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ABSTRACT

Information for colleges engaged in curricular reform about how other schools are managing the task is presented with the central device for organizing details being an imagined core of studies, 50 semester hours, that would encourage coherent and substantive learning in essential areas of knowledge. Rather than acting as a single prototype this report provides information about various models to individual faculties that must decide the undergraduate course of study. The results of a 1989 survey funded by the National Endowment for the Humanities and conducted by the Gallup Organization are discussed, noting that significant gaps exist in college seniors' knowledge of history and literature. Too many colleges and universities fail to provide enough structure in the curriculum. Since many of them allow students to earn bachelor's degrees without taking courses in history, literature, science, or mathematics, trustees and administrators are urged to support faculty members working to strengthen general education requirements. To deal with this problem, a core of learning is set forth as follows: 50 semester hours of required study in cultures and civilizations, foreign languages, mathematics, natural sciences and the social sciences. Several examples of core courses that have been developed at colleges and universities nationwide are included. It is recommended that courses in the core be taught in small classes and in an integrated fashion and that they be taught by the most distinguished faculty. The complete Gallup survey of college seniors on knowledge of history and literataure is attached. (SM)

50 HOURS

A Core Curriculum for College Students

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Chairman

National Endowment for the Humanities
Washington, D.C.
October 1989

The one intolerable thing in education is the absence of intellectual design.

Mark Van Doren
Liberal Education

Contents

Foreword

Reporting about curricula, Professor Frederick Rudolph once observed, is hardly the same as writing about the winning of the West or the collapse of the Old South.[1] The word *curriculum* is, for many, almost pure denotation, almost pristine in the way it refuses to call up images that compel interest. It is a dull word, a dry and dusty clank of phonemes—and yet it goes to the heart of formal learning. It is through the curriculum that college and university faculties establish a design for education. It is through the curriculum that they communicate what it is an educated person should know.

While the matter of what should be taught and learned is hardly one on which we should expect easy agreement, the confusion about it on many campuses has seemed extraordinary in recent years. Entering students often find few requirements in place and a plethora of offerings. There are hundreds of courses to choose from, a multitude of ways to combine them to earn a bachelor's degree, and a minimum of direction. In the absence of an ordered plan of study, some undergraduates manage to put together coherent and substantive programs, but others move through college years with little rationale. All too often, as *Humanities in America*, a 1988 report from the National Endowment for the Humanities, noted, it is "luck or accident or uninformed intuition that determines what students do and do not learn."[2]

The Endowment's report was by no means the first to make such observations. Indeed, throughout the 1980s there has been growing concern about the fragmented state of curricula. In reports, books, and conferences, educators have talked about the need for greater structure and coherence—particularly in the area of college study known as "general education." It is here, outside the major, where students can gain insights into areas of human thought that are not their specialties. In general education, as the Harvard "Redbook," a classic study of curriculum, noted, the primary focus can be on the student's life "as a responsible human being and citizen."[3]

But recognition of the importance of reforming general education has far outpaced actual reform. A recent survey funded by the National Endowment for the Humanities showed that in 1988-89 general education requirements were still so loosely structured that it was possible to graduate from:

- 78 percent of the nation's colleges and universities without ever taking a course in the history of Western civilization;
- 38 percent without taking any course in history at all;
- 45 percent without taking a course in American or English literature;

- 77 percent without studying a foreign language;
- 41 percent without studying mathematics;
- 33 percent without studying natural and physical sciences.[4]

There are many explanations for the slow pace of reform, some of which will be discussed in this report. A contributing factor may well be the highly general nature of national discussions. Wise commentaries set forth important aims for undergraduate education, affirming, for example, that students should learn about science and history, understand institutions and symbols, and be able to think critically. But exactly how these ends might be accomplished has been a subject of less attention—and for understandable reasons.

There are, first of all, many possible ways to organize a curriculum to achieve agreed-upon goals. Indeed, the variety of options is part of the intellectual challenge of reorganizing undergraduate study. Even more important is the diversity of American colleges and universities. Student bodies and faculties differ, as do resources and missions. As Edwin J. Delattre notes in *Education and the Public Trust*, each institution must ask itself: "What should be the curriculum *here*, in this school, college, university? Why should *we* and *our* students study this curriculum?"[5]

Nevertheless, different institutions can learn from one another, can profit by seeing how other colleges and universities have solved problems with which they are wrestling. Curriculum reform that proceeds in awareness of what is happening elsewhere is likely to move at a faster pace.

This report, *50 Hours*, is a way of informing colleges engaged in curricular reform about how other schools are managing the task. Its aim is to be specific; its central device for organizing details is an imagined core of studies—fifty semester hours—that would encourage coherent and substantive learning in essential areas of knowledge.

So far as I know, this particular core curriculum does not exist anywhere. Parts of it can be found at different colleges and universities; so can alternatives to both the parts and the whole. Many alternatives are described in this report in order to call attention to the variety of ways in which substantive and coherent learning can be achieved.

Because it is not the proper role of the federal government to determine a nationwide curriculum, it needs to be emphasized that *50 Hours* is not offered as a single prototype. Instead, it is a way of providing information about various models to individual faculties that must decide the undergraduate course of study. *50 Hours* is intended as a resource for the many dedicated and thoughtful men and women across the country who are working to improve undergraduate education. It is meant to support them by placing their individual efforts into a larger context of national questions and concerns.

Administrators, as well as faculty members, often initiate discussions about reform; and this report is also intended for them. Governing boards, too, sometimes encourage reform: In 1986 the Louisiana Board of Regents mandated general education requirements for state colleges and

universities in order to ensure study of essential areas of knowledge; in 1989 the Massachusetts Board of Regents called on that state's public colleges and universities to revise general education with the aim of developing in students a broad range of abilities and knowledge. Lawmakers have also taken an interest in undergraduate education: The Texas legislature has recommended a core curriculum for state-supported institutions of higher education. I hope that this report, by presenting some of the issues and options, will be of use to all officials concerned with the undergraduate course of study.

At the same time, I hope that *50 Hours* will help make both prospective college students and their parents aware of matters that should be considered when choosing a college or university. All too often, this important choice is made in terms of vaguely conceived notions of "prestige," when a crucial factor ought to be the specifics of the plan of education offered.

"Abstract statements are always unsatisfactory," John Henry Newman once declared;[6] and in *The Idea of a University*, he time and again provided examples to show what principles mean in practice. It is the goal of this report to do the same.

Introduction

Why is a core important?

A 1989 survey funded by the National Endowment for the Humanities and conducted by the Gallup Organization showed 25 percent of the nation's college seniors unable to locate Columbus's voyage within the correct half-century. About the same percentage could not distinguish Churchill's words from Stalin's, or Karl Marx's thoughts from the ideas of the U.S. Constitution. More than 40 percent could not identify when the Civil War occurred. Most could not identify Magna Carta, the Missouri Compromise, or Reconstruction. Most could not link major works by Plato, Dante, Shakespeare, and Milton with their authors. To the majority of college seniors, Jane Austen's *Pride and Prejudice*, Dostoyevsky's *Crime and Punishment*, and Martin Luther King, Jr.'s "Letter from the Birmingham Jail" were clearly unfamiliar.[7]

Education aims at more than acquaintance with dates and places, names and titles. Students should not only know when Columbus sailed but also perceive the world-altering shock of his voyage. They should not only know what Plato wrote but also understand the allegory of the cave. When education is rightly conceived, events and ideas become, in philosopher Michael Oakeshott's words, "invitations to look, to listen and to reflect."[8] But students who approach the end of their college years without knowing basic landmarks of history and thought are unlikely to have reflected on their meaning.

