CRITICAL PRINCIPLES: (xxix)	
"No graphic object is discrete or isolated. All cultural expressions participate in systems of production."	Objects, ideas, and creative enterprise are born into a milieu; they do not exist outside of cultural influences
"All communications serve vested interests. In most cases, these interests are concealed by the apparent message of the work."	The aim of good design is to slip past our awareness and produce effects by working on unconscious responses
"Ease of consumption is hard to produce."	The simpler a design seems, the more effort and thought that has gone into it
"The more 'natural' something appears, the more culturally indicative it is."	Our cultural baggage is buried so deep it's invisible
"Anything that claims to be universal is highly suspicious."	There are many facets and ways of perceiving even the most benign designed object
"Every graphic artifact constitutes an exchange among individuals, groups, or entities."	Graphic artifacts are communication devices; they contain cultural messages and expectations
"Meaning is made not transmitted."	Reader response theory—we decipher objects from our own base of experience
"Communication is a dynamic system."	Rhetorically speaking—the act of creation works both ways
"Technology is not determinant."	Technology participates in design, but does not drive it
"Style is an agent of culture."	Aesthetics are born of shared values
"Graphic artifacts always serve a purpose and contain an agenda, no matter how neutral or natural they appear to be. Someone is addressing something else, for some reason, through every object of designed communication. " (xiv-xix)	
"A critical approach to graphic design exposes the rhetorical workings expressed in formal structures." "Graphic forms carry their history encoded as conventions, charged with cultural values—and loaded with social implications." "Critically informed historical knowledge shows us how the structure of information becomes part of its meaning as form." (xxii)	
"technology does not determine social or formal change; it operates within changing cultural circumstances . . . Possibilities for production are called into being by particular cultural needs or eclipsed by shifting desires" (xxv) "Style choices in design are not entirely under the control of designers but are related to the ways technology develops in a broader cultural sphere." "But the aesthetic of a particular medium develops in relation to ideas, not just as an automatic or immediate effect of a new material or tool." (xxv)	Human curiosity about nature; how do graphic elements, with or without text, act as rhetorical devices to construct western notions of nature? Cave art, Mesopotamian seals, Minoan frescoes, Greek & Roman art, Celtic decoration, Germanic adornment, medieval representations, Renaissance art, Romantic period, Naturalism, Photography, Film, Computer graphics, Microscopy
"many familiar conventions contain cultural implications (for example, the north-south orientation of maps, the rationalization of space by perspective, or the representation of a person of a particular gender or class)" (xxvi) "Every graphic artifact expresses a point of view, implicitly or explicitly, that participates in power structures, asserting subtle and not-so-subtle control over ways of thinking and acting." (xxvi)	How have cultural expectations shaped the representation and understanding of nature? What is the reciprocal relationship between scientific knowledge-getting and what we want to know? In other words, how does science confirm or uphold cultural expectations of what the natural world is and how it functions? (This ties into the metaphors both Merchant and du Bois acknowledge).
"Design shapes communication, and communication systems exert an enormous force in constructing the world we believe in" (xxvii)	What part do rhetorical devices (such as metaphor) have in shaping graphic representation of the natural world (maybe look at Charles Knight murals?)
"As means of reproducing and disseminating knowledge evolve, the notion of the public sphere as a realm of shared information and common assumptions changes." "Every graphic artifact mediates social relations. Design shapes communication, and communication systems exert an enormous force in constructing the world we believe in." (xxviii) Less evident is the way in which the structure of information as a system and a rhetoric establishes an argument and persuades a reader of the authority of its presentation. Underlying such systems are aesthetic principles, often founded on belief systems and attitudes toward form that have their roots in classicism, romanticism, and rationalism." (xxviii)	
"At issue is not just a history of designs but a history of ideas and assumptions about forms of communication." (xxix)	

	Prehistoric Prelude to Graphic Design 35,000-2700BC	
Prehistoric Prelude to Graphic Design 35,000-2700BC	"Graphic communication has always depended upon the design of symbols and images that are recognized according to the conventions of a community." (3) "Human signs have a dual identity as representations and communications" (3) "Prehistoric artists organized surfaces to support **figure** and **ground** distinctions, establishing the basis on which **signs** and images could be produced and read." (3)	Most languages through the course of human existence have been primarily oral, and we have no way of knowing how many existed or went extinct. Walter J. Ong estimates that "only around 106 have ever been committed to writing to a degree sufficient to have produced literature" (7). According to Ong, primary orality cannot exist once it is exposed to the idea of literacy, so it does not exist in our contemporaneous world. However, traces of residual oral culture have been studied in contemporary cultures, providing much of the context for Ong's theories.
	Spoken language predates written communication (Drucker 4)	Reinforces Ong's assertions on orality having primacy over text
	The "capacity to distinguish an abstract idea, or model, from a specific realization is a basic component of both design and language" (5) [links to Ong] "human language and graphic systems use signs that are divorced from physical evidence or concrete references" (5) "Many creatures use signs to exchange information, but only humans have the capacity to represent *absent* an abstract phenomenon in symbolic form." "Capable of representing things, ideas, actions, and abstractions, the signs of human language are socially produced." (5)	And these signs, divorced from physical systems, end up being our mental construction of the world; nature can thus be rendered as simulacra, the representation which is more real to us than the actual organism. Thus rendered as an isolated image, we lose sight of the organic relationships in biological systems—the interactions and interdependencies vital to survival. Nature becomes Other, and we view from afar her strange wonders.
	Cro-magnon cave paintings exhibit "a considerable investment in the quality of visual design" (6). 35,000 B.C.E. Cro-Magnon artists, Altamira, Spain and Lascaux, France. "They worked in sites that were difficult to access and often layered their images with successive drawings. These facts suggest that such works played an active part in performances and were not simply meant to remain as static records." "These graphic forms are now considered to be the symbolic expression of a worldview rather than simply an attempt to gain power over the uncertain forces of nature. The realization that prehistoric graphic signs embody values and express beliefs places them on a continuum that includes contemporary visual design." (6)	This art is neither arbitrary nor casual, and its striking realism reveals the intimate connection early humans shared with their environment. Although we have no way of knowing why it was created or who the original audience was meant to be, we understand from our own visceral reaction that this is a communication device; the attention to detail and careful choice of medium, as Drucker and McVarish note, reveal the time commitment invested in these images. The tribe had to support the artist, for this was an era in which survival depended on direct interaction with the environment to procure sustenance and shelter. These artists performed a function valued by their culture. —there was no Wal-mart or Seven-Eleven.
	"The idea that graphic forms not only give shape to needs and desires but also express a view of the world is critical to all phases of human history" (7) Mesolithic middle Stone Age about 10,000 to 5000 B.C.E. Rise of cities and civic organization in the ancient Middle East. The invention of proto-writing was a direct consequence of successful cultivation of hard grains at the beginning of the Neolithic period, about 5000 to 2000 B.C.E. in the ancient Mesopotamian region. (7)	We can trace the "evolution" of animals through human eyes by looking at the graphic forms used through history to portray them. While images of humans have from time to time been off the table, nature has always been representable (even when the representations carried powerful magic)
	"Graphic conventions for arranging and reading marks and signs on a surface were already in place at the end of the prehistoric era. These elements remain essential to visual communication and provide a basis that connects current design practices to this prehistoric prelude." (7)	
	Chapter One: Early Writing: Mark-making, Notation Systems, and Scripts 3000-500 BCE	
Chapter One: Early Writing: Mark-making, Notation Systems, and	3000 B.C.E. new media, "new tools for carving, inscribing, and marking," new substrates of "clay, stone, papyrus, skin, bone, wax, metal, and wood" "stable visual code for the representation of language" (11) "these symbols had the effect of changing the power of language by aligning it with the administration of culture" "Oral communication is ephemeral and takes place in real-time circumstances that rely on presence. Writing communicates in the absence of its author. Enduring inscriptions transmit textual records to remote contexts." (11)	(Relates to Ong and notions of textual permanence)
	"The distinction of mark and interval on a deliberately identified surface is the basis of any graphic communication system."	

