

7th  
EDITION

Rob Carter  
Sandra Maxa  
Mark Sanders  
Philip B. Meggs  
Ben Day

typo  
graphic  
design:

FORM AND  
COMMUNICATION

WILEY



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Saint Barbara.  
*Polychromed walnut  
sculpture, fifteenth-  
century German or  
French. The Virginia  
Museum of Fine Arts.*

# typo graphic design:

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COMMUNICATION

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Cover design: Sandra Maxa and Mark Sanders

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Published by John Wiley & Sons, Inc., Hoboken, New Jersey. Published simultaneously in Canada

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ISBN 9781119312567 (paper); ISBN 9781119477358 (ePDF)

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

“The whole duty of typography, as with calligraphy, is to communicate to the imagination, without loss by the way, the thought or image intended to be communicated by the Author.”

*Thomas James Cobden-Sanderson*

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While most books about typography enjoy a lifespan of only one or two editions, a few classics live well into old age and are published in many editions. *Typographic Design: Form and Communication* is one such volume. This ubiquitous text stands proudly on a shelf reserved only for other time-tested books on the magical language of typography.

How do trade publications find themselves in such respectable company, decade after decade?

**First**, the original edition of any book must be built upon a solid foundation of clearly stated, not-so-scary theory that supports transparent analysis of how theory and practice form an inseparable relationship. This is crucial to engaging a wide-ranging audience – from the fledgling college sophomore just diving into the dark and mysterious sea of typography to the seasoned practitioner in need of a gentle reminder, guiding light, or inspiration.

**Second**, each edition – one after the other – must not only build upon those that came before but also engage, in form and content, a new generation and resonate with the social, political, and technical vibrations of a new era.

**Third**, coauthors and editors of each new update must share common goals and convictions, for a project consisting of thousands of moving parts – as in architecture – can take many years to complete. Open dialogue is essential to the success of such a project.

My friend and co-author Philip Meggs once shared the following quote by Bishop John Fell of Oxford (1625–1686), words of warning to those considering a lifetime of making books. (As a reminder, I have personally kept these words within view while in the thick of it): “My son, be admonished: of making many books, there is no end; and much study is a weariness of the flesh.” (By the same token, I would admit that the making of books, and sometimes the making of many books, is a hard habit to break.)

*Typographic Design: Form and Communication*, now over thirty years in existence, began as an idea ignited by three passionate typographic designers: Philip B. Meggs, Ben Day, and Rob Carter. Together, these teachers and explorers forged the first edition, which immediately enjoyed wide acclaim. Phil and Rob joined forces for edition two, and Phil, Rob, and Sandra Wheeler carved out edition three. With the passing of Phil in 2002, Sandy and Rob collaborated on editions four and five.

Editions six and seven are made possible by the dedicated and perceptive work of Sandra Maxa and Mark Sanders. These astute scholars and coauthors have infused the seventh edition with remarkable vigor, form, and content. Highlights include:

- Significant updates to typographic technology that reflect the profound evolution of media and software, including digital typeface file formats and generative typography
- A new emphasis on the relationships and interconnectedness between print and digital applications
- New images and information that reveal changes in media, architecture, and sociopolitical developments

With these updates and many, many more, *Typographic Design: Form and Communication*, Seventh Edition, once again exhibits the brilliance of a book worthy of the company of the world’s most notable and beautiful typography books.

Rob Carter

# Introduction

---

Typography is a constantly evolving discipline, and this book aims to provide a concise yet comprehensive overview of the information, vocabulary, tools, and methods used in effective typographic-design practice. Included in the following chapters are the history and anatomy of typography; principles of visual organization and legibility; a study of the intersection of form, meaning, and media; projects that explore a variety of contexts; and case studies devoted to traditional and nontraditional typographic design processes.