A required course of studies—a core of learning--can ensure that students have opportunities to know the literature, philosophy, institutions, and art of our own and other cultures. A core of learning can also encourage understanding of mathematics and science, and *50 Hours* includes these fields of inquiry. The National Endowment for the Humanities must be concerned with the literature major who has no understanding of physics as well as with the engineer who graduates without studying history. Both are less prepared than they should be to make the subtle and complex choices today's life demands. Both bring limited perspective to enduring human questions: Where have we come from? Who are we? What is our destiny? Kant struggled for answers in his study; Boyle, in his laboratory. Thoreau, Gauguin, and Einstein took up these questions, approaching them in different ways, but sharing a common goal. All the various branches of human knowledge, as physicist Erwin Schrodinger once observed, have the same objective: "It is to obey the command of the Delphic deity," to honor the ancient injunction, "Know thyself."[9]

To the task of learning about oneself and the world, a required course of studies can bring needed order and coherence At one midwestern

university, where there is no core, students choose from almost 900 courses, with topics ranging from the history of foreign labor movements to the analysis of daytime soap operas. The result is all too often "a meaningless mosaic of fragments," in naturalist Loren Eiseley's words. "From ape skull to Mayan temple," he wrote, "we contemplate the miscellaneous debris of time like sightseers to whom these mighty fragments, fallen gateways, and sunken galleys convey no present instruction."[10] A core of learning shows the patterns of the mosaic. It provides a context for forming the parts of education into a whole.

A core of learning also encourages community, whether we conceive community small or large. Having some learning in common draws students together—and faculty members as well. When that common learning engages students with their democratic heritage, it invites informed participation in our ongoing national conversation: What should a free people value? What should they resist? What are the limits to freedom, and how are they to be decided?

When students are encouraged to explore the history and thought of cultures different from their own, they gain insight into others with whom they share the earth. They come to understand unfamiliar ideals and traditions—and to see more clearly the characteristics that define their own particular journey.

Is there time in the curriculum for a core?

Almost all colleges and universities have requirements in "general education"—a part of the curriculum that is specified for all undergraduates, regardless of major. The hours set aside for general education are the hours from which a core of learning can be constructed.

The larger and more complex the educational institution, the more difficult it is to commit hours to general education. A school that offers an accredited engineering program has to recognize that few engineering students will be able to graduate in four years if they devote much more than a semester to the humanities and social sciences. Schools offering a bachelor's degree in music must face the demands of the National Association of Schools of Music, an accrediting association that expects students to devote 65 percent of their coursework to studying music.[11]

Nevertheless, even doctorate-granting universities, the most complex institutions of higher education, require, on the average, more than thirty-seven semester hours in general education. For all four-year institutions, the average requirement in general education is fifty-two semester hours.[12] There is time at most schools for a significant core of learning.

As it is now, however, these hours that could be devoted to a core are all too often organized instead into loosely stated "distribution requirements"—mandates that students take some courses in certain areas and some in others. Long lists of acceptable choices are set out in catalogs. Specialized offerings for the most part, they often have little to do with the broadly conceived learning that should be at the heart of general education. Indeed, some courses seem to have little to do with the areas of human knowledge they are supposed to elucidate. At a public

university in the West, it is possible to fulfill humanities requirements with courses in interior design. In 1988-89 at a private university in the East, one could fulfill part of the social science distribution requirement by taking "Lifetime Fitness."

Some core programs do offer choices: Alternative possibilities for mathematics and science are almost universal. Choice within a core can work well, so long as each of the choices fits within a carefully defined framework and aims at broad and integrated learning. The University of Denver's core, for example, offers five, year-long options in the arts and humanities. In one course, "The Making of the Modern Mind," philosophy, literature, music, and art are studied from the Enlightenment to the present. A second course, "Commercial Civilization," emphasizes history, political thought and institutions, and classical economic theory from the origins of capitalism to contemporary times.

Is a core too hard for some students? Too easy for others?

The 1983 report, *A Nation at Risk*, recommended that college-bound high school students take four years of English, three of social studies, science, and mathematics, and two years of foreign language.[13] Students who have completed such a course of studies should be ready to undertake the work required by a program like *50 Hours*. Entering students who lack necessary verbal and mathematical skills should prepare for core work by taking remedial courses. Such a plan benefits the core and can be of value to remedial programs as well by providing a well-defined goal for teaching and learning. The faculty of the remedial and developmental programs of Brooklyn College of the City University of New York recently dedicated a conference to Brooklyn's core curriculum to recognize its importance for their work.

In *50 Hours*, students are expected to write papers of varying length in every course, including those in science and mathematics. The practice of organizing ideas and presenting them coherently is a useful tool for learning in all subjects. Students who write in every course also come to understand that clear and graceful expression is universally valuable, not merely an arbitrary preoccupation of English departments. Some students who are prepared for core work may still need extra practice in composition. For them, writing-intensive sections of required courses can be designated—as they are at Brandeis and Vanderbilt universities.

Students who come to college well-prepared may have read some of the works assigned in the core. But so long as those works are profound, provocative, and revealing, these students will again be challenged. Indeed, a criterion for choosing works for the core should be that they repay many readings. They should be books that remain fresh, full of power to quicken thought and feeling, no matter how many times we open their pages.

Why is establishing a core so difficult?

Curricular change has never been easy: Henry Bragdon, writing about Woodrow Wilson's years at Princeton, called it "harder than moving a

graveyard."[14] And the way in which higher education has evolved over the last century has complicated the task.

The forces that have come to dominate higher education are centrifugal rather than centripetal, weakening the ties that individual faculty members have to their institutions. As professional advancement has come increasingly to depend on the esteem of other specialists on other campuses, there has been less and less incentive for scholars at any single college or university to identify fully with that institution and the shared efforts necessary for a complicated task like curricular reform.

At the same time, faculty responsibility for the curriculum has grown. If it is to change, the faculty must come together and act for the common purpose of changing it. "We have a paradox," Professor James Q. Wilson observed after curriculum reform at Harvard. "The faculty is supposed to govern collegially, but it is not a collegium."[15]

The increasingly specialized nature of graduate study is also an impediment. Many Ph.D.'s do not receive the broad preparation necessary to teach courses in general education. Even those who do often step uneasily outside their specialties, concerned that it is unprofessional to teach Dante when one's expertise is Donne. They perceive hours spent teaching in general education—and days consumed devising its courses and curricula—as time away from the labor that the academic system most rewards: research and publication. One young professor called curriculum reform "a black hole," and the time and energy it absorbs are seldom professionally recognized.

