

# FROM PAPYRUS TO DIGITAL



UCI'S THESAURUS OF ANCIENT GREEK TEXTS



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OF ANCIENT GREEK TEXTS

An exhibit in  
the UC Irvine Langson Library's  
Muriel Ansley Reynolds Exhibit Gallery

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Curated by

Maria Pantelia  
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The ancient Greeks produced an immense volume of writing recording the birth and early development of Western literature, science, drama, philosophy and other areas of human endeavor. The Homeric epics, the philosophical writings of Plato and Aristotle, Greek drama, the New Testament, the writings of the Eastern Church Fathers, and the Justinian legal corpus are only a few examples of this extraordinary heritage. Unfortunately, only a very small percentage of these texts—an estimated 3-5%—has survived. Most have been irretrievably lost due to accidental destruction, the natural devastation of time, or plundered by foreign invaders. The few texts that remain—all the more precious as representations of what has been lost—are widely scattered and can be difficult to access. For centuries, scholars have sought ways to ensure that the remaining corpus both survives and thrives.

Perhaps improbably, the fledgling UCI campus began to play a central role in fulfilling this scholarly vision in 1972 when the pioneering Thesaurus Linguae Graecae® (TLG®) was founded thanks to a remarkable \$1,000,000 gift from classicist and UCI alumna Marianne McDonald. The TLG's goal was to collect the entire corpus of extant Greek literature from antiquity to the present era, and to explore the advantages offered by modern technology to ensure the long-term preservation and accessibility of these valuable texts. Similar efforts had been undertaken in the past but were abandoned due to the sheer volume of material and the cumbersome methods of gathering data manually. It was the advent of modern technology and this young classicist's vision that provided the catalyst for achieving what had previously seemed impossible.

# FROM POPYRUS TO DIGITAL

## UCI'S THESAURUS OF ANCIENT GREEK TEXTS



Thirty-two years after it began, the TLG has become an internationally recognized research center. Its digital library contains more than 12,000 volumes available via the Internet or on compact disk to thousands of institutions and research libraries in 57 countries around the world. Access to these materials has effected fundamental changes to the study of antiquity and has revolutionized scholarship in a variety of disciplines, including Classics, Ancient and Byzantine History, Linguistics, and Religious Studies.

This exhibit first traces the transmission of Greek texts over the past 3,000 years via the array of media, from fragile papyri and stone inscriptions, to medieval manuscripts and printed books that have been used to distribute and preserve them. Rare books from the 16th to the 21st centuries illustrate the range of printing techniques, translations, scholarly apparatus, and artistic interpretation that have been applied to ancient texts through the centuries. Classical authors whose works are represented include philosophers Plato and Aristotle, playwrights Euripides and Aristophanes, epic poet Homer, fabulist Aesop, medical writer Hippocrates, and others. Also included is a copy of the Thesaurus Graecae Linguae, the lexicon published by Henri Estienne in Geneva in 1572 that served as an inspiration for the TLG name and concept.

The exhibit next explores how the TLG undertook the monumental task of creating a comprehensive digital library at a time when the necessary technologies did not exist. A collection of artifacts and publications illustrates the development of the TLG and its technologies, which began at the most basic level of designing the software to store, display, and print letters in the Greek alphabet. The TLG archives were recently moved to the UCI Libraries to ensure their preservation for the benefit of future scholars. The exhibit celebrates the transfer of the archives and the importance of the project to the history of UCI, the field of Classics, and the evolution of computing in the Humanities.

From Papyrus to Digital was curated by Maria Pantelia, Thesaurus Linguae Graecae Director and Professor of Classics, who has published and lectured extensively on ancient Greek literature and the application of digital technologies in Humanities research and pedagogy. Most of the items exhibited are from Special Collections and Archives in the UCI Libraries, including the rare book and contemporary fine press collections, as well as the archive of the TLG Project. Several items were loaned by the Thesaurus Linguae Graecae Project, Theodore Brunner, and Jay Shanor. We are grateful for their generosity.

### 1. **Map of Ancient Greece.**

This map identifies the cities in mainland Greece, Crete and Asia Minor in which most surviving Greek texts were composed.