This book's seventh edition expands the view of typography that transcends specific technologies or media. A knowledge of typographic fundamentals is key to communicating in all environments—static, dynamic, or kinetic—and the first few chapters address the basics of form, syntax, how type communicates, and its potential for expression in both analog and digital applications. This information has been expanded to include sizing, selection, and use specific to type on screen. Current typographic design practice is better understood by exploring the evolution of earlier typesetting processes. In Chapter 7, that background is provided for new designers, and has been updated to include generative typography and hybrid typographic practices. Kinetic typography is discussed in Chapter 8 to provide the designer with an expanded awareness of legibility factors and enable compelling new ways to communicate. New case studies in type in motion, information visualization, and visual branding systems are meant to inspire and show readers how to use their newfound knowledge to communicate visually. Theoretical and structural problem-solving approaches, evolved by design educators, reinforce the underlying concepts in this book. An understanding of typographic classification and subtlety of form is gained from the study of type specimens.

Through the 12 chapters of this book, the authors share a compilation of information and examples with practitioners and students. It yields both insights and inspiration, bringing order to the complex and diversified subject of typographic design.

*For Flashcards, Chapter Quizzes, and Website Resources for Typographic Design, go to*  
[www.wiley.com/go/typographicdesign7e](http://www.wiley.com/go/typographicdesign7e).



## The Evolution of Typography

Typography is an evolution of the written word, and as such it participates in a history of visual communication extending thousands of years. That evolution is presented here in the form of a timeline that traces a development from hand, to mechanical, to digital practice, in the context of world-historical and art-historical events.

The history treated in the first section of the timeline predates typography. It begins with the invention of writing over five thousand years ago and ends with the invention of movable type in Europe during the middle of the fifteenth century. The second section covers the long era of the handpress and hand-set metal types. This period, from Gutenberg's invention of movable type to the end of the eighteenth century, lasted about 350 years. In the third section, the Industrial Revolution and nineteenth century are revealed as an era of technological innovation and an outpouring of new typographic forms. The fourth section begins with the year 1900 and covers the twentieth century, a time when type was shaped by the aesthetic concerns of modernism, the need for functional communication, technological progress, and the digital revolution in typography. The final section showcases typographic design in the twenty-first century, as it expands to mobile devices and embraces the many possibilities afforded by digital production.



**From the origins of writing to Gutenberg's invention of movable type: 3150 BCE-1450 CE**

**c. 3150 BCE**

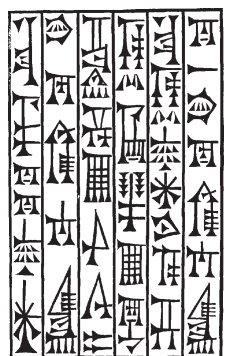
**1-1**



**1-1 c. 3150 BCE:** The earliest written documents, impressed clay tablets from Sumer. The impressions represent clay tokens, which were used for record keeping before the invention of writing.

**1-2 c. 3000 BCE:** Cuneiform, a very early writing system utilizing wedge-shaped marks on clay tablets, was invented by the Sumerians.