Crucial to establishing a core of learning is administrative leadership: college presidents who make general education a priority by putting institutional resources behind it; deans who support those faculty members who are willing to invest the time necessary to develop coherent requirements and seek consensus for them. A recent survey by the American Council on Education suggests that students, parents, alumni, and trustees can also play an important role in encouraging curricular reform: Thirty percent of doctorate-granting institutions that were revising general education requirements reported that the initiators of reform were people other than faculty or administration members.[16]

Successfully establishing and sustaining a core may well require efforts aimed at encouraging intellectual community. Seminars in which faculty members read together the works to be taught in core courses can create common understandings, while at the same time providing background for teaching. At Rice University in Houston, where extensive curricular reform is under way, faculty members met in day-long sessions for two weeks last spring to discuss works to be taught in the humanities foundation course. A classicist led discussion of the *Iliad*; a philosopher, of Plato's *Republic*; a professor of music, of Mozart's *Marriage of Figaro*.

How should courses in the core be taught?

"The two great points to be gained in intellectual culture," an 1828 report from Yale University noted, "are the *discipline* and the *furniture* of the mind; expanding its powers, and storing it with knowledge."[17] For a

core of learning to encourage intellectual discipline as well as the acquisition of knowledge, some small classes are essential. Students must have opportunities to participate in discussion and to be encouraged by teachers and peers to think critically about concepts and ideas.

Every course in the core should be taught with other core courses in mind. Students reading Descartes's philosophy in a Western civilization course should be reminded of his contributions to mathematics. Students reading Darwin in a science class should be encouraged to explore in their social science and humanities courses the ways in which evolutionary theory affected social thought and literature. Such connections help demonstrate that human knowledge is not a disconnected series of specialized subjects but interrelated domains of thought.

An institution's most distinguished faculty should teach in the core. Philosopher Charles Frankel once reported that Philipp Frank, Einstein's biographer and collaborator, expressed surprise on learning that in the United States he would not be allowed to teach elementary courses. In Vienna, where Frank had previously taught, beginning courses were considered the greatest honor—one to be bestowed on only those who had mastered their fields sufficiently to be able to generalize. "But in America," Frankel noted, "we thought that was for fellows who know less. Frank believed not—you had to know more and in fact you had to have lived your field and felt the passion of it . . . to communicate it."[18]

Graduate assistants and nontenured faculty, to whom much of the responsibility for undergraduate teaching falls today, are often fine instructors. But the stature of general education is diminished when a college or university's most distinguished faculty do not teach in it. The quality of instruction is diminished when they do not bring their learning and experience to it.

Good teaching is crucial to the success of any curriculum, and it can take a multitude of forms. But teachers who inspire their students to intellectual engagement are themselves always engaged. They do not agree with every book or idea they discuss, but they approach them generously, demonstrating that neither agreement nor disagreement is possible until there has been the hard work of understanding. Learning is not a game for them, not simply an intellectual exercise, but an undertaking that compels mind and heart. Recalling his great teachers, Leo Raditsa of St. John's College in Maryland recently described I. A. Richards. "He conceived reading as the cure of souls . . . ," Raditsa wrote. "And he included his own soul."[19]

In the core, as throughout the curriculum, courses should be taught by men and women who, though deeply knowledgeable, remain eager to learn.

50 HOURS: A Summary

18 hours: **Cultures and Civilizations**

I. **The Origins of Civilization:** a one-semester course that considers the beginnings of civilization on various continents. 3 hours.

II. **Western Civilization:** a one-semester course that considers the development of Western society and thought from Periclean Athens through the Reformation. 3 hours.

III. **Western Civilization** (continued): a one-semester course that considers the development of Western society and thought from the Reformation into the twentieth century. 3 hours.

IV. **American Civilization:** a one-semester course that traces major developments in American society and thought from colonial times to the present. 3 hours.

V and VI. **Other Civilizations:** two one-semester courses to be chosen from the following: civilizations of Africa, East Asia, Islam, Latin America, South Asia. 6 hours.

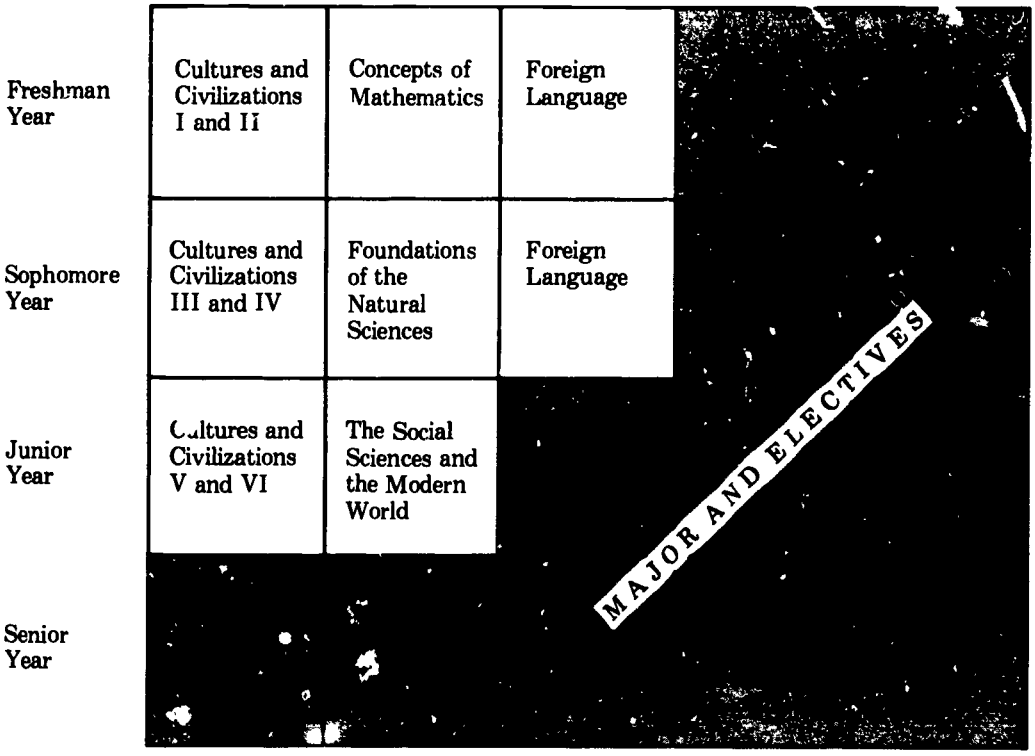
12 hours: **Foreign Language:** a two-year requirement; it is recommended that students fulfill this requirement by taking more advanced courses in a language they have studied in high school.

6 hours: **Concepts of Mathematics:** a one-year course focusing on major concepts, methods, and applications of the mathematical sciences.

8 hours: **Foundations of the Natural Sciences:** a one-year laboratory course that focuses on major ideas and methods of the physical and biological sciences.

6 hours: **The Social Sciences and the Modern World:** a one-year course that explores ways in which the social sciences have been used to explain political, economic, and social life, as well as the experience of individuals, in the last 200 years.

50 HOURS: A Summary



The above chart, in which each block represents year-long study, shows the place of this core in undergraduate education and indicates a sequence of courses. According to this plan, students would take up the West and America—the cultures most accessible to most of them—before study of cultures with which they are less likely to be familiar. This plan would allow study of the natural and social sciences to build upon understanding of mathematics.