### 2. **Egyptian Papyrus Fragment, ca. 400 BC.**

The papyrus roll was the most popular writing material in use from the 6th century BC up to the 4th century AD, but its manufacture from reed was difficult and expensive. It was replaced by the use of parchment, and later the codex (the book format as we know it today) around AD 1000. Loaned by Jay Shanor.

### 3. **Greek Inscription on Stone (Reproduction)**

Stone inscriptions with alphabetic writing appear as early as the 8th century BC. They were used to record official documents such as citizen lists, decrees, treaties and judgments, as well as tombstones and religious dedications. Loaned by Theodore Brunner.

### 4. **Illuminated Manuscript, AD 10 (Reproduction)**

Medieval manuscripts were often decorated with small pictures or miniatures, as well as marginal details and capital letters with elaborate and intricate designs. This particular manuscript (Codex 56, fol. 154, Athens National Library) from the 10th century AD shows St. Luke copying from a large papyrus scroll to a codex. The image illustrates the transfer of a work from one medium to another, a process that has accounted for both the preservation and the loss of texts over the centuries.

### 5. **Illuminated Manuscript, AD 1000 (Reproduction)**

This 10<sup>th</sup>-century manuscript codex on parchment, known as the Codex Venetus A (Marcianus Graecus 454), is the oldest and best medieval text of Homer's Iliad. Ancient scholia (marginal or interlinear notes added by commentators) appear on the same pages as Homer's texts, establishing a presentation pattern that continued for centuries. Loaned by Theodore Brunner.

### THE SIXTEENTH AND SEVENTEENTH CENTURIES

As early as the 14th century, refugees and voluntary exiles from Byzantium fled to the West to escape the Turkish domination of their homeland. Many were well educated, and through their teaching, manuscript copying, and scholarship, they contributed materially to the advancement of Greek studies in Western Europe during the extraordinary intellectual flourishing of the Renaissance. The monasteries of Mt. Athos in Greece also played an important role in the history of preservation and transmission of ancient texts. For centuries monks laboriously copied cultural texts, especially books of theological learning. In the period that followed the fall of Constantinople in AD 1453, scholars, writers and traders often visited Mt. Athos and obtained manuscripts that were later printed in Western Europe, particularly in Venice.

The publication of Greek texts was complex compared to the printing of Latin. In addition to procuring copies of manuscripts, printers faced the challenge of designing Greek typefaces. The first book printed in Greek, a grammar by Constantine Lascaris, was printed in Milan in 1476, less than 25 years after the Gutenberg Bible (the first printed book). The first edition of Homer appeared not long after (Florence, 1488). Aldus Manutius, the great Venetian printer, took on the task of printing 31 “first” editions in order to make original Greek texts known to the West. Until then, they had been available only in Latin translations. Thus dawned a new era in the study and dissemination of classical thought. The sixteenth and seventeenth centuries also saw an increase in the publication of the writings of major Greek authors, often accompanied by scholia (scholars’ interpretive notes).

Dictionaries in Greek and Latin also appeared during this time, and in 1572, a monumental five-volume work was printed that changed classical scholarship forever and ultimately inspired the work of today’s TLG Project (see item 6 below).

#### 6. **Estienne. Thesaurus Graecae Linguae.**

Thesaurus tes ellenikes glosses, or Thesaurus Graecae Linguae, by Henrico Stephano [i.e., Henri Estienne]. Geneva: Henr. Stephani oliva., ca. 1572. 2 of 5 vols.

The masterful printer Robert Estienne, who had spent most of his adult life as an editor of Greek and Roman authors, published the first comprehensive dictionary of classical Latin, the *Thesaurus Linguae Latinae*, in 1543. Before his death in 1559, Estienne had begun work on another massive project, a *Thesaurus Linguae Graecae*, which, if completed, would have been a complete collection of all Greek texts and words. His son Henri inherited from his father his dedication to the project and his materials, and in 1572, he published the first comprehensive dictionary of Classical Greek, the *Thesaurus Graecae Linguae*, printed in five volumes. Estienne’s *Thesaurus* revolutionized the study of Greek Language and literature and was to become the scholarly standard in Greek lexicography for nearly 250 years. The TLG was named after its Renaissance predecessor.