**1-2**



**c. 2500 BCE:** Egyptians begin to make papyrus, a new writing material derived from the stems of the papyrus plant.

**1-3 c. 2600 BCE:** Completion of the pyramids at Giza, Egypt.

**1-3**



**1-4**



**1-6**



**1-4 c. 2400 BCE:** False-door stele inscribed with hieroglyphic writing, from Old Kingdom Egypt.

**1-6 c. 1800–1400 BCE:** Stonehenge, a megalithic monument of 30-foot-tall stones set into circular patterns.

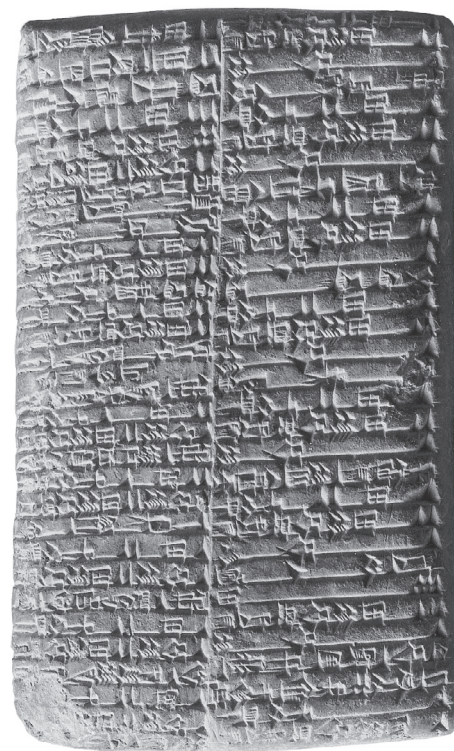


**1-8**

**1-7 c. 1570–1349 BCE:** Polychromed wood sculpture from New Kingdom Egypt, with hieroglyphic inscriptions.

**1-8 c. 1450 BCE:** Detail, The Book of the Dead of Tuthmosis III, hieroglyphic writing on papyrus.

**1-5 c. 2100 BCE:** Cuneiform tablet listing expenditures of grain and animals.



**1-5**



**1-7**

ΥΡΕΙΡΙΑΙΤΕΝΑΕΕΕ  
 ·ΕΗΒΑΝΝΕΑΝΠΟ  
 ΑΣΟΥΤΙΜΠΥΡΟΣΔΕΑ

1-11

c. 1500 BCE

1-9

𐤀 𐤁 𐤂 𐤃 𐤄 𐤅 𐤆 𐤇 𐤈 𐤉  
 𐤊 𐤋 𐤌 𐤍 𐤎 𐤏 𐤐 𐤑 𐤒 𐤓  
 𐤔 𐤕 𐤖 𐤗 𐤘 𐤙 𐤚 𐤛 𐤜 𐤝 𐤞 𐤟 𐤠 𐤡 𐤢 𐤣 𐤤 𐤥 𐤦 𐤧 𐤨 𐤩 𐤪 𐤫 𐤬 𐤭 𐤮 𐤯 𐤰 𐤱 𐤲 𐤳 𐤴 𐤵 𐤶 𐤷 𐤸 𐤹 𐤺 𐤻 𐤼 𐤽 𐤾 𐤿

1-9 c. 1500 BCE: The twenty-two characters of the Phoenician alphabet.

1-12

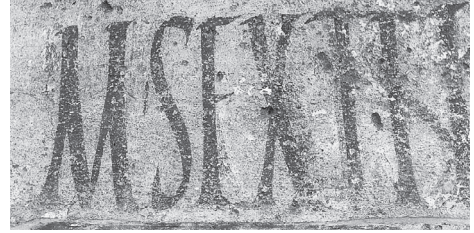


1-11 Fourth century BCE: Greek manuscript writing.

1-14

MARTISQ'DOLO

1-15



1-16

CONNERTANTRIA  
 SINMANIBUSUESTRI  
 VITRONSIAMMAGNO

c. 800 BCE: Homer writes the *Iliad* and the *Odyssey*.

540 BCE: The first public library is established in Athens, Greece.

1-10 389 BCE: Inscription in the Phoenician alphabet on a fragment of a marble bowl.



1-10

1-12 448–432 BCE: The Parthenon, temple of the goddess Athena, on the Acropolis in Athens, Greece.

1-13 414–413 BCE: Fragment of a Greek record of sale, carved on stone.

c. 160 BCE: Parchment, a new writing material made from animal skins, is developed in the Greek state of Pergamum.

44 BCE: Julius Caesar is murdered.

1-13



1-14 c. 50 BCE–500 CE: Roman square capitals (*capitalis quadrata*) were carefully written with a flat pen.

c. 33 CE: Crucifixion of Christ.

1-15 c. 79 CE: Brush writing from a wall at Pompeii, preserved by the volcanic eruption of Vesuvius.

105 CE: Ts'ai Lun invents paper in China.

150 CE: The Roman codex, with folded pages, begins to be used alongside the rolled scroll.

1-16 c. 100–600: Roman rustic writing (*capitalis rustica*) conserved space by using condensed letters written with a flat pen held in an almost vertical position.



118 CE



1-19

1-17



1-17 118–25:  
The Pantheon, Rome.

1-19 312–15: Arch of Constantine, Rome. Carved into marble, monumental Roman capitals survived the thousand-year Dark Ages.

325: Emperor Constantine adopts Christianity as the state religion of the Roman Empire.