A core program should have a sequence that most students follow. When professors know what students have studied, they can assume a base of knowledge and build upon it. They can reach across courses with references, adding depth, richness, and coherence to general education.

50 HOURS: Core Courses

Cultures and Civilizations: 18 hours

At the heart of this core curriculum is a sequence of courses, taking three years to complete, that provides students opportunities to explore the formative periods of civilization on several continents; to follow the development of Western society and thought; to trace the way Americans have extended the Western tradition and developed a distinctive culture in this country; and to understand as well the evolution of other traditions. The courses in this sequence focus on works that express fundamental and influential ideas in compelling ways. Because such works have complex, finely crafted structures, they should not be studied in small excerpts. Many can be read in their entirety; for others, generous and coherent selections are appropriate.

The course descriptions and suggested readings here, as elsewhere in this report, are meant to be illustrative rather than definitive. The study of civilization can be organized in many ways; and there are many authors and texts, besides the ones mentioned below, that might be selected.

I. **The Origins of Civilization:** a one-semester course that considers the beginnings of civilization on various continents, focusing on significant developments in religion, art, and social organization. Students will read such works as the Babylonian creation myth *Enuma Elish*, the *Gilgamesh* epic, the Code of Hammurabi, the Egyptian *Memphite Theology* and hymn to the Aton, the Hebrew Bible, Homer's *Iliad*, hymns from the Indian *Rig Veda*, the Chinese *Book of Odes*, and the Mayan *Popol Vuh*. Readings will be complemented by a study of artifacts, including religious and civic architecture, iconography, and ancient systems of writing. 3 hours.

II. **Western Civilization:** a one-semester course that considers the development of Western society and thought from Periclean Athens through the Reformation. Beginning with such Greek and Roman works as Sophocles' *Antigone*, Plato's *Republic*, Vergil's *Aeneid*, and Thucydides' and Livy's histories, the course moves on to writings of early Christianity: selections from the New Testament and Augustine. Works by authors such as Dante, Chaucer, Machiavelli, Shakespeare, and Cervantes will be read for enduring expressions of thought from the Middle Ages and Renaissance; Luther and Milton, from the Reformation. Works of architecture and art—the Parthenon, the cathedral at Chartres, and the Sistine ceiling—will give visual examples of classic, medieval, and Renaissance aspirations. 3 hours.

III. **Western Civilization** (continued): a one-semester course that considers the development of Western society and thought from the Reformation into the twentieth century. Against the historical background of the scientific revolution, the rise of the nation-state, and the growth of democratic institutions, students will read such authors as Descartes Locke, Voltaire, Rousseau, Goethe, Wordsworth, and Austen. Continuing on in the nineteenth and into the early twentieth centuries, the course includes work by such authors as Mill, Dickens, Marx, Flaubert, Dostoyevsky, Nietzsche, Woolf, and Eliot. Music and visual art from neoclassic through romantic to modern will be considered: works of Mozart and Beethoven, paintings of Monet and Picasso. 3 hours.

IV. **American Civilization:** a one-semester course that traces major developments in American society and thought from colonial times to the present. The reading list includes documents (the Declaration of Independence, the Constitution, *The Federalist*); autobiography (Franklin, Douglass); philosophical writings (Jonathan Edwards, Emerson, Thoreau, William James); oratory (Webster, Lincoln, Chief Joseph, King); poetry (Whitman, Dickinson, Frost); and the novel (Melville, Twain, Faulkner, Wright). Artists such as Copley, Cassatt, and O'Keeffe will be considered as students examine ways in which Americans have extended the Western tradition and made distinctive cultural contributions. 3 hours.

V and VI. **Other Civilizations:** two one-semester courses to be chosen from those listed below. 6 hours.

- **African Civilization:** a one-semester course that ranges from the art, religion, and social organization of traditional African cultures, to the political and cultural developments of the colonial and postcolonial periods. The syllabus includes folktales, dramas, and praise poems recorded from oral traditions; epic tales such as *Sundiata;* travel accounts such as Ibn Batuta's; as well as twentieth-century poetry (Senghor, Awoonor, Okigbo); novels (Sembène, Achebe, Armah, Ngugi, Head); plays (Soyinka, Fugard); and autobiography (Mphahlele). Music, dance, art, and craft will be considered.
- **East Asian Civilization:** a one-semester course that begins in the classical period, moves through the era of feudalism and empire, and considers social, economic, and intellectual changes in modern China and Japan. Readings include, for China, such works as the *Analects* of Confucius, *Tao-te Ching*, *Records of the Historian*, the *Lotus Sūtra*, T'ang poetry, *The Dream of the Red Chamber*, and the writings of Mao Tse-tung; for Japan, *The Tale of Genji*, haiku by Bashō, Nō drama, Fukuzawa's *Autobiography*, and modern novels such as Tanizaki's *The Makioka Sisters*. Selected works of architecture, painting, sculpture, and crafts, as well as calligraphy, will be studied.
- **Islamic Civilization:** a one-semester course that begins with the pre-Islamic Middle East and focuses on the rise and development of Islam and its cultural, legal, and political expressions from the time of Muhammad to the present. Readings include such works as the Qur'ān, *hadīth*, at-Tabarī's history, al-Ghāzalī's *Deliverance from Error*, *The Thousand and One Nights*, Ibn Khaldun's *The Prolegomena;* Turkish poetry; and Persian literature such as Firdawsī's *Book of Kings* and the poetry of Hāfez, Sa'dī, and Rūmī. Modern expressions of religious and political thought will be studied, as well as such novels as Naguib Mahfouz's *Midaq Alley* and Tawfiq al-Hakīm's *Maze of Justice*. Works of art and architecture, including mosques and palaces, as well as religious and secular music, will be considered.

- **Latin American Civilization:** a one-semester course that begins with the encounter between native peoples and European settlers and studies the development of distinctive Latin American cultures during the colonial and postcolonial periods. Readings include early historical accounts such as Garcilaso de la Vega's *Royal Commentaries of the Incas* and Díaz del Castillo's *True History of the Conquest of New Spain*; nineteenth-century writings by authors such as Alamán, Sarmiento, Alberdi, and Prada; and poems, novels, and essays by writers such as Machado de Assis, Darío, Neruda, Borges, Fuentes, García Márquez, and Paz. Latin American art, including murals, music, and architecture, will be studied.
- **South Asian Civilization:** a one-semester course that traces developments in the thought, culture, and social organization of India from the formative period, through the expansion of Indian civilization and the encounter with Islam, into the colonial and postcolonial periods. Readings range from early writings such as the Upanishads, Buddhist sūtras, the *Bhagavad Gītā*, *The Laws of Manu*, and the *Rāmāyana*, to classical works such as Kālidāsa's *Shakuntalā* and Shankara's commentaries, to twentieth-century works such as Tagore's poems and essays, Gandhi's autobiography, and Markandaya's *Nectar in a Sieve*. Indian music and art—sacred images, temple sculpture, and architecture—are included.