This is one of the earliest editions of this most important work. It was republished in Paris, 1831-1865 by the German classical scholar, Karl Wilhelm Dindorf, and his brother Ludwig. Loaned by Theodore Brunner.

### 7. **Du Cange. Glossarium.**

Glossarium ad scriptores mediae & infimae graecitatis ... auctore Carolo du Fresne, Domino du Cange ... Lugduni [i.e., London]: Sumptibus Anissoniorum, Joannis Posuel, et Claudii Rigaud, 1688. 1 of 2 vols.

More than a century after Estienne published his Greek Thesaurus, Du Cange produced glossaries of medieval Greek and Latin containing words and meanings that deviate from classical usage. His definitions are given in both Greek and 17th century Latin.

### 8. **Aristotle. Stagiritae.**

Stagiritae de caelo, libri IIII; Stagiritae libri VIII; Stagiritae de Generatione & Corruptione libri II; Stagiritae Meteorologicorum libri IIII; Stagiritae de anima libri tres; De naturali auscultatione libri octo. Parisiis [i.e., Paris]: Apud Thomam Richardum, 1548-1550.

This volume is a collection of the “physical” works (i.e., works on the study of nature) by the fourth century Greek philosopher Aristotle. This copy clearly was well-used by its scholarly owner, who recorded his marginal hand-written annotations in a medieval Latin script.

### 9. **Sophocles. Tragedies.**

Tragoediae Septem una cum omnibus Graecis scholiis ... annotations Henrici Stephani ... Geneva: Henrici Stephani, 1568.

The fifth century playwright Sophocles composed more than 120 plays, out of which only seven have survived in their entirety. Of these, Oedipus the King, Antigone, and Electra are the best known. This volume contains the text of Sophocles’ plays accompanied by ancient scholia. The typeface used is typical of 16th century editions containing ligatures.

### 10. **Bible. New Testament.**

Tês kainês Diathêkês Hapanta. Novum Testamentum. Lutetiae [i.e. Paris]: Roberti Stephani, 1569.

The New Testament was first printed in the English language by William Tyndale in 1525 in order to make its teachings more widely available. Greek and Latin editions continued to appear for scholarly and ecclesiastical use. Robert Estienne, the first person to divide the text into numbered verses, issued four important editions of the New Testament, three at Paris and his last at Geneva, between AD 1546 and 1551. This “pocket” edition was printed soon after in 1569. Loaned by Jay Shanor.

### 11. **Homer. The Odyssey.**

L'Odyssee d'Homere, au Roy, de la version de Salomon Certon ... Paris: Chez Abel l'Angelier, 1604.

The Iliad and the Odyssey, the two long epics attributed to Homer, can be said to mark the beginning of European literature. They were the most popular and most copied books in antiquity, as well as during the Renaissance. This early 17<sup>th</sup>-century French edition remains housed in a typical vellum binding of its time.

### 12. **Maximus of Tyre. Dissertations.**

Tou Maximou Tyriou Logoi, Maximi Tyrii Dissertationes. Oxoniae [i.e., Oxford]: Theatro Sheldoniano, 1677.

This Greek rhetorician and philosopher who flourished in the time of the Antonines and Commodus (2nd century AD) is considered one of the precursors of Neoplatonism. His 41 "dissertations" (essays or discourses) deal with philosophical, ethical and moral questions. In this edition, the Greek text and the Latin translation are presented in parallel columns.

### 13. **Hippocrates. De capitis vulneribus.**

Published in: Petri Paaw ... Succenturiatus anatomicus, continens commentaria in Hippocratem, de capitis vulneribus ... Lugduni Batavorum [i.e., London]: Apud Iodocum à Colster, 1616.

The physician Hippocrates was born in 460 BC on the Greek island of Cos. Known as the founder of medicine, he was regarded as the greatest physician of his time. Anticipating modern practices by many centuries, he based his medical practice on observations and on the study of the human body. Hippocrates remains well known to physicians as the author of the Oath of Medical Ethics, or Hippocratic Oath, which they still take as they begin their medical practice.