	"The elements of visual signs systems were defined by fundamental graphic variables: shape, size, orientation, and position." "Pictorial signs were first used to represent concrete things but quickly came to function as a means of encoding ideas as well." Literate culture "developed from the capacity to represent language in a visual code agreed upon as a convention by a social group. The effects of writing as a form of social control and power spring from this consensus." (11)	
	"We might even suggest that the idea of **difference** forms the basis of human knowledge, and that the making of a mark is the primary way of inscribing such difference. On this simple principle of differentiation we can structure the complicated oppositions of I/thou, me/you, this/that, self/other, subject/object, which form our understanding of the world." (12)	
	Token system 8000 to 6000 B.C.E. this was a system of notation and is considered proto-writing. The marks on the tokens were often schematic, not pictorial. These were precursors to the wedge shaped signs of cuneiform. "demonstrate the emergence of a set of sophisticated graphic principles" (13)	The token system represents abstraction in conceptualizing concrete things; these counters did not resemble "oil, cattle, grain" and other commodities, but they were commonly understood to represent these things. (13) (early commodification of animals, reducing them to commercially viable things instead of living creatures)
	"The word *notation* refers to signs that stand for categories and ideas in a stable graphics system but fall short of the ability to represent language or speech. The term writing, as we have said, is reserved for graphic forms that specifically express language." (14)	
3200 BCE	Mesopotamian 3200 B.C.E. the Fertile Crescent - evolution of writing. 3000 B.C.E. Uruk in Mesopotamia "ten numerical systems in use," maps invented to keep track of complex irrigation systems; "Writing codified law" (15)	
	"The number of cuneiform signs suggests that they represented words in a logographic script." (15) "Some signs indicate pictographic origins, but some debate exists about whether these signs derived from the more schematic imagery of token notation." (16)	Within a space of about 700 years, from 3100 B.C. to 2400 B.C., Sumerian pictograms "became schematized" for easy transcription. Initial images, though, show a direct link between idea—"bird" or "ox"—and pictographic design (Drucker and McVarish 16)
2400 BCE-1400 BCE	"Cuneiform script was adopted by the Akkadians, a Semitic-speaking people who invaded the Mesopotamian region about 2400 B.C.E. they distilled a set of cuneiform signs that represented syllables." 1600 B.C.E. Hittites adopted cuneiform to represent their Indo-European language. Cuneiform most popular about 1400 B.C.E. (16)	"The adoption of a writing system developed for one language by another is a pattern that is repeated many times in the history of scripts." (16) alphabetic script family tree (17)
3200-3100 BCE	Egyptian hieroglyphics. "Many of their standard shapes were already set by the time they were adopted in 3200-3100 B.C.E. Little evidence exists for dating Egyptian hieroglyphs earlier than this." (19)	Eygyptian hieroglyphs used naturalistic icons, such as the ox and hawk, within a representational system based on "invisible but implied quadrants" (19). This design system provided efficiency and flexibility in spatial arrangement while upholding graphic principles of communication.
2000 BCE	2000 B.C.E. alphabetic system in the Canaanite culture in the Sinai region. 20 signs combining "simplified forms of the Egyptian hieratic script with the principles of sound representation found in cuneiform syllabaries" (21)	alphabetic chart page 21 "The order, number, and even names of the letters indicate the common origin of these scripts." (21)
	Though some early alphabetic figures gained their nomenclature from the animals they resembled, such as "aleph . . . the Hebrew word for 'ox'," they were not derived from pictograms but were, instead, acrophonic memory devices (22)	
	"Graphic form establishes stability in the representation and operation of language. The order and number of signs in a script are also part of its design as a system. But the tools and materials that produce and carry a writing system must be taken into account as well because they impose fundamental constraints on its graphic form . .	

	. Although technology does not determine forms of writing, it may modify their design." (23)	
	"Theoretical distinctions between oral and literate cultures stress the power of written documents to codify law, produce historical records, objectify experience, and facilitate rational, logical processes" (25)	Formulary, monumental personalities and mnemonic aids: wily Odysseus, wise Nestor, angry Achilles, the Seven Against Thebes, Three Fates, etc. Peabody (1975) suggests Vedas share "oral provenance" because of redundant patterns. They work on memory: "traditional formulaic and stanzaic patterns" (Ong 66, 142)
	Permanence, portability lend authority to text."A code of law or a sacred text seems to transcend human authorship." (25)	
	"Many scholars place the beginnings of literacy at the time of the Greek alphabet's consolidation of the vowel notation. Yet the list of cultural accomplishments and written texts that predate the advent of the Greek alphabet is a long one," including Gilgamesh, the code of Hammurabi and the Vedas. (25) D&McV note that "Suggestions that the Greeks were the first literate (and thus, first civilized) culture are based on misperceptions that are themselves historically determined, rather than grounded in archaeological fact" (25) "The distinction between oral and literate cultures is more significant than differences among versions of literacy" (25)	Graphic design works with words as images, often combined with other images Communication is accomplished not just from an understanding of what letters may spell, but from the way the letters appear. (Rhetorical?) Not just what letters are, but how, when, where, and why they appear the way they do. The images that accompany this text is rhetorical as well, and shapes our comprehension of the world we inhabit. Peabody (1975) suggests Vedas share "oral provenance" because of redundant patterns. They work on memory: "traditional formulaic and stanzaic patterns" (Ong 66, 142)
	Chapter Two: Classical Literacy – 700 BCE-400CE	
Chapter Two: Classical Literacy – 700 BCE-400CE	"In the classical period, graphic design became a component of literacy. Designed literacy suggests the existence of a common cultural understanding of the meaning of visual forms, as well as the materials and contexts, of graphic information." "Performative discourse" "The distinction between spoken and written language became more elaborate, as writing came to be considered not merely a transcription of speech but a communication system with its own formal properties." "Access to writing did not map precisely onto class or gender divisions, but the shift from oral to literate culture introduced new means of representing and administering power." (29)	
700 B	alphabet arrives in Greece and Italy	
	"Reading entailed more than the recognition of letters and words. A text's physical and social setting were taken into account, and it's graphic and material codes were interpreted." (29)	
	Eighth century B.C.E. – "In Greece, the new writing system was linked to democracy insofar as literacy was a requirement for citizenship and its rights. But whether the unique properties of Greek writing caused the event of this form of government or merely participated in its institutions is an open question." (30)	
	Uppercase letters – majuscules; lowercase letters – minuscules	
	"By the sixth and fifth centuries BC, a clean, mono line script with little variation in weight became typical of Greek classical letter form design." (31) Variations in local scripts "were a cultural equivalent to individual handwriting." "The Ionic script became the official Greek alphabet in 403 B.C.E., but such decrees had as much to do with the consolidation of political power as they did with the value of one design over another."(32)	Boustrophedon – distinctive style of arrangement was prior to mono-line--"as the ox plows" (D&McV 31) (Ong 99)
	"The most significant modification made by the Greeks to the alphabet was the addition of five letters to denote vowels." (32)	Greek alphabet with vowels: "major psychological importance" (Ong 89)

	"In the fourth century Athens, schools were established, including the famous gymnasium where Plato taught in a park called Akademeia. Rhetorical skills essential to Greek politics were taught in the schools and so were the values on which the social networks of power rested. Literacy training inculcated pupils with cultural norms and social codes even as it passed on the poetry of Homer and the heroic tradition." (32)	Birth of rhetoric Sophists invent the art of rhetoric, a classification of persuasive oratory born in orality but sustained through time because it was written down (Ong 108)
	"In their graphic evolution, Greek and Latin alphabets followed independent paths, and the distinctions that emerged in the seventh and sixth centuries BC remained characteristic of them today. Both, however, adopted the convention of writing from left to right, with letters consistently oriented in that direction." (32)	
	"Extrapolating from the graphic qualities of a script to characterize a culture can be a risky proposition, but it is safe to say that the graphics stability over Roman letterforms conveyed an image of solid-state power and authority." (32)	Or do we read it that way in hindsight?
	"Tablets and scrolls remain the basic portable media, while stone carving indicated site specific, official text. The invention of the bound book, enabled by the flexibility of parchment, was an economical and convenient innovation that appeared in the second to fourth centuries CE. But for hundreds of years, the scroll remained the preferred format for literary texts, whereas bound books were more likely to be used for notes." (34)	Coins—"unique symbolic identity. They both embody value and represent it abstractly" (34) the coin on this page, a Tetradrachma from Kymaea, pictures a domestic horse—might tie into Potts' observations that horses were important elements of pre-industrial society, and were listed right next to humans in early natural history texts
	"Specific lettering styles and materials have their own rhetorical force. Stylistic inflection often reinforces unstated assumptions about the function of a text --- who is it for and what is it meant to do." (34)	
	"Graphic communication took shape in the Classical period in ways that directly connect to the present day. Basic design decisions about the way something looked as a function of what it communicated were everywhere apparent in the Classical world, and we still use the square majuscules of the Romans for commemorative inscriptions. No explicit manuals or rulebooks existed that set out the conditions for using one type of script or another, just as no such definitive typographic guide exists now. Rather, these conventions come to be understood and followed by consensus among a cultural community and the designers or scribes who work within its tacit codes. " (36)	Western expectations of graphical representation owe a direct legacy to the Classical period, from the orientation of text, to font construction, to layout designs; all these "features of production, placement, and format" were already apparent in the textual communication of the Classical society (37).
	"As the social character of written language came to be inscribed in its design, conventions were communicated and understood by example . . . Graphic codes operated within a social context as well as a physical one. In the stratified, hierarchical societies of Greece and Rome, propertied and non-propertied, patrician and plebeian classes were delineated." (37)	
	"Two fundamentally distinct approaches to the design of letters developed in the Classical period and they may be defined as gestural, cursive forms, and intellectually constructed forms." "Cursives . . . reflect the mood and skill of their author." "Constructed letters followed a more labored sequence of design stages and sought to achieve formal beauty through principles of proportion and harmony." (38)	The formally constructed letters were viewed as the more aesthetically appealing, while cursive was a quick form used for non-permanent communication (might be interesting to look at different meanings of cursive through time)
3rd-4th c CE	Third and fourth centuries CE. the first variants of majuscules known as uncial and half-uncial scripts. The development of these graphic variations of writing would signal a major cultural change as the Classical period came to an end. (40)	Majuscules more common in monumental inscriptions, while variants are more common in book format