"There is no reason to philosophize," Augustine once wrote, "except in order to be happy."[20] The humanities, as well as the arts, have through the ages been a particular source of human satisfaction. People have written philosophy and history, created stories and paintings, and reflected on these creations because they have found it profoundly gratifying to do so. These activities have enriched life by giving public shape to private thoughts, sorrows, and joys. They have enriched experience by opening up aspects of it not thought of or ignored. Poetry, R. P. Blackmur once observed, "adds to the stock of available reality,"[21] and so too with other arts and philosophy and history. They help individuals to see in new ways, encourage them really to see instead of only gazing unthinkingly.

History, literature, philosophy, and art are at the heart of this curriculum because life lived in their company is richer and fuller than life spent in their absence. While no one can promise that their study will bring wisdom, they are a resource the wise can draw upon. "Madison's greatness as a statesman," historian Douglass Adair once wrote, "rests in part on his ability quite deliberately to set his limited personal experience in the context of the experience of men in other ages."[22] The humanities and arts extend our domain. They allow us to reach beyond ourselves as we seek insight—and beyond the present moment.

These subjects have a moral dimension, posing questions about virtue, truth, and beauty—and often doing so in particularly vivid ways. The humanities and arts not only give us disquisitions on overweening ambition, they offer the examples of Napoleon and Lady Macbeth. They tell us about conflicting interpretations of duty and give us Antigone and

Creon, Lincoln and Lee. The specificity of the humanities and arts may be their source of greatest power. Through example they engage our feelings and vivify our dilemmas. Through example they bring home to the heart what it means to fail, to endure, and to overcome.

In general education, courses in the arts and humanities ought to allow students to encounter these examples in an immediate way. The works themselves, rather than secondary interpretations, should be the primary focus. While the courses in this core place works of the humanities and arts in historical context, they should not be approached exclusively as documents of time and place. Wordsworth's *The Prelude*, for example, enriches and is enriched by knowledge of the French Revolution; but the poem is also a powerful statement about human loss and disillusion and the possibility of recovering hope and achieving happiness. Wordsworth, like other great writers, does more than illuminate and reflect his times. He takes up perennial matters of human experience.

This core sequence begins with what William McNeill has called the "initial period of civilized history, when the main patterns of thought and conduct that governed most. . .lives in later ages printed themselves upon human minds and feelings for the first time."[23] Simultaneous developments in ideas, technology, and society crystallized into rich and complex civilizations. Forms of writing were invented, and people began to record their reflections on the universe and the place of human beings in it. The works recorded are not only compelling in themselves, fascinating chapters in human thought, they also provide a foundation for understanding various civilizations that followed.

Of those civilizations, the one that has shaped our own culture most profoundly arose in the West. With roots in ancient Israel and Greece, the Western tradition grew to encompass a variety of views, often conflicting, pulling and tugging this way and that. It came to accommodate, as philosopher Michael Oakeshott has written, "not only the lyre of Apollo but also the pipes of Pan, the call of the wild; not only the poet but also the physicist; not only the majestic metropolis of Augustinian theology but also the 'greenwood' of Franciscan Christianity."[24] The engagement of ideas, a habit of debate on how people should live and what they should find worthy, assumed a central place. Principles emerged—respect for persons, rule of law, and the right to self government, among them—against which we judge ethical, legal, and political practices today.

This core sequence proposes year-long study of Western civilization so that students can better understand the context of their lives and the foundations of their society. Like all generations, they will shape the tradition they inherit—and will do so most creatively when they have insight into it. "A 'leap of progress,'" Yale Professor Jaroslav Pelikan has observed, "is not a standing broad jump, which begins at the line of where we are now; it is a running broad jump through where we have been to where we go next."[25]

Some have argued in recent years that the Western tradition is not sufficiently inclusive. It speaks only with a white, male voice, critics say.

But studying the way in which the Western tradition has evolved in this country—as the fourth course in this sequence proposes—increases the diversity of voices, bringing in Emily Dickinson and Georgia O'Keeffe, Richard Wright and Martin Luther King, Jr.

Such examples powerfully illustrate that one need not look like Plato or Shakespeare in order to share in a tradition they helped form—indeed to find in their thoughts mighty instruments for reforming and reshaping that heritage. King's work makes this point with particular force. He cited Jefferson's words and Lincoln's to argue the cause of civil rights; he quoted Greek philosophers, British poets, and German theologians. He harked back in his crusade to early Christian apostles like Paul, back further still to Hebrew prophets with the demand that "justice roll down like waters and righteousness like an overflowing stream."[26]

There are many fine examples of core requirements in Western civilization. To earn a bachelor's degree at the University of Dallas, students must take a year-long course in the history of Western civilization, a two-semester sequence in American history, three prescribed courses in philosophy, and four in the Western literary tradition. At Columbia University, undergraduates take a year-long course in which they read classics of Western social, political, and philosophical thought and a second year-long course in which great books of literature are read. A semester of Western art and a semester of music are also required.

To increase coherence, core programs often stress recurring themes. Reason, virtue, and civility are emphasized in the "Classic Learning Core" at the University of North Texas. In sophomore English, students might consider these themes as they read Shakespeare; in American history, discuss ways in which reason, virtue, and civility relate to the experiment in republican government. Saint Anselm College in New Hampshire organizes its core program around "Portraits of Human Greatness." In the first year of a sequence that integrates social, political, and cultural study, students consider such figures as the Prophet, the Knight, and the Medieval Scholar. In the second year, which moves from the Italian Renaissance to the twentieth century, individuals such as Erasmus, Elizabeth I, Cervantes, and Jefferson are studied.

Boston University introduced an integrated core curriculum for 150 of its students in the fall of 1989. In a two-year, historically organized humanities sequence focusing on great works of literature, philosophy, religion, and art, themes such as "The Hero and Society" and "Pilgrimage and Sacrifice" are emphasized to encourage students to see linkages between texts. The Boston humanities core, like the one in *50 Hours*, begins by ranging widely across civilizations before focusing on the Western experience. An interdisciplinary core humanities program at the University of North Carolina at Asheville does the same, considering civilizations in Egypt, Persia, China, Greece, and Rome in the first semester of a two-year sequence.

To enable students to understand themselves as heirs and creators of Western history, Mount Saint Mary's College in Maryland recently introduced a series of clustered core requirements for its students. After completing six interrelated courses in Western history, literature, art, and philosophy, students spend a year studying American culture, examining ways in which it represents both continuation and departure.

One intriguing example of extended study of the West comes from a half-century ago: Alexander Meikeljohn's Athens-America curriculum, which was established for a brief time in the 1920s in an experimental program at the University of Wisconsin. The subject of study in the first year was Athenian civilization; in the second, the American experience. In the 1960s a group at the University of California at Berkeley began a program inspired by Meikeljohn's experiment. The first year concentrated on ancient Greece and seventeenth-century England, the latter period being a time, as Joseph Tussman, the program's founder noted, that "gives us the King James Bible, Shakespeare, Hobbes, and Milton—the Judeo-Christian tradition in a strain especially constitutive of the American tradition and character." The second year of study on America began with the U.S. Constitution, a "new covenant," as Tussman described it, that attempted "to embody the moral and political experience of the old world in a framework appropriate for the new."[27]

Originating as it did amid campus protests against requirements of any kind, Tussman's prescribed curriculum had little chance of success; and although it drew wide and favorable notice, it ended after only three years. It remains, however, a provocative model, one that illustrates a thoughtful approach to studying the West.