452: Attila the Hun invades and ravages northern Italy.

476: Emperor Romulus Augustulus, last ruler of the western Roman Empire, is deposed by the Ostrogoths.



1-20

1-21

MUSADQUEQUAMUISCONSCI  
MITATISNOSTRAETREPIDATIO  
MUR·TAMENFIDEIÆESTUINCIT

1-20 533–49: Church of Sant'Apollinare in Classe, Ravenna, Italy.

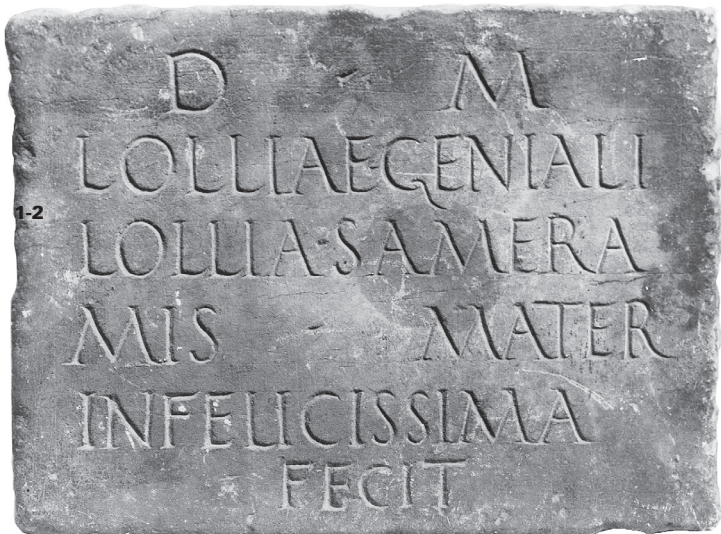
1-21 Third–sixth centuries: Uncials are rounded, freely drawn majuscule letters.

1-18 Undated: The fluid gestural quality, harmonious proportions, and beautiful forms of Roman writing are effectively translated into the permanent stone carving of monumental capitals (*capitalis monumentalis*).

c. 400–1400: During the thousand-year medieval era, knowledge and learning are kept alive in Christian monasteries, where manuscript books are lettered in scriptoria.

1-22 Third–ninth centuries: Half-uncials, a lettering style of the Christian Church, introduce pronounced ascenders and descenders.

1-23 Sixth–ninth centuries: Insular majuscules, a formal style with exaggerated serifs, are developed by Irish monks from the half-uncials.



1-2

1-18

4

monuauiscm

1-22

magnum quod erit

1-23



732 CE

732: The Battle of Tours ends the Muslim advance into Europe.

800: Charlemagne is crowned emperor of the Holy Roman Empire by Pope Leo III.



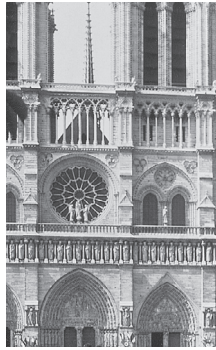
1-25

868: The earliest extant printed text, of the Diamond Sutra, is printed in China.

1-25 Tenth century: High Cross at Kells, Meath County, Ireland.

et Quia utem super p

1-27



1-28

1-27 Eighth–twelfth centuries: Caroline minuscules become the standard throughout Europe after Charlemagne issues his reform decree of 796, calling for a uniform writing style.



1-30

1-30 Twelfth century: Bronze and copper crucifix from northern Italy.

1215: The Magna Carta grants constitutional liberties in England.

1-31 Thirteenth–fifteenth centuries: Gothic Textura Quadrata, or Textura, the late-Gothic style with rigorous verticality and compressed forms.

1347–51: First wave of the Black Death, a plague that decimates the European population.



1-32

1-32 Thirteenth century: Byzantine school, *Madonna and Child on a Curved Throne*.

1-24 c. 800: Portrait of Christ from the Book of Kells, a Celtic manuscript.



1-24

1-26 c. Eleventh century: Round tower on the Rock of Cashel, county Tipperary, Ireland, a lookout and refuge against Viking invaders.