410 CE	"The sack of Rome in 410 CE by northern invaders marked the end of the Classical period. By then, the identification of Greek and Latin letterforms with the Eastern and Western branches of the Holy Roman Empire had begun to charge their use with new political meaning." "During the first centuries of the common era, classical literacy became increasingly absorbed into church institutions and practices. By the fourth century, monastic orders became the main institutions for the production and preservation of knowledge in Western culture." (41)	
Chapter Three: Medieval Letterforms and Book Formats 400-1450	**Chapter Three: Medieval Letterforms and Book Formats 400-1450**	
	"In the Middle Ages, letterforms emerged that are still in use and whose designs contain information about their history and diffusion." "The format of the codex book, along with many of its now familiar graphic features, developed as a result of changes in the uses of texts." (45) "Illustrations and schematic images, such as maps, charts, and diagrams, began to be used to configure and disseminate certain kinds of knowledge, although power over intellectual life remained centered in the Church." (45) "Publishing became an industry, serving specialized needs in medicine, law, and theology, and a popular interest in literature, while drawing lines of exclusion and inclusion around literate communities." (45)	Constraints of early writing technology; Distrust of written versus spoken word; rarity of manuscript indexes (Ong 95-98)
	13th century-secular culture including literate guilds and professions created a publishing industry. Publication was done by hand but works were produced in multiple copies. (45)	
	"The ideology of textual production became encoded in graphic forms that actively participated in the control and use of knowledge." (45)	
	"almost all formal education took place within religious orders. Control over knowledge production and dissemination was centered in the Church, and, at times, the tensions between science and the charge of heresy brought this power into sharp relief" (46) "The codex was developed in the third and fourth centuries and, by 400 CE, had mostly replaced other formats. In the fifth through the eighth centuries, monasteries became the institutions most concerned with producing texts. (46) "Had printing arrived at the end of the classical period, without the graphic developments that took place in the middle ages, contemporary written communication would look very different." (47)	Writing thus gains control of education (Ong 93-94)
11th century	"Arab scholarship made advances in the natural sciences and served to preserve texts from antiquity. These texts passed into European hands after the Crusades began in the 11th century. Important works of Greek and Latin scholarship were recovered in Arabic translations, while decorative styles of calligraphy and imagery exerted their own influence. Patterns of cultural exchange can be traced in decoration and illumination, as well as in the content of texts and images. (Drucker & McVarish 47)	
	"Illuminated manuscripts created and preserved a legacy of visual styles and iconography in a period when copying was a common practice. The elimination's often contained a great deal of incidental information about medieval life, but images were also used to transmit technical knowledge pertaining to mathematics, astronomy, alchemy, botany, and other sciences whose value was practical as well as theoretical." (Drucker & McVarish 48)	
	Parchment (vellum) had the advantage of flexibility and could be made smooth for writing on both sides (48)	Palimpsests - reused manuscripts

	"The Diamond Sutra, printed in China in 868, is considered the oldest extant printed book" High-quality printed materials were being produced in "Asia centuries before letterpress developed in Europe" (49)	
	Paper was invented in the first or second century in China. Was in wide use by the ninth century. (48)	
	"Papermaking appeared in Spain by about 1150 and Italy in the late 13th century . . . Because of its association with Islamic culture, paper was shunned by the church for its documents and sacred texts. Thus, the choice of materials for graphic production became culturally marked." (49)	Eurocentric, anti-Islamic tendencies related to Crusades
	"Although writing and literacy were restricted to a small, privileged segment of early medieval society, a general, pragmatic literacy developed after the 11th century. Written language became increasingly integrated into social and administrative functions in every area of cultural life." (49-50)	
	The adoption and development of the codex book coincides with the Middle Ages. "Without it, church life would have been profoundly different, and the cultural legacy of antiquity would not have passed as it did to the present day world." (50)	
	"As the technology of the codex (individual pages of uniform size, bound in sequence) replaces scroll, graphic conventions for the layout and organization of books developed. The textual structure of manuscripts laid the formal and functional foundation for the conventions of later print culture. Knowledge was created and preserved as much by the graphic forms of these artifacts as by their texts." (51)	Translations of Greek texts, including Aristotle, became popular teaching aids. Use of these texts in the classroom drove more efficient textual representation, including alphabetic organizing for easily searched text (51)
	"In the 10th and 11th centuries, devotional reading, which was meditated and continuous, was replaced, in part, by scholastic study. Scholars had new requirements. They needed a way to navigate texts for reference purposes, and they wanted guideposts and an information structure that called effectively to the eye." (52)	The architecture of the book was a medieval invention. The introduction of paragraph breaks and chapter titles, running heads, indices, and tables of contents established the formats that would be standardized in print. (52)
	"Unlike the scroll, in which information must be accessed serially, the codex functions as a random access device." (52)	
	Page numbers, title pages came later.	
	"Chancery—an elaborately elongated handwriting used for official documents ." (53)	
	"Originality was not prized as highly as virtuosity. Competent imitation and excellent execution of existing styles were valued." (57)	These functions were prized because everything was manual
	"In addition to religious texts, many secular works were copied within monastery walls. European science did not advanced much beyond the classical legacy of the third and fourth centuries until the Renaissance. Most classical treatises were strictly textual, but some included images." (59)	Copying images required a different set of skills (59)
	"Medieval botany, astronomy, and geometry relied on knowledge that took visual as well as verbal form. Bestiaries were useless without images, but they're the patience of animals were sometimes fanciful inventions based on texts." (60)	
	"Knowledge production --- the creation and consensual standardization of human thought --- was facilitated in the medieval period by graphic aids to specific areas of study." (60)	Early forms of animal representation and attempts to understand nature
	"Advances in pharmacology, astronomy, medicine, and other fields came by way of Arab scholars who had preserved many classical texts in translation." (61)	

	"Images and texts have distinct roles in the transmission of information, and together they formed the corpus of medieval texts. Manuscript images were always handed drawn, and the irregularities caused by artists of varying skill were an impediment to scientific knowledge that only be standardized nation brought by print technology in the 15th century could overcome." (61)	
	Late 12th and 13th centuries-"the first universities were established." Faculties were divided into four major areas": arts law medicine theology. All depended on books. Publishing industry began by copying textbooks." (62)	
	Contemporary vernacular literature emerged in the 12th and 13th centuries (63)	
	In the medieval period, we can speak of knowledge production as an industry for the first time. Its participants were involved in organized networks of publication and dissemination. Some interests in these networks were merely financial. Other stakes were larger: power and influence were established to the circulation of text just as consequentially as by political or military victories. (64)	
	Visual culture was expanded by the unprecedented number of copied images that circulated in the late middle ages. Printing was on the horizon, and printing would start with images. (64)	
	Chapter 4 Renaissance Design: Standardization and Modularization in Print, 1450-1660	
Chapter 4 : Renaissance Design, 1450-	Printing press: "Graphic design in the Renaissance was formally and technically bound to the development of letterpress printing" "With the increasingly visible and powerful impact of print on all cultural areas came an equally expanded role for graphic design in shaping and circulating knowledge"	"The creation of multiple copies of printed texts and images produced a shared knowledge-base that supported a revival of classical learning and humanistic inquiry and fostered the development of science and exploration" (69)
	Invention of the moveable type printing press in Europe, production of the *Gutenberg Bible*	Moveable type "congenial" to use of illustrative prints (Ong 124)
	"The variety and uses of printed materials opened possibilities for graphic desing that had been inconceivable in the restricted economy of the Middle Ages" (70	
	"Medieval letterforms and layout conventions served as the first models for Renaissance typography and book design" (71)	Modeled after medieval forms because that was all that was available Modular system fosters new ways of thinking about type and space (harkens back to Egyptian glyphic layout & economies of space)
	"matrices," "colophons"	
	"Unlike traditional craft production . . . this approach was based on discrete task. This segmentation promoted specialization, and, by the sixteenth century, each step of the production process depended on different skills" The processes of casting moveable type and "reliable methods of reproducing images in substantial editions" would "shape Renaissance culture" (71)	The drive to specialization begins, a trend that mirrors contemporary divisions in knowledge production
	"incunabula (infancy) period" –the fifty years from the "first printed page from metal type in 1450 and the end of the century" (72) Affordability of multiple-edition production engendered "new and persuasive modes of communication" (72)—knowledge was no longer the sole province of clergy and cloistered academics Humanistic approach-"human beings, rather than their gods, at the center of knowledge and understanding" (72)	Interiorization of books enables concept of standardized information (Ong 124)
	"Illustrated works of natural science substituted rational inquiry and observation for revelation as an intellectual method" (73)	Replacing the bestiaries of the Middle Ages—knowledge begins the turn toward empirical understanding, shared knowledge based on observation