Among the values long characteristic of the West is an openness to the study of other cultures. *50 Hours*, by requiring study of two civilizations not focused on in the Western sequence, follows an intellectual tradition that has long acknowledged the delight and instruction to be found in understanding how others live and think.

A crucial part of understanding is recognizing differences. Ndembu ritual, Aztec art, and Nō drama cannot be wholly understood within familiar dimensions. They ask us to look for things we are not used to looking for, to make assumptions different from those we are accustomed to. They grow out of complex traditions that must be studied if we hope to comprehend rather than distort.

At the same time, we can find people in other cultures asking questions that have a startlingly familiar ring and proposing answers that resonate, though sometimes only at the borders of consciousness. Professor Joseph Campbell, who studied the mythologies of many peoples, once observed that beneath their varieties of costume, various cultures show us "the one, shapeshifting yet marvelously constant story."[28] Underlying the differences is a common humanity.

One way to encourage understanding of both differences and similarities is to study other cultures in separate courses that consider

them from their own perspectives and allow reading and discussion of many texts growing out of these traditions and forming them. At the same time, themes that have helped integrate the study of Western civilization can be raised again: What constitutes virtue? What is the nature of human greatness? The source of social order? The relation of human beings to nature?

An example of this approach is Columbia University's Oriental Civilizations and Humanities courses. Stressing depth and breadth, sequence and structure, these courses consider Islamic, Indian, Chinese, and Japanese cultures from their own perspectives while at the same time introducing themes discussed in Columbia's Western civilization sequences: the nature of a good society, the sources of authority, the function of religion.

Some colleges and universities are able to offer many possibilities for studying other cultures. At the University of Chicago, which like Columbia University has had long experience with a core curriculum, students can choose from many year-long courses, including ones that focus on Africa, East Asia, Islam, Latin America, Russia, and South Asia.

Because of faculty expertise or student interest, some institutions focus on only one or two cultures. Students in the honors core at the University of Tennessee at Chattanooga choose either a one-semester course in the Chinese and Japanese traditions or a one-semester course in the tradition of India. In its humanities core, Hampton University in Virginia offers an interdisciplinary course in the art, music, and literature of African, African-American, Latin American, and Caribbean cultures.

Still other institutions are devising programs to give the study of Western civilization a world dimension, not by including works from other cultures in helter-skelter, piecemeal fashion, but by introducing them in ways that preserve the integrity of the traditions out of which they have grown. Queens College of the City University of New York is developing a two-year sequence that will offer students a strong foundation in Western culture and that will move out from that base to consider other cultures and civilizations. At the end of the first semester, for example, which concentrates on Greece and Rome, students will focus on either the civilization of China during approximately the same period or Islamic civilization prior to the conquest of Constantinople. In the fourth semester, after studying "Europe and America through the Wars," students will choose to concentrate on modern Latin America, Africa, or Japan.

All the courses described above reflect an understanding that diverse traditions are best approached by students who are first grounded in one. "They have to discover what they think they know," historian John Van Doren observed on the fortieth anniversary of Columbia's Oriental Humanities course, "and perhaps how little they really know it, before they can move on to other things."[29]

Building a Core: Brooklyn College

In 1980, Brooklyn College was in trouble. A large public institution, Brooklyn was organized into seven separate schools, each with its own—usually weak—general education requirements. Faculty were isolated from one another in these schools and demoralized by funding cutbacks. "It would be hard to find a less likely candidate to qualify for success in planning or achieving curricular coherence and commonality,"[30] says Ethyle Wolfe, then a professor at the school and subsequently its provost. But the faculty decided to aim high. They voted to abolish separate schools and to set up a committee to propose college-wide requirements in general education.

Wolfe was one of the members of that committee: "Fortified with data from student transcripts showing that the cafeteria-style curricula of our recently abolished schools had yielded for many students no more than the lowest denominator of a fragmented liberal arts education, we became united in the conviction that the best starting point for their college education would be a shared intellectual experience." The committee proposed a ten-course core subsequently adopted by the faculty, a core that has led to revitalization of Brooklyn College and drawn much public attention and praise.

How was it possible to introduce such a change during a time of fiscal retrenchment? Wolfe, whose leadership is given much credit by her colleagues for the success of the core, explains that the new plan enabled the school to target spending on general education more effectively. Once the core was in place, other introductory offerings could be pared—including some twenty sections of "Human Sexuality," a course in the physical education department that many students had been taking to fulfill distribution requirements in science.

Recognizing that every institution is unique, Wolfe is careful not to offer the Brooklyn core as a model to be adopted by other schools. But there is value for other institutions in learning about the process that Brooklyn went through, she says. An early decision that she cites as particularly important was the creation of summer seminars in which faculty members join together to discuss the core, its courses, and the texts taught in them—even to present class "samplers." "What a wonderful idea!" one faculty member wrote to Wolfe on her recent retirement. "Before inflicting a course on the students, inflict it on the Provost and some of the faculty and study the reaction."[31]

As Wolfe sees it, the seminars helped transform a "highly tenured faculty of well-qualified specialists" into "an integrated cadre of dedicated generalists teaching their own disciplines as elements of a coherent liberal

education." The seminars serve as well to encourage reflection on the core program. Finding ways to link core courses and to revise and improve them keeps faculty members engaged and keeps the core vital. Wolfe, a classicist, puts the principle behind such constant revaluation this way: "The unexamined curriculum is not worth teaching."[32]

The Core Curriculum

The core at Brooklyn College consists of ten courses, structured in two tiers. As a rule, all courses in the first tier must be completed before a student begins courses in the second tier.

First tier

Core Studies 1	Classical Origins of Western Culture
Core Studies 2	Introduction to Art Introduction to Music
Core Studies 3	People, Power, and Politics
Core Studies 4	The Shaping of the Modern World
Core Studies 5	Introduction to Mathematical Reasoning and Computer Programming

Second tier

Core Studies 6	Landmarks of Literature
Core Studies 7	Science in Modern Life I: Chemistry and Physics
Core Studies 8	Science in Modern Life II: Biology and Geology
Core Studies 9	Studies in African, Asian, and Latin American Cultures
Core Studies 10	Knowledge, Existence, and Values

Foreign Language: 12 hours

A two-year requirement; it is recommended that students fulfill this requirement by taking more advanced courses in a language they have studied in high school.

After visiting France, H. L. Mencken is supposed to have noted that no one there speaks first-year French. His observation rings true for almost everyone who has studied a foreign language for a year or two in high school or college and then tried communicating with native speakers. What use was the experience, people ask, when you can't do anything as a result of it?

A speaker whose native language is English typically requires more than 700 hours of intensive study of a language such as French or Spanish to reach a level at which he or she can satisfy routine social demands and limited work requirements. For other languages, like Russian or Japanese, the time required is longer.[33] Two years of college language study provide approximately 300 hours of instruction—with gaps during college breaks and vacations during which language skills are likely to deteriorate.

Why, then, make two years of language study part of the core of required courses?