1-26

1034: Bi Sheng (Pi Sheng) invents movable type in China.

1096–99: The First Crusade.

1-28 1163–1250: Construction of Notre Dame Cathedral, Paris.

1-29 Eleventh–twelfth centuries: Early Gothic lettering, a transitional style between Caroline minuscules and Textura, has an increased vertical emphasis.

early gothic

1-29

noſtro qui ſedet ſuper thronum et agno. Et omnes angli ſtabant i circuitu throni ⁊ ceciderunt ⁊ adora uerunt deum dicentes. amen. Bi dictio ⁊ claritas ⁊ ſapientia ⁊ gra rum actio. honoz ⁊ uirtus ⁊ fortitu do deo nro in ſcila ſclorum. amen

1-31

# Rotunda

c. 1200

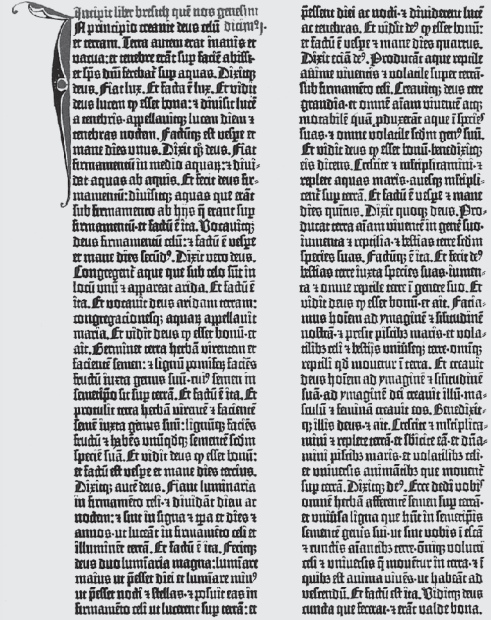


1-35

**1-33 Thirteenth-fifteenth centuries:** Rotunda, a more rounded Gothic letter, flourishes in southern Europe.

**1-35 1420-36:** Filippo Brunelleschi, dome of Florence Cathedral.  
**1431:** Joan of Arc is burned at the stake.

# Genesis



**1-34 Fourteenth century:** Lippo Memmi, *Saint John the Baptist*.

1-34



**1-36 Fifteenth century:** First page of a block book, the biblical book of Apocalypse (Revelation). Woodblock printing probably appeared in Europe before 1400.



1-36

**1-37 Fra Filippo Lippi, *Madonna and Child*.**

**c. 1450:** Johann Gutenberg invents movable type in Mainz, Germany.



1-37

**1-38 c. 1450-55:** Page from Gutenberg's forty-two-line Bible, the first European typographic book.

1-39

**1-39** Woodblock print of the hand printing press, with compositors setting type from a typecase in the background.



**1-40** The cathedral in the medieval city of Mainz, Germany.



1-40



**Typography from Gutenberg to the nineteenth century: 1450–1800**

The humanist philosophy that flowered during the Renaissance embraced the study of classical literature, a belief in human dignity and worth, a spirit of individualism, and a shift from religious to secular concerns.

**1465**

*bar ille ihesus: q̄ quom pm̄u aules uocareēt moifes figurá p̄ntiēns iussit eū ihesum uocari: ut dux militiē delectus esset aduersus amalech qui oppug- nabant filios israhel: et aduersariū debellaret p̄ nois figuram: et populū in*

**1-41**

*esse sensum semital queritur. canq̄ illi ad cogitandum rheda & quadrigis opus eēt. Democritus quasi in puteo quodam sic alto ut fundus sit nullus: ueritatem iacere demersam nimirum stulte*

**1-42**

*ab omnipotenti deo missus deus uerbum quasi lucis ifi cunctis annūciat. Non hinc aut alunde: sed undiq; cun ad deum uerum: gracos simul et barbaros omnem sexū*

**1-43**

**1-41 1465:** Germans Konrad Sweynheym and Arnold Pannartz design the first type in Italy. It had some Roman features.

**1-42 1467:** Konrad Sweynheym and Arnold Pannartz, the first truly Roman-style type, influenced by Roman inscriptions capitals and manuscripts written in Caroline minuscules.