	Printers join the emerging market class—increased knowledge and skill brings increased prosperity. Adoption of "medieval guild structures" and journeyman processes professionalized the printmaking field (74)	
	Printmakers also took part in the revival of Classical knowledge (74)	Archaeological discoveries of Greek and Roman texts and art provided the fuel for reemergence of artistic, scientific, and philosophical rebirth
15th century	Development of perspective enables new visions of realism in painting and printmaking, producing the window on the world effect "rationalization of space—its depiction as a projection on a flat screen as seen from a single point of view" (75)	New techniques and materials bring new realism to portrayals of natural subjects (Dürer)
1490s	Development of non-manuscript-type fonts –Aldus Manutius and Francesco Griffo "smaller, narrower, and more elegant than their predecessors, the Aldine types became widely known and imitated" (77)	
L. 16th	"What are now known as Old Style faces prevailed throughout Europe and were exported to the Americas and other colonies" (77)	
1487	"In the Renaissance, botany remained as important as it had been in the Middle Ages. The difference was that printing had arrived to assist the spread of its findings. Plants had to be accurately recognized if herbals were to function as guides to the practice of medicine" (82) "Knowledge that could not be conveyed in language became standardized through the publication of images, extending a dependence on visual information" notable in medieval sciences. "The repeatability of printed images was critical to establishing a consensual knowledge-base" (82)	"Pierre Metlinger, *Arbolyre*" "the first medium for making multiple copies was the woodcut," "a relief form that could be printed side by side with typographic texts" (82) Albrecht Durer "is renowned for his line work that produced tonal differences thorugh density" (83). Durer also supplied naturalistic images of animals (the rabbit), and more fantastical portraits of exotic species (the rhinoceros) Other print mediums developed in the Renaissance: intaglio (couldn't be printed at same time as type); etching (Rembrandt, Rubens)
	"Popular prints were circulated in sixteenth century Germany and Holland as a way of shaping political opinion and fanning the flames of controversy" (84) "broadsheets"	Political uses of new technology
	Interest in Egyptian hieroglyphics "inspired . . . a belief that images could communicate more directly than writing" (84)	--this led to the production of **emblem** books and **allegorical** prints that served a wide variety of rhetorical purposes
	"In the Renaissance, graphic arts embodied notions of standardization and modularization in the very technologies of their production. Graphic descriptions of the world spread assumptions, conventions, and standards. Every printed image and text expressed ideological values and reinforced cultural attitudes toward gender, national identity, the right of rulers, the power of the church, bodies, faith, and knowledge" (90)	Human relationships to nature are left out of this list—wonder why?
	Chapter 5: Modern Typography and the Creation of the Public Sphere, 1660-1800	
	The Enlightenment—"rise of nationalism, reason, and scientific empiricism in Europe and North America" Movements: baroque, rococo, neoclassicism "the book trade continue[d] to grow and serve as a powerful instrument of Enlightenment thought" (95)	
	"greater accuracy and detail in images" (95) "empiricism and quantitative methods moved to the center of intellectual life. Scientific inquire provided the basis of rational thought. Tensions arose between religious and secular belief systems. A truth grounded in empirical observation and one based in religious faith could not always be reconciled" (96)	Illustrations in particular benefit from unchanging data from copy to copy—establishes veracity, "an 'exactly repeatable visual statement'" (Ong 124) "One consequence of the new exactly repeatable visual statement was modern science. Exact observation does not begin with modern science," but "the conjuncture of exact observation and exact verbalization: exactly worded descriptions of carefully observed complex objects and processes. The availability of carefully made, technical prints (first woodcuts, and later even more exactly

		detailed metal engravings) implemented such exactly worded descriptions. Technical prints and technical verbalization reinforced and improved each other" (Ong 125)
	"the public sphere is an arena where opinion and values are created. The social order . . . is mediated through public discourse," and "print plays an active role in this mediation" (96)	
17th c	Modern type design: "Transitional faces . . . stood more upright and featured higher contrasts between thick and thin strokes" (107)	
	"The identity of a typeface resides not only in its look, but also in what its formal sensibility expresses. Modern types emphasized intellectual ideals in forms that marked their distance from the physical act of handwriting. Body and mind were distinguished, the trace of the hand was banished, and rationality prevailed over gestures and feelings" (108)	Cartesian sensibilities infect design processes, removing the human ever further from the natural world. Nature is the Other, wild, emotional, uncontrolled.
	Typefaces: Caslon, 1734, named after William Caslon (110) John Baskerville invented calendared paper (hotpress), and "a blacker, denser ink," as well as the Baskerville typeface (112) Giambattista Bodoni, "distilled letterforms into recombinations of basic units" (113)	The typefaces of the Enlightenment reflect the sense of order and rationality imposed by ideals of Classicism and the structure of scientific reasoning. They are based on "geometrical proportion" (113)
	Chapter 6: The Graphic Effects of Industrial Production, 1800-1850	
	1820 - Romanticism is a reaction to NeoClassicism: (Nature, passion, and unbridled imagination" 120)	
	Bewick, *Quadrupeds*, 1790 –"the clarity and precision of his draftsmanship was enabled by carving blocks on the endgrain" (127)	
	Steam printing presses enable mass production of books for mass audiences (124) 1830 - "The amusement of a Bill-Sticker" (cover) "*...public venues had commercial value and political uses.*" (132) 1828 - Invention of pantograph; mechanization of type design and scalability; facilitates copying of illustrations with text 1820s – Niepce and Daguerre adapt camera obscura and apply light-sensitive metallic salts to reproduce and preserve images (early photography)	
	1830's- Henry Fox Talbot, "Pencil of Nature"; popularizes photography;	The scientific, mechanistic aspect of photography gives it objectivity; trust in its "realism"
	1839—Charles Darwin, Diary from voyage on the Beagle, drawing of finches "Darwin's research depended on accurate observation and rendering. The ability to compare the different thicknesses and shapes of the beaks of these birds led him to his theories on evolution" (126)	Dependence on modern science for accurate illustration techniques—opposite of romantic drawing, which emphasizes the emotional, non-rational, and human-defined concept of "wild"
	poster: Use of varying sizes of typefaces and introduction of second color establishes a clear hierarchy of content "*Typographical design...critical factor that shaped communication*"	
1832 1833	1832 – Alphabet book 1833 – Illustration: The Byron Gallery Growth in printed matter; ephemera; illustrated books and broadsheets; newspapers Boom and bust cycles; labor shortages; Prompted rhetorical strategies to seduce the hesitant consumer "*Print culture was both an industrial product and an instrument through which markets and*	

	opinions were mediated" (121) isplay of images for sole purpose of consumerism helps codify visual stereotypes (Multiple casts of original blocks enable multiple copies; a result of the process "stereotyping". Interesting that multiplicity of copies also leads to cultural stereotyping!)	
1838 1844	The Penny Chronicle (newspapers begin to address the concerns of the working class). *"...cultural literacy and the exchange of opinions also fostered independent thinking and political organizing*" (122) 1838 – St. Pierre, Paul et Virginie (romantic illustration; romantic novels are in vogue) 1844 – Honore Daumier, lithograph, "The Daguerreotype Portrait" Circus Bill: Displays variety of fonts, sizes, thickness and thinness of lines; content matches form Charles Phillipon, "Les Poires" – Significance: caricature of King Louis, popularity of comic/satiric imagery becomes codified; conveys bourgeois, anti-royal sentiment Social and cultural applications: portraiture, travel photos (expresses the exotic and reinforces notion of the "other"; falsely conveys other cultures.	
	Chapter 8: Formations of the Modern Movement: 1880-1910	
	Modern tendencies in graphic design emerged as self-conscious responses to the structural changes produced by industrialization. Late 19th century designers redefined the nature of their work. Industrialization brought a gap between aesthetics (form and surface) and production methods (means and materials) into focus. Designers saw their role as bridging this concrete and conceptual gap – the distinction between things that were made (in the traditional sense) and those that were designed (for production) became an explicit field for the first time.	
	Response to Industrialization Arts and crafts = anti-industrial In the late 19th century, the idea of craft based guilds attracted graphic designers eager to participate in the socially conscious enterprises begun by the Arts and Crafts Movement (A&C). They seized on preindustrial forms and processes as keys to a mythic past of integrated lives and healthier spirit. John Ruskin believed the design style and production methods expressed the quality and values of a culture. Shoddiness of everyday objects and environments indicated moral failing and cultural weakness. Ruskin influenced William Morris, who sought to restore the dignity of labor and the beauty of useful objects that he believed existed in a previous era.	
	Arts and Crafts Publications The A&C movement had an enormous impact on the design of fine press and trade books and independent artists' journals. To spread the principles that inspired the movement, artists produced their own publications. These journals helped internationalize aesthetic movements and offered a new model of independent expression. Distribution was through the commercial and popular press, which was an alternative to their sensibility. Most mass-produced books of the time were of appalling quality, design, and workmanship. Morris and Emery Walker coined the term "the book beautiful," in which the production was completed by highly skilled craftsmen: handmade paper, leather binding, beautiful design, etc.	

	After Morris, movements took up the challenge to approach graphic design as a social and cultural activity and a serious engagement with production.	
	Arts and Crafts Dissemination British A&C affected the evolution design disciplines through Europe and the US well into the 20th century. The work shared a belief in design's capacity to envision alternatives to industrial forms and methods that would reconcile everyday life with human and organic values. As A&C-influenced movements were formed, they disagreed in attitudes and goals. Some moved away from historical sources, and two poles of abstraction appeared: organic and geometric. Late 19th century movements combined a mystical spiritualism with nationalist undertones, so there were ethnic motifs. A new preference for clean lines and clear organization banished the excesses of Victorian domesticity.	
	Art Nouveau It was a general term applied to the work of many artists and designers in the 1890-1900. It applied to any work that seemed to reject historical reference in favor of a new sensibility. Unlike the socialist theories, AN's goals were mainly anti-elitist. They aimed at cultivating and gratifying the bourgeois taste with comfortable expressions of contemporary affluence. Integrated novel shapes into the overall form of objects and structures. Drew on Japanese techniques of asymmetrical compositions and flowing spatial organization. Suggestive without causing offense, this indulgent style became a great favorite among upper and middle class consumers.	
	Jugendstil Last decade of the 19th century. Designers struggled to find a solution to the relations between form, function, and decoration. Gesamtkunstwerk: total, unified work of art. It called for fully integrated spaces. It's an architectural word applied to the other arts. Shifted away from the piecemeal miscellany Victorian era toward systematicity. Portrayed and promoted a contemporary lifestyle. Artists whose embrace of the industrial production included designs for type and mass-produced furniture. Characterized by sensual freedom, female forms, floral and organic motifs, and primal eroticism as a liberating force from the bonds of convention. The stylistic grace cultivated by these movements was an asset to commercial interests staked on consumption rather than social reform.	
	Viennese Design The Vienna Succession was formed in 1898 to simplify, distill, and modernize design. Succession = exhibit their work outside of the fine art academy. These artists rejection of academic constraints represent another crucial realignment in early modern movements (one of several artistic groups aimed to define styles, forms, or values for contemporary life).	