### 14. **Symson. New Testament Lexicon.**

Lexicon Anglo-Greco-Latinum Novi Testamenti, or, A Complete Alphabetical Concordance of All the Words Contained in the New Testament, both English, Greek, and Latine ... by Andrew Symson. London: Printed by W. Godbid for F. Clark [et al.], 1658.

This lexicon of the New Testament in Greek, Latin, and English would have served as an important pedagogical tool in its day. Each entry indicates the New Testament verses in which the particular word was used.



### THE EIGHTEENTH AND NINETEENTH CENTURIES

During the nineteenth century, archaeologists excavating Egypt uncovered a large number of papyri. These discoveries reinforced the importance of the papyrus as the chief writing material in the ancient Greek world and resulted in the emergence of a new area of Classical studies, known as Papyrology. Many ancient authors, texts and documents were discovered during this period. Information from the new papyri motivated scholars to produce new critical editions. British, French and German presses competed in publishing updated and improved editions. Publications for a non-scholarly audience also became popular.

In 1798 Johann Schneider began to compile the first dictionary that defined ancient Greek words in a modern language (German); his work was completed by Franz Passow in 1823. Until then definitions had been for the most part provided only in Greek and Latin. The Liddell-Scott Greek-English lexicon was first published in 1843 and remains to this day the standard Greek-English dictionary. Translations of classical texts in a variety of Western languages also became more common during this period.

At the end of the 19th century, German and British scholars decided that it was time to produce new dictionaries for Greek and Latin. They estimated that nine million words would have to be collected for the Latin thesaurus and ninety million words for the Greek. The Latin project was therefore the more feasible task. Preliminary planning started around 1882 in Berlin, where the Thesaurus Linguae Latinae Project was formally constituted. As of 2004, well over a century later, the Latin thesaurus is still in progress at the University of Munich. Such slow progress discouraged scholars from undertaking work on the Greek “thesaurus” until 1972, when the Thesaurus Linguae Graecae was established at UC Irvine with the promise of speedier progress and more powerful results due to the use of computers.

#### 15. Euripides. *Medea and Phoenissae*.

Tragoediae Medea et Phoenissae: Graceo-Latinae, cum Scholiis Graecis Integris. Collatione H. Stephani ... Hug. Grotii. Cantabrigiae [i.e., Cambridge]: Typis Academicis, 1703.

Born about 480 BC in Athens, Euripides wrote plays that dealt with social issues of his time. *Medea*, *Hippolytus* *Alcestis*, *The Bacchae*, *Iphigeneia at Aulis* and *The Trojan Women* are among his best-known works. This volume contains two of his plays, together with Latin translations and scholia.

#### 16. Greek theater.

Le theatre des grecs, par R.P. Brumoy. Paris: Libraires Associés, 1768. New edition in four volumes.

This late 18<sup>th</sup>-century introduction to Greek theater includes excerpts from the works of Aeschylus, Sophocles, Aristophanes, and Seneca in French translation.

#### 17. Plato. *Timaeus*.

Platon's Timaeos: eine aechte Urkunde wahrer Physik ..., von K. J. Windischmann. Hadamar, Germany: Buchhandlung, 1804.

The Greek philosopher Plato (ca. 428-347 BC) was a student of Socrates and founder of the Academy in Athens, the institution often described as the first European university. Plato's writings were composed mostly in dialogue form. This volume is a study (in German) of the *Timaeus*, one of Plato's later dialogues. *Timaeus* is represented as a Pythagorean philosopher from Locri and the topic of the dialogue is cosmology, or how the material world and its constituents came to be as they are. The book is printed in a classic German Black Letter typeface.

### 18. **Plato. Apology.**

The Apology of Plato, With a Revised Text and English Notes, and a digest of Platonic Idioms, by the Rev. James Riddell. Oxford: Clarendon Press, 1867.

Plato's Apology is Socrates' defense of himself at his trial against charges of atheism and corrupting Athenian youth. Socrates was ultimately sentenced to death. This volume was published by Oxford University Press in 1867 in the Oxford Classical Texts Series, which has become the standard scholarly series for ancient Greek and Latin texts. The original Greek is accompanied by an English translation. Loaned by the TLG Project.

