habakkuk.....	3
Esther.....	10	Zephaniah.....	3
Job.....	12	Haggai.....	2
Psalms.....	150	Zachariah.....	14
		Malachi.....	4

Wusku Testamente Bookashe

M atthew.....	28	II. Thessalonians.....	5
Mark.....	16	I. Timothy.....	6
Luke.....	24	II. Timothy.....	4
John.....	21	Titus.....	3
Acts.....	28	Philemon.....	1
Romans.....	16	Hebrews.....	3
I. Corinthians.....	16	James.....	5
II. Corinthians.....	13	I. Peter.....	5
Galatians.....	6	II. Peter.....	3
Ephesians.....	6	I. John.....	5
Philippians.....	4	II. John.....	1
Colossians.....	4	III. John.....	1
I. Thessalonians.....	5	Jude.....	1
		Revelation.....	22



NEGONNE OOSUKKUWHONK MOSES,

Ne asweetamuk

G E N E S I S.

C H A P. I.

Eike kutchiaik a ayum God
Keluk kah Onke.2 Kah Ohke mō matta
kihkenauunneunkuttinno
kah monteagunnino, kah
pohkenum wolkeene mo-
no, kah Nalhuauit popom-
thau wolkeche nippekōntu.3 Onk noowau God b wequai, kah mō
wequai.4 Kah wunnaumun God wequai ne en
wunnegen : Kah wuchadchaube-poumun
God noeu wequai kah noeu pohkenum.5 Kah wuttilowetamun God wequai Ke-
fukod, kah pohkenum wuttilowetamun
Nukon : kah mō wunnonkook kah mō
mohtompog negonne keluk.6 Kan noowau God c fepakehtamoudj
noeu nippekōntu, kah chadchapemoudj na-
thauweic nippe wutch nippekōntu.7 Kah aiyum God fepakehtamōnk, kah
wutchadchapemounnup nathauēu nippe
agwu, uttiyeu agwu fepakehtamōnk, kah
nathauēu nippekōntu uttiyeu ongkouwē fe-
pakehtamōnk, kah mōnkō n nih.8 Kah wuttilowetamun God d fepakeht-
tamōnk Kelukquah, kah mō wunnonk-
ook, kah mō mohtompog nahotōeu kelukok.2 Kah noowau God moemoudj, e nippe ut
agwu kelukquah kah paikquinnu, kah pah-
kenoidj nanabey, kah mōnkō n nih.10 Kah wuttilowetamun God nanabpi
ohke, kah mō emō nippe wuttilowetamun
Keroh, & wunnamun God ne en wunnegen.11 Kah noowau God dtanuekj ohke mo-
keht, noikent ikannemūnook ikannemūnath,
& mech amue mahugquah mech amūn-
ook mech amūnook nih nah paik nea-
wattinnuonk, ubbahu unimook et
wolkeche ohke, kah mōnkō n nih.12 Kah ohke dtannegenup mokeht, kah
moik tikume mech amūnook kuttinnuath, nih
nah pafak neane wattinnuonk, kah mah-
tug mechu n mōnk, ubbahu unimook
wutthokut nih nah pafak nea wattinnu-
onk, kah wunnamun God ne en wunnegen.13 Kah mō wunnonkook, kah mō moht-
ompog ihwekelukod.14 Kah noowau God, f Wequanantēgi
mohtettich ut wulepakehtamōnganit &
iukquah, & pohhebettich ut nathauwe ke-
lukod, kah ut nathauwe nukkonut, kah kuk-
kincauungauhettich, kah uttacheyeu-
hettich, kah kelukodta wuhhettich, kah
koddum noowuhhettich.15 Kah n nag wequanantēganohettich
ut fepakehtamōnganit wequai mohtet-
tich onke, onk mō n nih.16 Kah ayum God ne-funath miffyeuath
wequanantēganath, wequanantēg mohlag na-
nannumounu kelukod, wequanantēg pafak
nanannamounu nukon, kah anogqlog.17 Kah upponuh God wulepakehtamō-
nganit kelukquah, woh wequohiamwog
ohke.18 Onk wohg wunnamunwunnegau keluk-
od kah nākor, kah pahhemo nathauēu
wequai, kah nathauēu pohkenum, kah wun-
namun God ne en wunnegen.19 Kah mō wunnonkook kah mō moht-
ompog yaou quinnok.20 Kah noowau God, mozhettich nip-
pekōntu pomamutheg pomantamwae, kah
pappinshauuag pūnanahettich ongkouwe
ohket wolkeche wulepakehtamōnganit
kelukquah.21 Kah kezheu God matikennunutcheh
Pootāpoh, kah nih nah pomantamōe oas
nah pompanayit uttiyeu monacheg nip-
pekōntu, nih nah pafak neane wattinnu-
onk, kah nih nah wunnapphauuin pappin-
shauh, nih nah pafak neane wattinnuonk,
kah wunnamun God ne en wunnegen.22 Kah wunnamun nahong God noowau,
Miffyeuaittegek, b kah muttaanoek, kah
nawapgek nippe u kelukquah, kah pūp-
pinshauuag matikahettich ohket.23 Kah mō wuttilowetamun mō moht-
ompog napanu aukamihki jui takok.24 Kah noowau God, Pafowahonch
ohke oas pomantamwae, nih nah pafak
nea wattinnuonk, matikah, pafayech z
A kah