**1-43 1470:** Nicolas Jenson, early Venetian roman typeface.

**1-44 1475:** William Caxton, typography from the first book printed in the English language

**1-45 c. 1485:** Filippino Lippi, *Portrait of a Youth*.

**1-46 1486:** Erhard Ratdolt, the earliest known specimen sheet of printing types.

**1492:** Christopher Columbus lands in America.

**1-47 c. 1494:** Scholar and printer Aldus Manutius established the Aldine Press in Venice to publish works by the great Greek and Roman thinkers.

**1-48 1495:** Francesco Griffo (punch cutter for Aldus Manutius), roman type first used in *De aetna* by Pietro Bembo.



**1-45**



**1-47**

*In the tyme of þ̄ troublous worldz/ and of the hōne kyng and regnyng as well in the rop englonde and fraunce as in all other places vn*

**1-44**

**1-46**

*lud admirari, quod uulgu solet: magnu esse scilicet tantas flammaz, tam immen fos ignes post hominum memoriam fem*

**1-48**

T.O.N-IN PRIMVM GEORGICORVM,  
ARGVMENTVM.

Quid faciat lætas segetes, quæ sydera seruet  
A gricola, ut facilem terram profindat aratri,  
S emina quo iacienda modo, cultusq; locorum  
E docuit, messes magno olim fœnore reddi.

T.V.M-GEORGICORVM LIBER PRI  
MVVS AD MOECENATEM.

Vid faciat lætas segetes, quo sydere  
terram,

¶ Vere terere Mœcenas, ulmisq; adiun-  
gere vites,  
Conueniat, quæ arra bouum, quis  
cultus habendo

S it pecori, atq; apibus quanta experientia parcis,  
Hinc canere incipiam. Vos, o clarissima mundi  
Lumina, labentem caelo quæ ducitis annum  
Liber, et almâ Ceres, uestro simunere tellus  
Chæoniâ pingui glandem mutauit arista,  
P oculaq; inuentus Acheloiâ misit uis,  
E t uos agrestum præsentia numina Fatni,  
Ferte simul, Faunusq; pedem, Dryadesq; puella,  
Munera uestra cæno, tuq; o cui prima frementem  
Fudit equum magno tellus percussâ tridenti  
N eptune, et cultor nemorum, cui pinguis Cææ  
Tercantum niuci tondent dumetâ inuenta,  
I pse nemus liquens patrum, salusq; Licæi

1501

1-49 1501: Francesco Griffo, the first italic typeface, based on chancery script handwriting.



1-55 1519–47: Pierre Nepveu, château of Chambord, France.

1-50 Home of Albrecht Dürer, Nuremberg, Germany.

1-50



1-51 Woodblock initial by Geoffroy Tory, who returned to France from study in Italy in 1505, inspired by Roman letterforms and Renaissance design ideals.

1517: Martin Luther posts his ninety-five theses on the door of Wittenberg Castle Church, launching the Reformation.

1-51

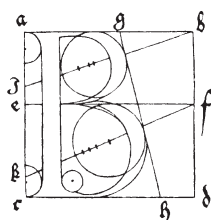


1-52 1523: Lodovico Arrighi, an Italian writing master, introduces his formal chancery italic type.

1-52

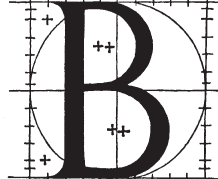
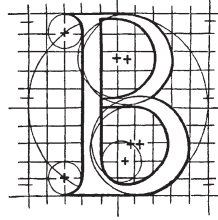
*Dele uarie sorti de littere poi, che in questo Trattatello trouerai se io ti uolessi ad una per una descriuere*

1-53



1-54 1529: Geoffroy Tory, construction of the letter B.

1-54



1-56 c. 1480–1561: Claude Garamond, outstanding designer of Old Style typefaces during the French Renaissance.

1-56



Claude Garamond.