	Initiated by Gustav Klimt Attempted to forge links between fine and applied art, an approach that was counter to distinctions between high art and trades. The Secession purged Viennese design of decorative excess. The Wiener Werkstatte (Vienna Workshop) was an outgrowth of the Secession movement that consolidated the commitment to merge fine and applied arts. Their designs were meant to symbolize modernity (the historical period of cultural change associated with the effects of the industrial revolution). They're characterized by rectangular patterns and a modern abstraction that reduces figures and objects to suggestive outlines.	
	Decadence and Aestheticism This movement turned its back on functionalism. It disdained application of any sort. They express the attitudes of bohemianism and autonomy, which was approached as a sphere separate from cultural activity. Art-for-art's-sake agenda. The artists and writers of the aesthetic movement tended to hold that the arts should provide refined sensuous pleasure, rather than convey moral or sentimental messages. As a consequence, they did not accept John Ruskin and Matthew Arnold's utilitarian conception of art as something moral or useful. Instead, they believed that Art did not have any didactic purpose; it need only be beautiful. They embraced photographic reproduction of line art b/c it more directly expressed an artist's vision.	
	The Private Press Movement and Modern Design Private Press refers to a movement in book production which flourished at the turn of the 19th and 20th centuries under the influence of the scholar-artisans William Morris, Sir Emery Walker and their followers. Those involved in the movement created books by traditional printing and binding methods, with an emphasis on the book as a work of art and manual skill, as well as a medium for the transmission of information. A constant interchange between artistic movements, private press publications, and trade book design marked the late 19th century. The Fine Press Movement (seems to be the same) gave rise to important crossovers in the industry. Bruce Rogers, Rudolf Koch, and Frederic Goudy studied 400-yr-old type forms and designed new typefaces suited to contemporary graphic needs. Highly legible and elegant on the page.	
	Integration of Design and Industry By the end of the 19th century, the A&C movement in Europe took a decisive turn toward machine aesthetics and a rationalized, systematic approach to design as an interdisciplinary practice. The modern model of graphic design as an integral part of a systematic approach to the manufacture of products, values, and identities was being forged through a national partnership with industry. Logos.	
	Chapter 9: Innovation and Persuasion: 1910-1930	
	Visual Culture and Avant-Garde Design • By the beginning of the 20th century an amazing variety of typographic and visual materials were available to editorial and advertising design. • Modern visual culture was prolific and printed material abounded. o Books, newspapers, posters, packaging, photographic images and illustrations,	

	motion pictures... • The artists who identified with the most adventurous visual experiments are known as avant-garde, and it erupted simultaneously over Europe, Russia, and the US in 1910. • They tried to find a visual language to translate the social meaning of the technological changes. The altered the look of graphic design. They adopted a functional, antihistorical approach in which organic, hand-drawn, and ornamental forms were replaced with sans serif, geometric designs, and photographic images. • Deliberately distanced themselves from mainstream and fine press publishing, and they wanted to scandalize the bourgeoisie. • Believed art and design could change the way people understood the world. Over time, avant-garde became associated with movements concerned with "art for art's sake", focusing primarily on expanding the frontiers of aesthetic experience, rather than with wider social reform.	
	The Graphic Impact of Futurism and Dada Both were international movements, which was a distinct feature of modernism. Italian poet Filippo Marinetti – founder of futurism – called for a radical new aesthetic sensibility in all arts. He attacked decorative typography of old-fashioned books and elaborate motifs and borders. Modern meant new and new meant machine-made or machine-like – and sometimes nihilistic and antihumanistic. Not all avant-garde activity was directly inspired by futurism. In 1916, a group of artists met in Switzerland to protest the war. Took the nonsense word, Dada, as their name to symbolize the outrageous attitudes of their movement. They embraced nonsense as an antidote to what artists considered a monstrous use of reason to justify the bloodshed of war. The group included pacifists, anarchists, and radicals. Eventually, their techniques became part of the standard repertoire of modern graphic design, particularly mixed-face typography, hodgepodge cuts and figures, and high-tension collages.	
	From Experiment to Principles Another dramatic development in the early 20th century was the adoption of geometric abstraction and flat, hard-edged forms as signs of a contemporary sensibility. They became distinctive, defining features of graphic design. Constructivism: an artistic and architectural movement that originated in Russia from 1919 onward which rejected the idea of "art for art's sake" in favor of art as a practice directed towards social purposes. It helped bridge the early avant-garde unruliness of the 1910s and a new spirit of order that took shape in the 1920s. Modern graphic language was characterized by geometric forms, high-contrast black, white and red inks, and boldly structured typographic arrangements.	
	Propaganda and Mass Communication Studies The early 20th century avant-garde's internationalism stemmed in part from social upheavals. It was one symptom of the violent political, economic, and technological changes in western culture. The development of mass persuasion techniques was another. Avant-garde promoted anarchism and revolution. Other propaganda campaigns	

	existed to support WWI. WWI signaled and caused many of the cultural ruptures that defined modern life. It prompted the development of mass propaganda strategies. Avant-garde styles were rarely absorbed into mainstream propaganda, which sought to reach a broad audience through familiar formats and imagery: nationalism, domesticity, patriotism, etc.	
	Graphic Persuasion and Its Effects PR campaigns were essential to maintaining the effort to win the war, and they included a new form of public communication: information graphics. They could educate a broad class of people. In the US and England, the women's suffrage movement was gaining strength thanks to the war. Women were taking positions left by men who went to fight. Their contributions helped change attitudes about women's rights; so did images. The image of the "new woman" has become a significant icon in marketing and advertising as well as politics. Artists and officials on all sides realized the power of graphic communications to shape public opinion. The US and Europe grappled with the effects of the media on public opinion. The field of propaganda studies was born. Marketing surveys, polls, and other instruments for measuring subjective response were developed for the first time to analyze the effects of propaganda, news, and advertising.	
	Institutionalizing Graphic Design One of the most enduring legacies of the early 20th century came in the form of novel approaches to the pedagogy of graphic design and other applied arts. A number of important institutions were established in the 1920s. The Bauhaus was the most legendary of the new institutions for graphic design research and pedagogy. Marked the beginning of a 14-yr curricular evolution aimed at involving art in production and this, in a sense, inaugurated design as we know it. Foundation courses derived from Bauhaus became a standard feature of graphic design education by mid-century. Many influential modern graphic designers had no official connection to the Bauhaus. In the 1920s some whose styles and attitudes had been formed by earlier movements made a transition from experimentation to applied design, from groups like De Stijl to offices and studios that professionalized design as a field independent of print shops and publishing houses. Circle of New Advertising Designers – founded in 1927 by Dadaist Kurt Schwitters to advance the concept of cause of the New Typography. Jan Tschichold achieved the greatest impact from his writing in 1928 of New Typography, a foundational text still read today. He demanded typography by streamlined, modern, and elegant in its san serif standards. He attached social meaning to design, but was aesthetic, rather than political. In Germany, he was seen as antinationalist and was target by police, so he left Germany. Others were not so lucky and were imprisoned or executed by the Nazis. Despite political pressures, the influence of the avant-garde was long lasting and profound.	
	Conclusions Design became a major social and cultural force in the 1910s and 1920s. Avant-garde artists borrowed the techniques of advertising to promote their aesthetic principles in the 1910s.	

	New forms of graphic communication served utopian artistic programs and propagandistic campaigns in politically volatile Europe. In the 1920s early experiments settled into modern style that marked its distance from A&C influences by replacing historical and organic motifs with dynamic geometric abstraction. The alarm caused by wartime propaganda gave rise to a new field of academic study devoted to understanding mass communication. • The Bauhaus shaped graphic design as a discipline and a profession.	
	Chapter 10: The Culture of Consumption: 1920-1930	
	Introduction Graphic design became a recognized economic, political, and cultural force by the end of WWI. It had the power to sway public opinion. By the 1920-30s is became the source of stylish fantasies that were crucial to the growth of consumer culture. Graphic designers effectively sold modernism itself in the process, packaging its ideas as a fashionable aesthetic rather than a social project. The idea of creating a consumable image came to replace the simple notion of promoting goods or services. Graphic designers produced perpetual longing for an imagined life. Subtle advertisers channeled attention toward purchases that indicated status rather than need. The image-driven attitude was described as *conspicuous consumption*, coined by American sociologist Thorstein Veblen at the turn of the century.	
	Designing the Modern Lifestyle The avant-garde had left a conspicuous imprint on European graphic design. The spirit of innovation that charged Futursim, Dadaism, Constructivism, and De Stijl had fostered the use of abstract forms, heavy rule, black and red ink, strong shapes, and striking arrangements. Asymmetrical typography also prevailed. • The legacy of Russian Constructivism was carried to cosmopolitan European capitals. • Elements of Constructivism, such as grid structures, dramatic photography, and emphatic diagonal compositions, had become established features of European graphic modernity. • Consumerism absorbed the formal lessons of the avant-garde without its visionary ideals. • On the American said, the high-profile innovator William Addison Dwiggins helped define the field he called graphic design. • The term Art Deco entered popular usage and found its way to the US as key figures left Italy, Spain, and Germany because of the political climate. They were hired in the US to capture the sophistication of the European style. • Through the dialogue with fine art, design helped define modernity as a social and personal ideal. By the end of the 1930s this ideal was being linked to products and industries in the design of sophisticated ad campaigns.	