Figure 4: The first page of Genesis from *Mamusse wunneetupanatomwe Up-Biblum God...*
 Publisher: John Eliot. Publication Date: 1663. Medium: Letterpress printing. Courtesy of
 the John Carter Brown Library at Brown University.

in the year 1659, assigning him the surname “Printer” (1810, 291), the family name that James would eventually give to his children; Thomas adds that James also went by the alias “James the Printer” (1810, 290). James lived with Green and apprenticed to him for several years, operating Green’s presses, composing his typography and editing the press sheets for Eliot’s publications. According to Thomas, James was “well known” among the various indigenous populations who lived within the Bay Colony, and one of Eliot’s motives for working with James was to “excite the greater attention” of other native readers (1810, 293). James left Green’s employment to fight for native interests in King Philip’s War but returned to Cambridge to help Eliot and Green publish the second edition of *Up-Biblum God* in the year 1680 (1810, 292). Thomas quotes Eliot’s assigning to James definitive credit for much of the work: “I desire to see it done before I die, and I am so deep in years, that I cannot expect to live long; besides, we have but one man, viz. the Indian Printer, that is able to compose the Sheets, and correct the Press with understanding” (1810, 292).

In his contrasting account within *Printing in the Americas*, John Clyde Oswald titles his brief chapter on Eliot’s project “First American Printing of the Bible” (Oswald, 1937, 15) and uses his history to tell the stories behind the next three North American Bible printings. Yet Oswald is also clear about Eliot’s indigenous influences. Oswald confirms that *Up-Biblum God* appeared in what he calls the “Indian language” and he identifies it as a “truly American” edition because it was “printed in the language of America’s original inhabitants.” Oswald credits James as the first native printer in America and mentions his participation in printing the Bible, without significant detail, as part of a separate biographical passage. As did Thomas, Oswald recognizes Eliot as the Bible’s translator, stressing only the minister’s difficulties in finding native equivalents for several of the scriptural passages.

Although the contemporary historian David D. Hall doesn’t add much detail to the Eliot story within his introduction to *The Colonial Book in the Atlantic World* from 2000, he is the only writer to shed light on Eliot’s translation process. According to Hall, Eliot learned the Massachusetts language with help from three native “teachers and interpreters,” a Montauk named Cockenoe and two Massachusetts natives named John Sassamon and Job Nesutan (Hall, 2000, 18).

Lawrence Wroth and Douglas McMurtrie penned their histories by leaving out what they must have known about Eliot and Green’s work with indigenous peoples. Wroth offers nothing within his patriotic *The Colonial Printer* from 1938 to support native recognition, even though a great many missionary publications were produced during the “colonial” period of United States history. Despite Wroth’s

their ability to collaborate, innovate and creatively solve problems as they are for their understanding of typography and layout. In an effort to address these needs, university art and design programs are branching out and creating cross-disciplinary programs and research centers that connect design students and faculty across various disciplines such as business, engineering, architecture, information studies, health sciences and education in order to create a more complete vision of the design curricula. Further complicating the issue is the need to retain a traditional skill base necessary to produce effective designs and students that are skilled in both visual communication and the latest technologies.

changing the design curriculum

Conversely, the growing importance of the Internet as a mode for disseminating information as well as the growth of global super-brands such as Nike and Levis have made cross-cultural appeal a requirement. In addition to the changing scope of design's cultural reach, the methodology we use to create our designs is becoming increasingly collaborative. During the undergraduate design curriculum at the University of Wisconsin-Milwaukee, students are required to work with other students outside the school of the arts in multiple classes. To develop a curriculum that trains students to address interdisciplinary problems in a highly complex, global innovation economy, an historic interdisciplinary collaboration between faculty members within the Peck School of the Arts and the College of Engineering & Applied Sciences has been launched. This collaborative effort will develop a cross-disciplinary certificate program in Innovation and Sustainability that takes an adaptable approach to product development and design. The certificate will consist of a four-course sequence that will be jointly taught by engineering and arts faculty and will be based on the formation of multi-disciplinary teams. While both engineering and art disciplines focus on technology innovation and entrepreneurship with a positive social impact and value action (participatory) research, their approaches to problem solving are different—and it is the synergy between these approaches that will form the basis of the new certificate program. The program curriculum will train students to successfully navigate the highly nonlinear product development process—from generating creative new product concepts, to prototype fabrication and testing, to market assessment and to product launch.