### 19. **Aesop. Fables.**

Aesop's Fables, embellished with One Hundred and Eleven Emblematical Devices. London: Chiswick Press, 1813.

Aesop, the legendary Greek fabulist, is said to have been a slave who lived in Samos in the 6th cent. BC. He eventually was freed by his master. His Fables, stories with a moral and ethical undertone, have presented countless generations with amusing and thought provoking tales. The most famous of these include "The Fox and the Grapes" and "The Tortoise and the Hare." In this volume of English translations, each fable is illustrated by a woodcut.

### 20. **Aesop. Fables.**

Aesop's Fables, illustrated by Ernest Griset, with text based chiefly upon Croxall, La Fontaine, and L'Estrange. New York and London: Cassell, ca. 1886.

Another English translation of the timeless Fables, this one a popular edition intended for children or young adults. Its purchase appeal was enhanced by the typically elaborate Victorian binding.

### 21. **Philodemus. On Music.**

Published in: Herculanensium voluminum ... Neapoli [i.e., Naples]: Ex Regia Typographia, 1793.

In AD 79, the Italian city of Herculaneum was buried beneath 20 meters of concrete-like volcanic mud after the eruption of Mount Vesuvius. In 1752, workers excavating the area discovered a large number of what appeared to be sticks of charcoal, some of them bundled together. These sticks proved to be ancient papyrus rolls, many of them works of the first century BC Epicurean philosopher Philodemus of Gadara. This volume was one of the earliest efforts to publish his text on music. Engraved facsimiles of the Herculanium papyri are presented with Greek text and Latin translation in parallel columns, accompanied by commentary in Latin, printed in red and black. The magnificence of the book befits the spectacular caliber of the Herculaneum manuscripts.

### 22. **Euripides. Hippolytus.**

Euripidou Hippolytos stephanephoros: cum scholiis, versione latina, variis lectionibus ... Francis Hen. Egerton. Oxonii [i.e., Oxford]: Clarendon Press, 1796.

The Greek text of Euripides' Hippolytus with Latin translation on facing pages. The volume also includes scholia in Latin.

### THE TWENTIETH AND TWENTY-FIRST CENTURIES

In the 20th century, new technical advances such as the typewriter, photography, xerography, and above all the computer, have enhanced the ability of scholars to create new critical editions of extant ancient texts, as well as new types of publications and teaching aids. Classical scholarship has experienced significant growth during the last forty years, thanks at least in part to the fact that technology has provided scholars with new ways of accessing, analyzing, and studying ancient artifacts.

But at the same time that new technologies have revolutionized our world, contemporary artists, translators, typographers, printers, and designers have been inspired by ancient Greek texts to create contemporary works of art based in these timeless writings. In some cases, traditional technologies such as letterpress printing, wood engraving, and handmade bindings are used to honor past bookmaking traditions. In others, new digital technologies are utilized to cut new typefaces, etch new modes of illustration, and precision print ancient texts. In each of these works, we see the marriage of old and new technologies and ideas in the service of literary and artistic expression.

#### 23. **Homer. The Odyssey.**

The *Odyssey*, with an English translation by A.T. Murray. Cambridge, Mass.: Harvard University Press. London: W. Heinemann. 1984. The Loeb Classical Library.

The Loeb Classical Library was founded in 1910 by James Loeb (1867-1933), the American banker, philanthropist, and classical scholar. Originally edited by an independent panel of scholars, the series was bequeathed to Harvard University in 1933. With more than 490 volumes published, it constitutes a catalog of almost all extant Greek, Latin, and Hellenistic literature. The Library is designed to make the text accessible to the broader audience by presenting the original text and a fairly literal translation on the facing page. Loaned by the TLG Project.

#### 24. **Aristophanes. The Frogs.**

The *Frogs*, translated from the Greek by William James Hickie with an introduction by Gilbert Seldes and wood-engravings by John Austen. New York: The Limited Editions Club, 1937. Printed by Joh. Enschedé en Zonen in Haarlem, Holland.