	Consumer Culture "Mass consumption," notes historian Daniel Boorstin, was considered "the great democratizing force in modern America." The advancement of an ideology of *consumer capitalism* in the early 20th century was fueled by this equation. Graphic design was an expression and an instrument of this ideology, and it was key to promoting consumption as an ideal, not a practicality. Advertising sold goods by association with cultural values and class identities. The "American Dream" was a powerful image, even during the depression. In the 1920-30s, most of the American imagery was still rendered by hand. In contrast with the literal, narrative, and thematic emphasis of American commercial art, the formalism of European graphic design was striking. Advertisers sought their audiences from national magazines, radio, and billboards, which had increased as posters decreased. Outside advertising was growing. Advertisers shifted from extolling the virtues of products to picturing them in fantastic contexts to which the purchase seemed to promise access. The marketing analyst was born. With statistical methods and survey techniques, he produced studies proving white evoked hygiene and black was sophistication, sleek shapes were modern, etc. Graphic designers became "product stylists" and "consumer engineers," who created an aura that had little to do with practical uses. Beyond the 19th century concept of trademarks, brands extended to complete visual images. A company no longer had a logo and letterhead, but a "look" that was a harbinger of corporate	
	The Profession In Europe, the Bauhaus provided an institutional framework for design instruction. When pivotal figures left in the 1930, they brought their curricular approach with them to American and Switzerland. The Association of American Advertising Agencies was founded in 1917. Government rhetoric extolled American ingenuity, but promoting American goods abroad was the real benefit. Many products defined themselves as necessities: electric shaver, hair dryer, electrical appliances. White collar work expanded. Graphic design acquired new institutional and professional forms: yearly awards. American Marketing Association was established in 1931. Ad agencies assembled teams instead of individual designers working in a studio. A scientific approach to consumer research introduced questionnaires and opinion surveys. Publications sought to analyze the basics of a successful campaign. Photographs were being used, as was color separations, spot color, metallic inks, and varnishes. Four-color photograph separation and offset printing stretched graphic capabilities, brought costs down, and increased the volume of print runs. Type design in the 1920-30s reflected diversification. Display types features geometrical shapes, streamlined shapes, and names of the era: Vogue, Broadway, Tiffany, etc. Stanley Morison's Times New Roman for the *London Times* was completed in 1932. Extensive use of san serif fonts created demand for variety in style and weight.	

	Conclusion Increased consumption of standardized products and imagery structure conformity into patterns of modern culture. Graphic design planted and manipulated fantasies of lives defined and fulfilled by style. With the fantasy, a certain image of modernity was sold. Graphic designers used commercial design as a vehicle for getting the American public to engage with modern art by introducing new styles, attitudes, and approaches to form The two decades between the wars brought modernism to a practical maturity in fashion, commerce, and business. Graphic design had a profound impact on modern culture, but the impact was more aesthetic than political.	
	Chapter 11: Public Interest Campaigns and Information Design: 1930-1950	
	Introduction In the mid-20th century national information campaigns called graphic designers to public service, whether it took the form of a socially conscious photo-essay, a helpful poster, or civic-minded advertisement. Posters recruited soldiers, promoted government bonds, or warned of security risks. They produced images of patriotic cooperation. Public information campaigns had a political purpose and south to be effective rather than subtle. Information graphics appeared. Bar charts and flow diagrams seemed like straightforward presentations of facts. The hidden rhetorical strength of information design lay in the appearance of fact-based objectivity, which also was presumed to be inherent in documentary photography. Information graphics and documentary photography had the power to shape public opinion. After the war, used these techniques to lend authority to the purposes of business and industry.	

	Public Interest and Education By the 1930s graphic design in the public interest was already well-established. The promotion of public safety and personal hygiene had been a feature of 20th century campaigns, spreading middle class assumptions and social values. By contrast to advertisements that encouraged the consumption of new products for personal distinction and gratification, public interest graphics often attempted to regulate individual behavior by promoting social norms as common sense. They rode the line between informing the public and prescribing conformity. From 1936-1943 the US government program, The Works Project Administration (WPA), produced more than 2000 posters around the country. The economic aim was to provide employment, but also to provide art to the daily lives of Americans. Themes of posters ranged from public safety to upcoming events. Several thousand artists, designers, photographers, and writers worked for the WPA. Iconography in the 1930s often propagated stereotypes. National stereotypes emerged in part from designers' efforts to create imagery that reached its target audience through details of style and form as well as content. Nazi party, folk imagery, block letters for the depression in the US. This graphic rhetoric was as persuasive as any text and often served to reinforce the way individuals were judged along gender, race, and class lines.	
	Photojournalism and Documentary Documentary photography became a powerful instrument of political and social commentary in the 1930s. The Farm Security Administration commissioned photographs and journalists to document the lives of America's rural poor. Photojournalism became a profession. Print technology for photographic reproduction improved and became more affordable. The integration of documentary imagery into mainstream magazines popularized the work of major modern photographers. Cameras became more portable and film stock varied. The social movements that brought documentary photography to the fore stemmedfrom some of the same progressive and reform sensibilities that gave rise to public information campaigns and shared with them a belief in the possibility of objective representation. Although illustration remained a feature of literary publishing will into the 1950s, photography entirely replaced drawings for journalistic purposes because the general perception of news photography was that it presented a direct an unaltered record of the truth.	
	Wartime Propaganda As WWII broke out in Europe, posters were used to mobilize sentiment and action on all sides. Women were encouraged to volunteer for service and war work. The female defense industry worker was idealized in tough but feminine images like Rosie the Riveter and Jenny on the Job. Posters were also used to warn citizens against the dangers of spreading sensitive information.	

	Wartime Information During the war, official diagrams and charts delivered crucial information. The task of presenting dense information in an economical well-organized form challenged designers. Rapid visual recognition was critical. Meanwhile, another form of graphic information was on the rise. The work of code analysis laid one of the foundations for modern computing. The fascination with codes also led to the development of pictographic systems.	
	Commercial and Technical Uses of Information Design In the late 1940 to early '50s, the development of the first electronic computers changed the relationship between graphics and statistics. Computers were commercially available and used to process huge amounts of data with unprecedented speed. Information was legible and comprehensible. Graphic designers were able to take the intangible and led visible form to it. Systems theory, cybernetics, and computer science influenced the graphic forms through which data – or statistical information – were expressed. The imagery of science and technology became standard iconography.	
	Information Analysis and Design Process The influence of informational analysis affected the way graphic design saw itself. Instead of being an approach to the display of objects and communications of messages, it was conceived as a system in which all elements operated as integral parts of a network of flows and exchanges. The popular imagination and in concrete application, systems approaches to the presentation of data became pervasive metaphors. Data processing because a part of daily business, as digital computers began to be adopted by government agencies, corporations, and financial institutions. The cultural authority of statistics was boosted by the visual rhetoric of information graphics. But even as human agency was downplayed, computational capabilities posed new challenges to graphic designers. The scale and complexity of data processing they presented pushed designers to make tremendous leaps in the visualization of elaborate abstractions. Cartography benefited from this. Mathematical processing seemed less fallible than human decision-making. This also minimized faculties of compassion and qualitative judgment.	
	Conclusion Public interest posters, documentary photography, wartime propaganda, and information design all produce an argument and attempt to persuade by graphic means. All assume that certain kinds of information are self-evident and that graphic design is merely a means for presenting such information as clearly as possible. But design methods used by these media and formats demonstrate that meaning is made in presentation. They seek to achieve results through social engineering, urging individual's actions, and attitudes to conform to assumed norms. Visual code quickly gave rise to stereotypes. Graphic designs promoted specific values. The shift from overt propaganda to the subtler devices of information design marked an important turning point in 20th century culture. The information design carried an assured authority that seemed to defy challenge. Yet subjective viewpoints, historical perspective, and cultural biases are always part of information design, even if they go unacknowledged.	

	Chapter 12: Corporate Identities & International Style, 1950's-1970's	
	"coordination was facilitated by a logical approach and new production technologies" (259)	graphic designers move from just composition to include the communication aspect
	"aesthetics of corporate systemization," "universal language," "values of clarity, rational organization, and functional efficiency" (259)	
	"synthetic imagery" (259) "corporate culture," "unified identity" (259)	
	Television, photography, phototypsetting	New capabilities and new demands
	Professionalization of graphic designers	
	Post WWII: "graphic design played a critical role in shaping societal norms and representing new political and economic orders" (259)	
	"International Typographic Style" (259)—origins in Constructivism, De Stijl, experimental movements	Premise of underlying order and rationality; accomplishes control through design; expectation of order, control through consumption
	"architectonic" form (263)	Inferred internal structure of substrate—inherent order
	International style: "underlying grid structures, asymmetrical layouts," "san serif type," "objective photography, geometric forms" (263)	Represents clean, clear message, unification of elements, rejection of natural, decorative, or organic motifs
	Multinationals, diversified holdings—require unifying imagery for corporate identity: "a means of making complex organizations seem like a single entity" (260)	communicated through unified imagery; shapes public perception, hides inequalities and complexity
	"coded language of sovereign logos, signature typography, and proprietary color schemes" (261) "quick visual cues" (262)	Corporate entities included emerging fast-food industry; use of logo and image identities also begins to emerge in public/government institutions
	"'universal' signs succeed by becoming familiar conventions" (263)	Iconic representations transcend national identities; beginning of globalism
1950 1956 1956-60 1959 1960 1964 1967 1974	William Golden, CBS logo Paul Rand, IBM logo James K. Fogelman, CIBA designs Rand, Noyes, Matter, & Eames, Westinghouse Chermayeff & Geismar, Chase Manhattan logo Chermayeff & Geismar, Mobil Raymond Loewy, Shell Cook and Shanosky, "symbol signs"	Corporatization reflected in logos and sign systems; sign systems establish corporations as singular entities (leading to corporations as individuals in 2000s)
	Basic visual elements—shapes, colors, typeface, line—are used to establish easily recognizable repeating designs: "Graphic design disappears into functionalism"; "uniformity (conformity) and abstraction" (260); simple unity hides corporate complexity (261)	Form follows function
	International Paper—logo combines natural shape of tree, making company initials out of it (261)	Using the reference to nature to both help observers relate the product to its natural origin, at the same time abstracting into a controllable shape-idea
	"A generation earlier, graphic designers' roles had been limited to layout, composition, and style choices for print design. Now their work involved large-scale, coordinated communication campaigns that not only maintained the identity of a corporation but also added value to its products through symbolic investments in this identity"; "voice and personality" (261)	Brand identity combines image, text, and secondary orality (through television) This process extends to the designers themselves