A human-centered, problem-based approach to design research looks to position industry and academic leaders to work alongside students, community

The last two decades have witnessed, as part of the wider phenomena of globalization and 'supercomplexity', an inexorable shift in higher education from print-based culture to digital. This shifting emphasis has occasioned different ways of generating and engaging with knowledge. Print culture, in the form of the stable, bounded, individual and private text, has tended to operate within, and to reinforce, patterns of authority and individualized authorship. The digital, more protean and volatile, is concerned increasingly with image, openness, multimodality and collectivity. It works more from collaborative enquiry and production, inviting contestability but also requiring consensus and trust (Land and Bayne, 2008).

Design projects may spend their entire lifespan within the digital realm. Conceived of and developed on the student computer, tested by colleagues in a multitude of locations, uploaded and accessed almost simultaneously across the globe and reaching audiences with a huge variety of speeds and screen parameters. Design curricula no longer question the relevance and longevity of digital media and its ability to disseminate information. Today, perhaps a more appropriate question to ask of our design curricula is how much do we solve with design?

creating global designers

Today's designer must be comfortable working within a team environment. Cross-cultural and global problems require designers willing to work on multi-faceted problems with teams of engineers, businessman and scientists. Educators need to recognize this increasingly multi-disciplinary and multicultural dynamic in their classrooms. Incorporating aspects of local and international life into the graphic design curricula makes better graphic designers no matter where in the world they may eventually live. Unfortunately, many design programs focus on individual mastery of a skill set and the development of traditional graphic design artifacts. Designing in a global context requires designers that can envision the entire lifecycle and depth of investigation needed to solve a problem rather than develop a product or series of products. When designing something with a more regional reach, designers can more easily place themselves within the intended audience and anticipate potential problems. When designing for a more global audience, designers must be more vigilant in defining the audience(s) with less ability to anticipate problems and behaviors. Additionally, the increased scope of global work magnifies the problems when design fails. Designers must share the responsibility for developing a project as well as understanding the audience. New designers are valued as much for

digital media and curriculum

Digital media is by nature less defined at completion than more traditional artifact-based design. When working in digital media, designers and design problems, cannot focus solely on issues of layout, composition, typography and legibility. Today's designer must have an understanding and appreciation for a project's lifecycle, its global reach and multiple mediums of production. Today's designer must be more malleable and willing to surrender creative control and work collaboratively toward a final product and, in some cases, the designer must focus on process rather than final output. In order to address this level of complexity and lifecycle, design education and research must be multi-disciplinary and broader in scope to create responsible solutions that extend beyond the boundaries of their educational institution and into the community and the newly accessible global society.

In an era defined by Facebook, Skype and Twitter, even the student designer's work has the potential to reach audiences across the globe. In an intermediate typography class at the University of Wisconsin-Milwaukee junior design students collaborated with graduate students at a university in Taiwan on "multi-generational" posters that explored student-determined topics such as dreaming. Through the use of Skype and iChat, students held work sessions and critiques in a uniquely global classroom experience. At the conclusion of the project, students printed their final collaborative posters and conducted a final Skype critique inviting working practitioners on both sides of the globe. Blogs, wikis and online critique spaces provide students with a rich, potentially international audience to further develop their ideas. Writing online either in a wiki or in a blog format adds vigor to the critique process. During a sophomore course on icon development students were required to post to a course blog on a weekly basis. Over the course of fifteen weeks, students used the space as an extension of the physical classroom, posting critiques, involving colleagues from other programs, posting events and additional research as the course progressed. It is possible that the resulting liveliness was due to the game-like aspect of working online. The student felt more comfortable with several modes of content running at the same time: music playing, Internet open, blog open. There is a sense not only of the current moment which brings energy to the activity of writing online, but also the excitement of being seen, of being made public. At the 6th International Conference on Networked Learning in Haldiki Greece, Ray Land and Sian Bayne provided a clear and expressive vision of what educational work online means by citing Ronald Barnett in *Realizing the University in an Age of Supercomplexity*:

and their own cultural orientation. Cultures may differ even within a relatively small geographic region, sometimes within a single household. Within the United States, cultural and linguistic barriers continue to present problems in accessing information on the Internet. According to the 2000 US Census Bureau, nearly one in five Americans speak a language other than English at home. That is an increase of nearly fifty-percent over the last decade and that number is only expected to rise for the Census of 2010. During that same census, they found that 11.9 million people lived in linguistically isolated homes, meaning nobody in the home aged fourteen or older knew English “very well.” That was up fifty-four-percent from 1990.