First, as a 1987 report from the National Endowment for the Humanities noted, language study is valuable in and of itself. As that report, *American Memory*, observed: "Studying a second language gives us greater mastery over our own speech, helps us shape our thoughts with greater precision and our expressions with greater eloquence. Studying a foreign language also provides insight into the nature of language itself, into its power to shape ideas and experience."[34]

Second, even before gaining basic command of spoken language, students can enter into the written culture in significant ways. Students of Latin have for generations read Cicero and Vergil in their third and fourth years of high school study. In a third year of college study, students of French can read Guy de Maupassant short stories and plays by Molière; students of Spanish, poetry by García Lorca and prose by Borges and García Márquez. Important as fluency in spoken language is, there is another goal: Students can begin to experience in the original, rather than through translation, profound and beautiful works that show how other people live and what they value.

Fortunately, it is becoming increasingly possible for language study in college to build upon language experience acquired in elementary and secondary school. In recent years, there has been a growing recognition of how crucial it is, in a world daily more interdependent, for Americans to know other languages. There once was a time, wrote New Jersey Governor Thomas Kean in a 1989 report of the National Governors' Association, when Americans "could afford the luxury of ignoring the seers and experts who urged us to learn the tongues and ways of other lands, but those days have gone the way of leaded gas and the nickel telephone call."[35]

Realization of the importance of knowing other languages has helped bring about a resurgence of language study in our schools. In 1985 more than 4 million high school students were enrolled in foreign language classes—a 38 percent increase since 1982.[36] As states such as North Carolina implement ambitious mandates for foreign language study in schools, the number of high school foreign language students can be expected to continue to grow.

For the core curriculum set forth in this report, two years of language, building upon high school study, is recommended. The foreign language component of *50 Hours* is framed in this way to emphasize the importance of encouraging students to pursue language study into advanced levels, of continuing it until its rich rewards become apparent. "The acquisition of the tools of a language," observes Beatrice Patt, former dean of Sweet Briar College in Virginia, "is simply a prelude, an introduction to the real adventure, and that adventure is a voyage of discovery into the history, philosophy, psychology, and literature of the foreign country."[37] Insight into the worlds that language study opens up is a powerful spur for the sustained effort necessary to gain fluency in both the written and spoken word.

The foreign language component of *50 Hours* is also meant to show that substantial college graduation requirements in foreign language are increasingly possible. When students begin higher education having already completed the equivalent of a year of college foreign language study—as a significant number of colleges and universities now expect them to do[38]—two additional years bring them through the end of a third-year class. Very few institutions now require students to complete third-year study (or to demonstrate comparable proficiency). In the years ahead, more colleges and universities should be expected to do so.

Language teaching at the college level has undergone important changes in recent years. Proficiency testing, by evaluating what students are able to *do* with a language, rather than simply considering how long they have studied it, has become an important guide for assigning students to courses at the proper level. It also helps students set realistic goals—and experience the satisfaction that comes with meeting them.

Instructors find the proficiency concept useful for integrating early language study with more advanced classes. As students move from classes that emphasize the acquisition of language skills to classes that emphasize the study of literature, they have often, in the past, had to leap a great linguistic gap. At Hunter College of the City University of

New York, the German department, using the proficiency concept, has revised its offerings so that students study simple texts even in early courses where conversational skills are emphasized. Teachers choose literature for subsequent classes according to what stories and novels will work for students at certain levels of proficiency.

While college and university language departments are usually organized around literary study, many institutions are expanding the range of courses available. At St. Olaf College in Minnesota, a program is being introduced that will modify certain courses in humanities subjects so that they have a foreign language component. Such courses will offer special sections in which students will read foreign language texts in the original and discuss them in the language in which they were written.

Dickinson College in Pennsylvania has developed "foreign language integration courses" in the sciences and social sciences as well as the humanities. These courses allow students to substitute readings in a given second language for work in English and to write papers in that second language.

Many colleges and universities have found ways to provide students intense and prolonged foreign language instruction. Dartmouth College accomplishes this during the regular academic year by scheduling daily classes with a master teacher and requiring an additional daily hour of work with a drill instructor as well as a half hour of independent study in a language laboratory. Colorado College's "block plan," whereby students take only one subject at a time for three and one-half weeks, allows students there to immerse themselves in foreign language study.

The Massachusetts Institute of Technology offers intensive sessions in Spanish, German, Russian, and Japanese during the three-week break between semesters. Haverford and Bryn Mawr colleges offer intensive language workshops in the two weeks before the college year begins. Schools such as Middlebury College and Brigham Young University offer summer immersion programs in which students pledge not to use any language but the one they are studying, either in or out of class.

Hundreds of institutions offer study-abroad programs. At the University of Minnesota, 300 to 500 students a year study in other countries. Since 1962, the University of California's Education Abroad Program has sent more than 15,000 students to other countries. Consortial arrangements enlarge the opportunities for students on any given campus. The Stanford Center in Japan, for example, includes students from a variety of institutions in a program that focuses on study of Japanese language, history, culture, and social organization. A second program, for Stanford engineering, science, and social science students, concentrates on the scientific and advanced industrial sectors of Japan.

For the core set forth in this report, language study would be coordinated with other humanities requirements: Students taking Spanish, for example, would be encouraged to enroll in Latin American studies; those studying Japanese, in the course on China and Japan. In this way, separate courses can reinforce and enrich one another—and deepen understanding of other cultures.

Curriculum Profile

Preserving a Core: Columbia University

"For me, the world opened up at Columbia,"[39] Nobel Prize-winning chemist Roald Hoffman observed not long ago. Even as a child, he had been interested in science, but as a young man at Columbia University in the 1950s, he encountered another domain of thought and imagination: the humanities. For him, as for generations of undergraduates, Columbia's core curriculum was a bedazzling introduction to the history, philosophy, and art of Western civilization.

"Contemporary Civilization in the West," the oldest part of Columbia's core curriculum, celebrates its seventieth anniversary this year. Based on close analysis of thinkers such as Aristotle, Machiavelli, Rousseau, Nietzsche, and Freud, this initial course became the foundation for an entire program of general education. Since 1937 "Literature Humanities," in which students read such works as the *Oresteia*, *King Lear*, and *Candide*, has been part of the core. Since 1947 courses in Western art and music have also been required.

In the 1970s, when other great American universities decreased or even eliminated general education requirements, Columbia's core curriculum endured. In the 1980s, when systematic study of the West has been criticized, most notably at Stanford University, Columbia's core of Western learning has remained in place.

Columbia graduates are part of the reason. Speak to one, and you are likely to hear about the core curriculum. Charles Peters, editor of *The Washington Monthly*, remembers going to Columbia from a public high school in West Virginia and plunging into Plato and Aristotle. "Here I was, playing Notre Dame intellectually," says Peters. "The confidence that came from doing that was crucial to my life."[40]

Decades of enthusiastic graduates form a powerful interest group for the core. Says Columbia Professor Ainslie Embree, "The core curriculum is what graduates remember. It is undoubtedly a factor in the support that the college gets from its former students."[41]

Columbia's core has endured partly because it is a valued tradition and partly because it is a living one, subject to continual discussion. To be sure, there is a bedrock—Homer, Dante, Shakespeare—but other names come and go as new generations of faculty members debate and make choices. For many years, Molière was standard. Today he is not part of the list, but Madame de Lafayette, author of *The Princess of Clèves*, is.