	"International Typographic Style"; "neue typographie"; "*Neue Grafik*" (265)	Emerges out of De Stijl and Bauhaus ideas of form and line; use of publications to transmit new design ideals; dominant themes associated with European, American, and Japanese designers (265-66)
	"biomorphic forms" (267); "Imaginative eclecticism and creative use of technology" (267)	Some artists diverge from International Style, derive inspiration from surrealism, abstract painting
1945 1957	Alvin Lustig, *A Season in Hell*, cover design using biomorphic elements, hand lettering Bradbury Thompson, Westvaco, experiment in offset printing, four-color process, using "images from an earlier era" (268)	The works of Lustig and Thompson can be seen as counter influences to the International Style
	"all visual forms carry history" (268)	Discussion of Bradbury Thompson's adherence to figurative and decorative elements—preserves a humanistic style
	"communication events"; "temporality of the print environment" (269)	Herbert Matter
	"aesthetic of mass style production"; "in the 1950s, the term *design* came to signify a high-end, sophisticated sensibility in furniture, housewares, office equipment, and other product lines" (269)	After WWII, extreme push toward creating the consumer society—designers did their part by embedding corporate identity into ideals of consistency, quality, availability
	International Style drives mechanical production methods and photography replace hand-lettering and sketches (269)	Hand-lettering seen as eccentric, movement away from individual expression (269) New forms of design reflect and reinforce dominant social paradigms such as capitalism and corporatism (Ong): Shifts in technology drive concepts of communication—marriage of message and medium (McCluhan).
	"professionalism in graphic design"; "capacity to command technological mean of production" (269)	(Ong) Scribes—control of technology translates into power within relationships
	New markets for graphic design: television, multimedia presentations, animated films and commercials (269)	
	Graphic design elements: temporality, intermedia (including navigation, live data, animation), transfer type, screen patterns (270); Increased availability and affordability of color printing (271-73)	
	New sans serif and brush fonts "were designed in families, conceived with a full range of weights and sizes to ensure stylistic unity" (272)	New technologies and production practices combine with corporatization in shaping design in this period. While metal type still dominates the landscape, phototypesetting provides more flexibility (and lower costs) and opportunities to experiment (271-73)
1954 1950s	Adrian Futiger, Univers font family Miedinger and Hoffman, Helvetica suite	
	"formulaic publications relied on cover design," "Special typographic treatment of a single word became a standard graphic method of establishing brand identity in mastheads" (274)	Mass-circulation magazines depend on niche markets, must develop easily recognizable identities through distinctive visuals
	"The humanistic tradition continued to assert a formal influence in book design" (277)	Book publishers opt for conservative trends to differentiate from commercial enterprise
	Chapter 13: Pop and Protest, 1960s-1970s	
1960s	"Pop art"; "Op Art, media imagery, and psychedelic patterns" (281)	The youth movement, counter-culture influences, and anti-establishment trends produce marketing and ad genres that are very different from the capitalism-influenced International Style
	"Reproduction technology changed dramatically, as photographic methods became industry standards for typesetting, layout, and printing, increasing the flexibility and affordability of imaginative graphic design" (282)	Changing technology allows both traditional and subversive design to flourish; the costs which traditionally limited publishing to wealthy corporations, individuals, or groups start to fall with the introduction of phototypesetting and other innovations

	McCluhan notes that "graphic designers were massaging the media" to generate excitement, participation (283)	
	Key words: "underground, anticonsumerist, activist productions" (282) "Irreverence, play, and cleverness" (283)	Emphasis on youth culture, design culture followed social fashions and fads—corporations could follow and coopt the message, but it originated on the periphery
1962 1965 1966 1969	Herb Lubalin, *Ebony* ad, *Eros* George Lois, *Esquire* cover Milton Glaser, Dylan poster Wes Wilson, Grateful Dead poster Victor Moscoso, Miller Blues Band poster Crumb, *Gothic Blimp Works*	Magazines, commix, and poster art reflect the counterculture trends by challenging social mores and prejudices; sexuality, gender roles, race relations,
1963 1964 1966 1970 1975	Ron Padgett, *The Censored Review* Ken Garland, *First Things First* designer's manifesto *East Village Other* Haeberle and Brandt *And Babies?* Poster Berkeley strike poster *Whole Earth Catalog*	Low-budget newsprint, mimeograph, and tabletop publishing gave voice to anti-establishment and alternative lifestyle political messages in the 60s & early 70s
	"Mail art and multiples"; "notion of an eventful zone at the margins of mass culture" (289); "the streets as a zone of public discourse" through graphic images (292)	mix of professional and amateur artists, participation in anti-war and Rights movements
1962 1967 1968 1970s 1973	Andy Warhol's first fine art show Taubin and Zieff, Levy's ad Peter Max, "celebrity culture" designers (296) Marlboro Man ads Seymour Shwast, Doug Henning poster	Commercial art and fine art intermingle in Pop and Op movements; drug culture influences psychedelic art; individualism and celebrity manifest as American ideals.
	Exaggerated or "formulaic" representations of iconic concepts: "rugged masculine individualism," "stereotypical liberated women," androgyny, and ethnic identities; "consumable images of women" (287)	Individual identity is filtered through social, commercial, and corporate lenses. Television, film, and mass media promote an ubiquitous consumer culture in which image is sold as much as product
	Hermann Zapf, Optima (294) Dry transfer lettering (examples: Letraset) "The production methods of industrial photography—halftone screens, process colors, solarization and polarization, silkscreen, and offset printing—provided the elements of a rich graphic vocabulary" (295)	Photographic typesetting frees designers from constraints of metal typeset, and experimental design proliferated
1967	Guy Debord, *Society of the Spectacle* "Lived experience had been replace by the symbolic expression of ideas, and contemporary life was profoundly integrated with representations" (295)	Theorists Debord, McLuhan, and Harold Innis all pointed to the ways in which cultural identity had become entwined with iconic expression—the pop culture that arose in the 60s influenced advertising and media communications, and was in turn shaped by the resulting representations
1972	Muriel Cooper, *Learning from Las Vegas*	Beginning of postmodern style in design
1962 1969 1970 1971 1972	Rachel Carson, *Silent Spring* Friends of the Earth, David Brower First Earthday Greenpeace founded DDT banned in US	Environmental causes first gain wide public acknowledgement in the 60's & 70's
	Chapter 14: Postmodernism in Design, 1970s-1980s and Beyond	

	"deliberate, self-conscious reaction to the 'universal' formal language of modernism" Denial of originality at the same time it "spawned a cult of celebrity designers" Focus on "product" ignores "increasingly complicated economic systems and political contexts" Graphic design itself comes under the lens of postmodern critique (301)	
1979	April Greiman, *Vertigo*; Cal Arts viewbook	"modular approach," "appropriation" (301-02)
	Key terms: pastiche, retro, techno, Punk, beach culture, heavy metal, grunge, simulacra, identity politics, sign systems, hybrid (301); "language of design," semiotics (302); "antihumanism"; parody (305); "influence of French critical theory" (318)	Major contributor to shift in aesthetics; she produced a style recognizably different from pop and International design. Dissolution of the grid (International Style) freed elements to float. Riotous colors, shapes, eclectic composition
	"Consumption was promoted in expensively produced campaigns that hid traces of the human or environmental costs of production" (302)	Designers shift again, from professional practitioners to theorists, analysts; design is viewed as a language suitable for critique in historical, cultural, political, and commercial perspectives. Influenced by Baudrillard, Debord, Lyotard
	"Postmodern formal manipulation was often antifunctional, deliberately chaotic, and averse to message-driven, information-delivery approaches to communication" (305)	
1983 1984 1985	Wolfgang Weingart, Swiss poster Sussman & Prejza, LA Olympics Terry Jones, *i-D*	The years between 1923 and 1982 provide most of the research into language and orality from which Ong bases his argument. Key ideas: ● Pre-literate cultures were/are psychologically different in their approach to the world because of their form of communication ● The advent of literacy supported abstract, analytical thought processes, which in turn brought about different ways of organizing knowledge ● Orality can exist without literacy, but literacy only arises from an oral history ● Communication history can be divided into Oral Culture, Chirographic Culture, Typographic Culture, Grapholects, and Secondary Orality ● Grapholects are cultures with deeply internalized use of the written word; words become the things they represent ● The psychological changes manifested in Grapholectic culture merge into a Secondary Orality with the technological advances of aural and visual communication devices; the word moves from static to action (Ong)
	"*détournement*, an early form of culture-jamming" (306)	The years between 1923 and 1982 provide most of the research into language and orality from which Ong bases his argument. Key ideas: ● Pre-literate cultures were/are psychologically different in their approach to the world because of their form of communication ● The advent of literacy supported abstract, analytical thought processes, which in turn brought about different ways of organizing knowledge ● Orality can exist without literacy, but literacy only arises from an oral history ● Communication history can be divided into Oral Culture, Chirographic Culture, Typographic Culture, Grapholects, and Secondary Orality ● Grapholects are cultures with deeply internalized use of the written word; words become the things they represent ● The psychological changes manifested in Grapholectic culture merge into a Secondary Orality with the technological advances of aural and visual communication devices; the word moves from static to action (Ong) Links to the French Situationists; taking mass culture objects/symbols/icons and repositioning them in such a way to challenge the meaning and make a political statement
	"Retro""the past was also considered to be an invention" (306) Paula Scher, Swatch poster (313) Tibor Kalman, Florent (315)	The years between 1923 and 1982 provide most of the research into language and orality from which Ong bases his argument. Key ideas: ● Pre-literate cultures were/are psychologically different in their approach to the