Design and design research must address multicultural and multi-lingual audiences within a solution and take a critical look at the role that design will play in reducing information poverty. Information poverty is defined as that situation in which individuals and communities, within a given context, do not have the requisite skills, abilities or material means to obtain efficient access to information, interpret it and apply it appropriately; this is further characterized by a lack of essential information and a poorly developed information infrastructure (Britz, 2004).

Information is not only a source of knowledge, but also a special source of advancement of economic, social, political, and cultural freedoms. It can be said that access to and use of information and communications are essential conditions for development, as they affect every dimension of life. Likewise, information and communication poverty may only be one dimension of poverty, but affects all other dimensions (Gigler, 2005).

According to the World Economic Forum (WEF), many in the underdeveloped world face the problem of information poverty in the form of a lack of access to knowledge and education, feeding back into the cycle of financial poverty. The WEF continue that information poverty further increases the gap between the rich and the poor and affects every aspect of life, from medical care and nutrition through access to technology and dissemination of information. It affects all age levels and, in the US, is concentrated in immigrant and linguistically isolated communities. In order to address the growing global scope of modern design problems, designers must go deeper than mere appearance and style and address cultural and language differences in order to create effective design solutions that reduce the growing gap between the information “haves” and the information “have-nots.”

the need for a new design curriculum

The undergraduate graphic design curriculum is expected to do many things. At the end of their coursework, students are meant to be creatively flexible, experts at the affairs of business, interpersonally gregarious, adept writers and skilled at creating complex visual communication and using leading edge technologies. There are a lot of factors complicating the efficacy of a program built to provide these skills. Important among these factors are that different people learn differently; that design coursework appears in schools and programs with vastly different philosophies of design, including being located in critically different areas (art departments, technical schools and portfolio schools). For example, design curricula situated in an art department and/or within a school of the arts or in liberal arts may open more time for experimentation along the way to an end result, while more portfolio-based technical programs will eschew certain elements of process in order to produce more pieces of final work and sometimes use more time for elaborate software instruction. Further complicating issues, there is little room for programs to address the changing global scope and reach of design work. As design programs become overloaded with courses focused on providing new technical skills, the ability to develop cross-disciplinary and cross-cultural experiences diminishes.

The designer's role and the skills necessary for providing success are changing quicker than educational programs can accommodate. In the last decade, graphic design has gone from being defined largely by style to something that is influenced and can influence international policy, consumption, education and the environment (Drucker and McVarish, 2009). Along with the rapid expansion of a potentially international audience, designers are being asked to solve multi-faceted problems that address issues of sustainability and globalism. Universities are becoming increasingly international and multicultural through cheap and accessible technology like the Internet and social networking tools. Students have unprecedented access to information and international audiences for the purpose of research and critique. Experiences once reserved for overseas study have been opened up to all students with a reliable Internet connection.

linguistic barriers

Design is a complex interplay of audience, information, client and aesthetics. In addressing a multicultural audience, designers must consider both the audience's

introduction

We are about to redefine the very nature of design... In the near future, as a matter of course, we will take cradle to grave responsibility for the objects we design. Our conscience will demand it, our environment will require it, and our clients [...] will insist on it. —Veronique Vienne, Citizen Designer

Designers are building the future. Better stated, designers are in a unique position to shape both our physical and virtual environments and are empowered to act on their beliefs for how it should be shaped. In his 2007 commencement address at the School of Design, University of Pennsylvania David Orr stated:

You must see design as a large and unifying concept—quite literally the remaking of the human presence on Earth. Design in its largest sense has to do with how we provision ourselves with food, energy, materials, shelter, livelihood, transport, water, and waste cycling. When designers get it right, they create ways that reinforce our common humanity at the deepest level.

That is not to say that designers are solely responsible or that they play a larger role than any other field. Rather, Orr's statement is a recognition that design *will* contribute, perhaps significantly.



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abstract

University art and design programs are branching out and creating cross-disciplinary programs and research centers that connect design students and faculty across various disciplines such as business, engineering, architecture, information studies, health sciences and education. A human-centered, problem-based approach to design research looks to position industry and academic leaders to work alongside students, community leaders, artists and non-profits to develop creative and innovative solutions to the challenges facing contemporary society. But, as these challenges become more global in scope, participatory design research and the Internet become critical tools in addressing cultural differences in visual and verbal messages. This paper looks at the role of social networking tools and participatory research in addressing cross-cultural and multicultural challenges. It addresses the question: can the use of classroom collaboration, participatory design research and online critique and workspaces encourage creativity, innovation and critical thinking in student and professional designers?