Aristophanes (ca. 446-385 BC), whose plays are the only surviving examples of Old Comedy, wrote at least thirty works, eleven of which survive. Many of his plays were political and satirized contemporary figures. In the *Frogs*, for example, the god Dionysus, despairing of the quality of living tragedians, travels to Hades to bring Euripides back from the dead. Aeschylus challenges Euripides to a competition for the title of best playwright, which he wins. Dionysus chooses to bring Aeschylus back instead. The title of the play derives from the chorus of frogs that greets Dionysus when he is ferried across the river Styx. The literary duel between Aeschylus and Euripides is one of the most remarkable parodies in dramatic literature.

### 25. **Aristophanes. The Birds.**

The Birds, with an introduction by Dudley Fitts and illustrations by Marian Parry. New York: The Limited Editions Club, 1959. Printed at the Thistle Press.

The Birds was written by Aristophanes in 414 BC and performed that year at the Festival of Dionysus. Unlike most of his plays, The Birds does not attack any specific person or event. It may have been inspired by the failed Athenian invasion of the Greek colonies in Sicily in 415 BC. Parry's fanciful color illustrations serve to enhance the reader's comedic mood.

### 26. **Aesop. Fables.**

Aesop: Fables Told in Type and Ornament. Pasadena, Calif.: Archetype Press, Art Center College of Design, 2002.

While Aesop's Fables have been liberally adapted by many translators, artists, and typographers over the centuries, in this edition the students of Pasadena's Art Center College of Design have gone even further. Each chosen fable has been artistically and typographically interpreted and, in some cases, employed loosely as a point of departure for the student's own text.

### 27. **Aeschylus. Prometheus Bound.**

Prometheus Bound, by Aeschylus, translated by Rex Warner. Prometheus Unbound, by Percy Bysshe Shelley. With a preface by Rex Warner and drawings by John Farleigh. New York: Limited Editions Club, 1965. Printed by Joh. Enschedé en Zonen in Haarlem, Holland.

The Athenian playwright Aeschylus (525/4 BC–456 BC) wrote 90 plays, of which only seven are extant, including the Oresteia and the Persians. In Prometheus Bound, the god Prometheus finds himself chained to a mountaintop, punished by Zeus, the most powerful of the gods, for having stolen fire from heaven in service to humanity. Farleigh's powerful drawings evoke Prometheus' epic struggle against an unjust higher power.

### 28. **Homer. The Iliad.**

The Helen Fragments, from books three & six of Homer's Iliad. Translated by Richard Seibert, drawings by Winifred McNeill. Berkeley: Editions Koch, 2003.

A modern translation of selected passages from the third and sixth books of Homer's Iliad. The passages focus on Helen of Troy, the fabled beauty whose face "launched a thousand ships" when she was abducted and taken away from her lawful husband, King Menelaus, by the Trojan prince Paris. In the passage shown, Hektor, the leader of the Trojans, prepares to face his equally formidable opponent, Achilles.

### 29. **Parmenides. Fragments.**

The Fragments of Parmenides, and an English translation by Robert Bringham. Wood engravings by Richard Wagener. Berkeley: Editions Koch, 2003.

Parmenides was a Greek philosopher and poet of the 6th century BC. Only a few fragments of his writings have survived, and they are presented in this modern edition with an English translation on facing pages. The Greek text is printed in a typeface that is reminiscent of early alphabetic writing found on 6th century inscriptions, and the volume is beautifully illustrated with color wood engravings.

### 30. **Diogenes. Defictions.**

The Defections of Diogenes: A Transmission Object, by Thomas McEvilley. Berkeley: Peter Koch, Printer, 1994.

A Greek philosopher of the 4<sup>th</sup> century BC, Diogenes was an exponent of Cynicism, which called for a repudiation of most human conventions and complete independence of mind and spirit. Legend has it that he was sent into exile and was seen wandering the streets in broad daylight with a lantern searching for an honest man. He maintained that a man should be free of all material things and carried this view to extremes in his own life, using a tub for shelter and walking the streets barefoot. Contemporary scholars have variously called Diogenes the first performance artist, the patron of skeptics and gadflies, and the inventor of guerrilla theater.