	Charles S. Anderson, stock art catalogue	world because of their form of communication ● The advent of literacy supported abstract, analytical thought processes, which in turn brought about different ways of organizing knowledge ● Orality can exist without literacy, but literacy only arises from an oral history ● Communication history can be divided into Oral Culture, Chirographic Culture, Typographic Culture, Grapholects, and Secondary Orality ● Grapholects are cultures with deeply internalized use of the written word; words become the things they represent ● The psychological changes manifested in Grapholectic culture merge into a Secondary Orality with the technological advances of aural and visual communication devices; the word moves from static to action (Ong) Links to the French Situationists; taking mass culture objects/symbols/icons and repositioning them in such a way to challenge the meaning and make a political statement Irony versus nostalgia (post-modern vs pop) No such thing as originality; history is a construction, vernacular icons are thus open for appropriation
	"the history of art and design constituted a vast archive to be quoted, appropriated, reused in a newly critical, reflective way" (313)	
	"Punk": "an unhealthy look with heroin undertones" (307)	Postmodern design utilized collage, found art, historical elements, jagged edges (stairstep), movement (kinetics), dimensionality
	Jamie Reid, Sex Pistols album cover	In design, Punk is associated with collage, cutout letters, "ransom note" fonts—favored by underground "zines" (307)
	"If design was going to matter, it had to mess things up, make them not work, call attention to expectations of smooth delivery and self-effacing communication structures" (310)	Design, particularly in music venues, becomes artillery in the culture wars of the 90s. Subversive designs, including images and fonts, strike back at conservative cultural trends.
	"brand awareness came first" (311) "Appellation . . . strategy by which a message or image positions a viewer as its addressee" (312)	All rules were called into question, and designers redefine "editorial graphics" (310), while big changes were taking place in the social/political/economic sphere: boom/bust periods; reduced funding for social, educational, infrastructure programs; secretive government wars; late capitalist economics
1985 1988 1990	"Techno": "verging on electronic" (306) "post-human" "dystopic impulse" (317) Bruce Mau, *Zone* Elliott Earls, Dysphasia (font) Attik Noise, "Analytical Experiments in Graphic Science" (317)	Major corporations put most of their energy (and money) into creating brand recognition Athletic shoes used hip hop music, language, and imagery to increase appeal to a particular audience (Nike vs Reebok)
1977	Dan Friedman, *Artificial Nation* "The language of simulation suited an era in which global capital flows were often masked by consumable signs free from context or accountability" (311)	Pessimism versus optimism (post-modern vs modern) Cybernetics, artificial intelligence, virtual worlds; pre-digital; absence of the organic or humanist
	"Designers seemed increasingly sensitive to the role they played in promoting consumer culture" (317) "Critical analysis of social conditions and the rise of cultural studies also had an impact on graphic design" (316) Oliviero Toscani, Benetton ad (319) (ads dealing with topics like dying soldiers, AIDS victims, newborn babies, multiculturalism)	Drucker & McVarish indict designers along with the consumer culture they serviced in the 80s
	"Meaning was understood as a product of signs combined according to the laws of a semiotic system, and designers were skilled in the manipulation of such systems" (315)	Though pessimism was the mood of the era, designers still participated in social causes such as AIDS awareness and critiques of corporate/consumerist culture Nature, as well as human culture, faces the extinction brought about by notions of simulacra; if there is no history except what we construct, and everything is open to

		appropriation, then nature can also be seen as constructed and commodifiable
1986 1995 1998	"The idea that a typeface is an authored artifact barely registers in public imagination. Type seems simply to appear in the visual landscape" (309) Alan Hori, *Typography as Discourse* poster Barry Deck, Template Gothic	 the world finally catches up with designers; according to M&V, artists had been able to construct meaning (in the post-modern sense) all along
	"By the 1980s, graphic design was no longer predominantly static composition of advertising, packaging, and editorial design but was moving into special effects, animation, film television, and music video graphics, and disappearing into global corporate identity systems, branding, and so on" (317)	Textuality becomes part of our consciousness, it is the way we think; thus, typeface merely replaces handwritten text as model for thought?
	"By the 1980s, graphic design was no longer predominantly static composition of advertising, packaging, and editorial design but was moving into special effects, animation, film television, and music video graphics, and disappearing into global corporate identity systems, branding, and so on" (317)	
1992	"everyone was a potential designer or artist"; "the rhetoric of progress" (323)	
1992	Key terms: digital design, desktop publishing, distributed production, analog, computer graphics, telematics art, WYSIWYG, pixels, vector graphics, Bezier points, algorithm, bitmap, scalable	Technological movements in music, art, and publishing reduce the role of the expert and challenge the notion of professionalism while conversely reaffirming the need for specialization
1989 1990	"Evidence of designers' labor tended to disappear in high-end digital productions" (323)	Electronic design appropriated some existing terminologies while introducing a raft of new terms
	Chapter 15: Digital Design After the 1970s	
	"Analog documents possess the properties of their material production . . . But all digital files are data" (324-25) "code does not carry any constraints on its expression" (326)	The trend toward concealing the systems underlying communication structures that started with the International Style reaches an apex in the world of high-end digital design
	Microchip, dot-com booms (325)	This process of reducing physical processes to binary code assists in the perception of immateriality New concerns over reproducibility, replicability, fiction vs fact
	Matthew Carter, Bell Centennial Donald Knuth, TeX and Metafont	Artists helped market the technologies that changed art production; pressures arise from rapidly changing technology and expectations
	Lucas de Groot, Jesus Loves You Büro Destruct fonts	Recognition that fonts work through differentiation and stylistic representation—function of aesthetics The flexibility and ease of creating digital fonts forced designers to reinvestigate what fonts are and what they do
	Photoshop®, Pagemaker®, and QuarkExpress® "Style sheets made all graphic designers into information designers" (333)	The ability do things with digital fonts that were impossible with prior technologies leads to proliferation of designs embracing every conceivable form; this explosion of form does not translate to "substantive presence or lasting power" according to D & V (331)

1980s-90s	"A computer environment is not literal but abstract" (334) Digital "interface metaphors" (333) (trashcan, pencil, paintbrush) "User-driven design" (334)	Specialized software programs are developed that ease the transition between analog and digital production. These formats start to become available in the 1070s and 80s, and are continually upgraded as performance capabilities of Macs and PCs are increased.
1978 1979	"Unseen costs had no way of registering in the promotion campaigns that touted each new generation of consumer electronics" (336) The new technologies " . . . all make the designer's art seem trivial to many who imagine that 'the machine does it all'" (336)	Interfaces which serve multiple functionality with the least resource plundering become the norm. Interface representations using analog metaphors become naturalized, generating expectations As design expands beyond print, intuitive control and user functionality gain in importance. Designers face the challenge of producing interactive as well as consumable art.
1995 1995-2001	"As a digital file, it could be mixed and cut, copied and pasted, merged and flattened, selelcted, reversed, and filtered through any operation available in a program"; "fungibility" (332)	Designers also had to absorb the concept of creating (digital) information as well as communicating it; increasing information design complexity trends toward outsourcing, just as immateriality reduces public perception of the artist
	"Digital hybridity and mutation affirmed metaphors of genetics, cloning, and recombinant production or organic material that postmodern design had explored" (332)	Designers gained unprecedented control and freedom from the manipulatible nature of digital files
	Stefan Sagmeister, AIGA poster "the rhetoric of 'immateriality' that accompanied the development of electronic tools tended to gloss over a material basis of production that involved real people doing real work in lived conditions" (339)	The language of nature is reconstituted as manufactured form and design (death of the Watchmaker)
	Second Life "raise issues about the the line between fantasy and reality, including ethical questions of accountability" (338)	Designers begin a dialogue over the missing artist, challenging the myth of immateriality by reinserting the human body into design
1999	"The basic questions of whose interests are served by any and every instance of graphic work, how design is complicit with agendas of coercion or education, and what effect are produced by the way information is profiled and accessed, stored and used, will continue to be crucial to graphic designers" (339)	The role of designers in increasingly all-digital environments means that they are designing the armature for production, rather than designing the product itself.
2007		The ethical/moral role of designers is even more important in an environment where design is ubiquitous and natural. If the consuming public will not question the source of persuasive content, and the corporate or government interests continue to use such methods, designers have a responsibility to at least understand the uses to which their talents are being exercised.