1-59

LIVRE PREMIER DE

Polyphile rassemble comme il lay fut aduis en songe qu'il dormoit, & dormant se trouuoit en une uallée fermée d'une grand closture en forme de pyramide, sur laquelle estoit assis un obelisque de mercurilleuse hauteur, qu'il regarda songneusement, & par grande admiration.



A forest effouentable aiant esté par moy passée, & apres auoir delaisé ceste premiere region par le doux sommeil qui m'auoit loys espris, ie me trouuay tout de nouveau en vn lieu beaucoup plus delectable que ie premier, car il estoit bordé & enuironné de plaitans cotaulx verdoians, & peuplez de diuerses manieres d'arbres, comme cheines, faux, planes, ormes, fraïnes, charmes, tilleulz, & autres, plantez selon l'aspect du lieu. & abas atrauers la plaine, y auoit de petitz buyfons d'arbrisseaux faultaiges, come geneftz, geneuriers, bruyeres, & tamarins, chargez de fleurs, parmy les prez croissoient les herbes medicinales, a frauoit les trois consolides, enule, cheurefeuil, branque vrine, liuefche, persil de macedoine, pinoyne, guymauues, plantain, betoyne, & autres simples de routes fortes & especes, plusieurs delquelles m'estoient incogneues. Vn peu plus auant que le mylieu de ceste plaine, y auoit vne fablonniere melée de petites mottes verdes, & pleine d'herbe menueite, & vn petit boys de palmiers, esquelz les Egypties cueillent pain, vin, huille, vestement, & merchain pour baillir, leurs fucilles embloient lames d'epées, & estoit chargées de fruit: il y en auoit de grandes, moyennes, & petites, & leur ont les anciens donnéce

c. 1540



1-57

1-57 c. 1540: Titian, portrait, Cardinal Pietro Bembo.

1543: Nicolaus Copernicus publishes his theory of the heliocentric solar system.

1-60



1-60 After 1577:

El Greco, *Saint Martin and the Beggar*.

1582: Pope Gregory XIII initiates the Gregorian calendar, which is still in use.

1584: Sir Walter Raleigh sends explorers to the North American coast.

1-62



1-62 1607: Carlo Maderna, façade of St. Peter's, the Vatican.

1609: Regular weekly newspapers appear in Strasbourg, Germany.

1-58 1544: Simone de Colines, title page with woodcut border.

1-59 1546: Jacques Kerver, typography, illustration, and decorative initials, which were combined with rare elegance during the French Renaissance.

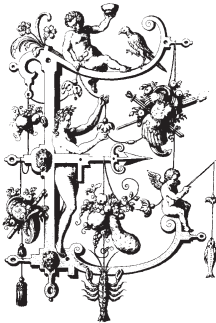
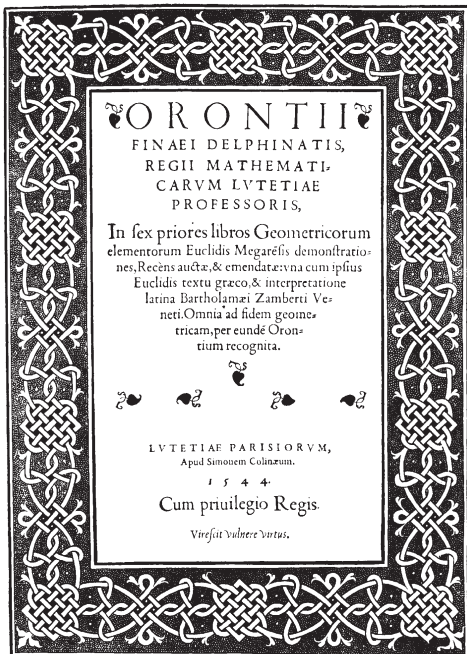
1-61 1595: Johann Theodor de Bry, illustrative initial E.

1603: William Shakespeare writes *Hamlet*.

1-63 1621: Jean Jannon, typeset upon which twentieth-century Garamonds are based.

1-64 1628: The Vatican Press, specimen of roman capitals.

1-58



1-61

La crainte de l'Eternel est le chef de science: mais les fols mesprisent sapièce &

1-63

FRANCISCVS

1-64