Diogenes' blunt irreverence matches the spirit of ancient defictions, better known as curse tablets. These inscriptions on thin pieces of lead were placed in graves on behalf of the dead, who wandered at night carrying out the defiction's particular mandate of harm to a living person. In this unusual edition, McEvilley expresses his sense of Diogenes' flippant cynicism in twenty-one anecdotes etched on lead tablets. He thus brings our story of textual transmission media full circle, back to the earthy, durable materials of three millennia past.

### INVENTING THE WHEEL

The Thesaurus Linguae Graecae® (“Treasury of the Greek Language”), or TLG®, was established at UCI in 1972 when Dr. Marianne McDonald, then a UCI graduate student in Classics motivated by her dissertation research offered a gift of \$1,000,000 toward the creation of a computerized collection of Greek literary texts. This was an extraordinary proposal, since no one previously had seriously considered the marriage of classical scholarship with modern technology.

The project became reality through the international collaboration of a group of prominent classicists under the direction of Professor Theodore F. Brunner. A planning conference was convened in 1972 to determine the feasibility of the undertaking. It was attended by UCI founding Chancellor Daniel Aldrich, an avid supporter of the project.

Early promotional brochures and newsletters articulated the project’s ambitious goal of capturing the estimated 90 million words contained in ancient Greek texts dating from the time of Homer through late antiquity.

Professor Brunner served as project director from 1972 until his retirement in January 1998.

31. **The first of many issues of the TLG Newsletter.**  
April 1973.
32. **Photograph of the TLG Planning Conference meeting at UCI, with Chancellor Aldrich in attendance and Professor Brunner presiding.**  
October 30-November 1, 1972.
33. **The first TLG promotional flyer.**  
Ca. 1973.
34. **Photograph of the TLG Planning Conference at UCI, with founding donor Dr. Marianne McDonald in attendance.**  
October 30-November 1, 1972.
35. **TLG promotional brochure and funding chronology.**  
1980.
36. **Two drawings documenting the first effort to design a computerized Greek font for displaying and printing computerized texts.**  
Ca. 1973.

### ACHIEVING THE IMPOSSIBLE

Prior to the founding of the TLG project, the creation of a digital library for Greek literature had been considered impossible due to a complete lack of the necessary technological tools. This pioneering project was made possible by the efforts of the visionary classicist David W. Packard, who designed and implemented the hardware and software used to store, process, search, and display texts written using the Greek character set. The procedures and encoding conventions established at that time remain to this day the standard for encoding ancient Greek.

The early TLG system used a Varian 620L minicomputer tied into UCI's Sigma-7 mainframe. The texts were entered in the so-called Alpha and later Beta Code, a convention that uses Roman characters to represent Greek letters.

In the project's early years, printed concordances were published in order to give scholars access to TLG data prior to the advent of CD-ROMs as a dissemination medium. When compared with the power of today's online database, these printouts barely began to reveal the potential of the TLG for enhancing scholarship.

### EARLY TLG DIGITIZATION PROCEDURES

- An edition of a Greek text was selected and marked for data entry. Encoding mark-up was added manually to the text.
- The text was then shipped overseas (originally to Korea, later China), where two separate teams of workers keypunched the Greek text material in "Alpha Code" (Roman characters).
- The two sets of keypunched cards were "read" onto magnetic computer tapes. The data on the two tapes were then electronically collated in order to detect any divergences, and to correct obvious errors.

- The tapes were then shipped to UCI, where the electronic text was uploaded from the tape onto a Sigma-7 mainframe located in UCI's Computing Facility. In addition, a back-up copy of each tape was made and stored off-site to ensure security and preservation of the data.
- Final verification and correction of the electronic text took place on the TLG premises in Alpha Code on an ADDS terminals linked to the Sigma-7. A trigraph program (which progressively analyzed three Alpha Code characters at a time) was employed for verification.
- A Varian 620L mini-computer housed on the TLG premises and linked to the Sigma-7 was employed to generate Greek font on a Statos 3111 printer and a Tectronix 4014 graphics CRT terminal. The font descriptions and other output-related software were loaded daily into the Varian 620L via a paper tape and a standard teletype machine.

37. **Sample pages from a published edition of a Greek text marked up and ready for data entry.**  
Ca. 1975.
38. **Schematic drawing of data entry and data verification procedures used in the 1970s.**  
Ca. 1973.
39. **Description of early TLG procedures for data entry and electronic text production.**
40. **Printout of a sample keyword-in-context index from the concordance to Galen's De venae sectione adversus Erasistratu.**  
1976.
41. **An early TLG promotional flyer describing data processing procedures.**  
Ca. 1975.

### REACHING OUT TO THE WORLD

In 1980, the early Sigma-7 computer and the use of Alpha Code were replaced by the Ibycus system (a Hewlett Packard 1000 computer). The new system was also designed by David W. Packard. It was capable of handling all TLG correction procedures as well as browsing and searching of the texts. Remarkably, Ibycus remained in use from 1980 to 1999—an exceptionally long life for any computer system.

TLG texts first became available to scholars in 1976 on magnetic tapes, a scant three years after the project had been initially conceived. Tapes were not a particularly user-friendly delivery format, however, and so release of the first TLG CD-ROM in 1985 was a watershed moment for scholarly users. This CD also carries historic status as the first published compact disk that did not contain music!

In 1985, Packard designed the first microcomputer capable of reading the TLG CD-ROM (Ibycus SC), which enabled research libraries to set up workstations for use by scholars. By the late 1980s, virtually all major research libraries and many individual classicists had access to the growing TLG collection.

42. **Magnetic tapes used to store TLG data and photographs of Ibycus in action.**  
Ca. 1980s.
43. **Three sample Euripides concordances published by the TLG.**  
Ca. 1970s-1980s.
44. **TLG Promotional brochure.**  
Ca. 1989.
45. **The six CD-ROMS published for distribution of TLG texts.**  
1985-1999.



### THE YEAR 2000 AND BEYOND

In the year 2000, the TLG joined the Internet revolution. The database is now available both online via the World Wide Web and in CD-ROM format in 57 countries worldwide, at more than 2,000 universities and research centers. It is used by thousands of researchers, educators, and students from a wide range of disciplines such as Classics, Archaeology, Byzantine Studies, History, Art History, Philosophy, Linguistics, and Theology/Religious Studies.

As of 2004, the TLG Digital Library contains virtually all ancient Greek texts surviving from the period between Homer (8th century BC) and AD 600, and the majority of texts deriving from the period between AD 600 and the fall of Byzantium in AD 1453. The TLG continues its efforts to include all extant Greek texts of the Byzantine and post Byzantine period up to the modern era. The collection at present encompasses nearly 12,000 works from over 3,700 authors and almost 100 million words, having thus already surpassed the original estimate of 90 million words of text. It represents one of the most extensive and comprehensive electronic textual collections in existence.

Major support for the project has been provided over the years by Marianne McDonald, the National Endowment for the Humanities, the David and Lucile Packard Foundation, The Andrew W. Mellon Foundation, and the University of California. The world of classical scholarship is deeply indebted to them for their foresight, wisdom, and generosity.

#### 46. **The TLG Canon of Greek Authors and Their Works.**

Luci Berkowitz and Karl A. Squitier, editors. New York and Oxford: Oxford University Press 1990. 3<sup>rd</sup> edition.

#### 47. **Photographs of the de-installation of the Ibycus computer system.** October 1999.

#### 48. **Thesaurus Linguae Graecae: A digital library of Greek literature.** Current promotional brochure, 2000.

#### 49. **"Classics Online."**

Published in: Rediscovering America: Thirty five years of the National Endowment for the Humanities. Washington, D.C.: NEH, 2001.

#### 50. **"Simple Text search"** input screen for the Online TLG interface. 2004.

#### 51. **TLG map of worldwide distribution as of 2004.**



The primary objective of the UC Irvine Libraries Exhibits Program is to support the research and instructional missions of UCI by interpreting and publicizing the richness, diversity, and unique strengths of the resources of the UC Irvine Libraries.

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