Columbia's faculty recently voted to extend the core by setting requirements that would ensure study of major world traditions outside the West. A faculty commission reviewing the core curriculum noted that Columbia's Oriental Civilizations and Humanities courses, for which

teaching materials have been developed over the past forty years, should stand as models for new courses to be included in the core.

Studying other world traditions need entail no diminished commitment to studying Western heritage, the commission on the core curriculum, chaired by Wm. Theodore de Bary, noted: "A true liberal education can be conservative of certain traditional values without being closed to new experience."[42]

A Columbia Reading List

One of the core options at Columbia is "Oriental Humanities." A recent reading list for the spring semester of that course includes the works listed below. Many are assigned in entirety. Others are read in generous selections.

Confucius, *The Analects of Confucius*
Mo Tzu, *Mo Tzu: Basic Writings*
Mencius, *Mencius*
Lao Tzu, *Tao-te Ching*
Chuang Tzu, *Chuang Tzu: Basic Writings*
Hsün Tzu, *Hsün Tzu: Basic Writings*
Han Fei Tzu, *Han Fei Tzu: Basic Writings*
The Scripture of the Lotus Blossom of the Fine Dharma
The Platform Sūtra of the Sixth Patriarch
Wu Ch'eng-en, *Monkey*
Ts'ao Hsueh-ch'in *The Dream of the Red Chamber*
Shen Fu, *Six Records of a Floating Life*
Murasaki Shikibu, *The Tale of Genji*
Sei Shōnagon, *The Pillow Book of Sei Shōnagon*
Kamo no Chōmei, *An Account of My Hut*
Kenkō, *Essays in Idleness*
Hakuin, *Orategama*
Twenty Plays of the Nō Theatre
Matsuo Bashō, *The Narrow Road of Oku*
Chikamatsu Monzaemon, *Four Major Plays of Chikamatsu*
Ihara Saikaku, *Five Women Who Loved Love*

Concepts of Mathematics: 6 hours

A one-year course focusing on major concepts, methods, and applications of the mathematical sciences. Students will explore such topics as shape, quantity, symmetry, change, and uncertainty and consider such fundamental dichotomies as discrete and continuous, finite and infinite. Theoretical advances from the ancient to the contemporary will be considered, as well as applications in such areas as business, economics, statistics, science, and art. Students will be introduced to ways in which computers pose and help solve theoretical and practical problems.

Plato is said to have had this inscription above the entrance to his academy: "Let no one enter here who is ignorant of geometry." He saw in mathematics a way of drawing the mind away from the flawed and ephemeral, toward forms that were perfect and eternal. But mathematics also had its origins in such practical tasks as calculating harvests and measuring land. It is at once the most speculative and the most practical of disciplines, with ancient roots in Pythagorean mysticism as well as in Babylonian commerce and Egyptian surveying.

Students without knowledge of the range, diversity, and power of mathematics are, as Mark Van Doren once put it, "ignorant of a mother tongue."[43] Mathematics can be used to reveal everything from relationships among abstractions to patterns in the world around us: patterns in music and in longevity, in the behavior of electrons and electorates. The chief language of science and technology, mathematics is also crucial to economics and other quantitative social sciences. "Today's world is more mathematical than yesterday's," the National Research Council reports, "and tomorrow's world will be more mathematical than today's."[44] To participate rationally in a world where discussions about everything from finance to the environment, from personal health to politics, are increasingly informed by mathematics, one must understand mathematical methods and concepts, their assumptions and implications.

Many undergraduates are required to study mathematics for their majors. Those intending to concentrate in science or engineering, as well as in business and some of the social sciences, are commonly required to take courses in calculus, statistics, or computer science. Core programs that offer a general education course in mathematics typically allow students to exempt themselves from it with college coursework in these fields.

Some mathematicians have pointed out that such a plan can leave majors in quantitative fields—even in mathematics—without a sufficiently broad view of the mathematical sciences. Writes Professor Larry Copes of Augsburg College in Minnesota, "Most of [our junior mathematics majors] have not experienced the elegance of beautiful mathematical relationships, the tension between intuition and logic, the breadth of exciting mathematical ideas beyond analysis, or the thrill of *doing mathematics*: asking questions, investigating special cases, making conjectures, trying to prove them, revising conjectures, and successful proofs."[45] Nevertheless, at most schools, requirements for majors in subjects like mathematics, physics, and engineering are so tightly sequenced that it is difficult for students concentrating in these areas to take a broad-ranging course in mathematics as part of general education.

Thus, developing a core course at most schools means developing a course for students who do not, on entering college, intend to major in quantitative subjects. What kind of course will bring these students to an understanding of the scope and power of mathematics, its beauty and challenge, and the methods it brings to bear on problems? What kind of course is likely to expand choices, providing students who are unsure about what to specialize in the opportunity to give informed consideration to mathematics and other quantitative majors?

Such a course should not be remedial. "Minimal mathematical and statistical literacy is crucial," writes Professor Lynn Arthur Steen of St. Olaf College, "but the level of this literacy is too low to warrant a claim that it can represent mathematics in a core curriculum. Numeracy should be required as a prerequisite skill, not as a core subject."[46] Professor Andrew Gleason and his colleagues, as they reviewed Harvard University's curriculum in the 1970s, reached a similar conclusion. In part because of "the relatively low success rate of remedial math courses," the committee chaired by Gleason concluded that "it would be a grave pedagogical mistake to try to go over the material that students had failed to master in high school."[47] Entrance requirements can ensure that students have adequate preparation in high school. If remediation is necessary, it should not be addressed by the core.

Many approaches are possible for a course intended to encourage understanding of what the mathematical sciences are and how they function, but a crucial ingredient is that such a course involve students in *doing* mathematics. Learning *about* mathematics or simply memorizing formulae will leave students unaware of mathematics as a dynamic process of inquiry, of defining problems, searching for strategies, trying out possible solutions—and then probing the implications of solutions.

One way to engage students in "doing mathematics" is to challenge them with the problems that confronted the great mathematicians. Professor William Dunham, who teaches mathematics at Hanover College in Indiana, has developed a course called "The Great Theorems of Mathematics." In it, he puts students in the situation that faced Hippocrates, for example, as he tried to figure out how to "square" irregular shapes. Students work through Hippocrates' quadrature, the

oldest surviving mathematical proof. In deciding what theorems to include in his course, Dunham sought those that raised key questions and had an impact on generations to follow. He insisted as well on theorems whose proofs were particularly inventive. "The arguments I examined should exhibit intellectual sparkle," he writes. "The proofs might take odd twists or unexpected turns yet would achieve their object with brilliance and verve. In short, I was looking for masterpieces—the 'Mona Lisas' and 'Hamlets' of mathematics."[48] His course goes on to explore theorems of Euclid, Archimedes, Ptolemy, Cardano, the Bernoullis, and Euler. It concludes with Cantor's theorem and its implication of a never-ending chain of larger and larger infinite sets.

Carleton College in Minnesota offers a course that combines study of the classical works of mathematics with problem solving. The course begins with Euler's "The Seven Bridges of Königsberg." Students are asked to consider how the problem is modeled and which branch of mathematics is needed to solve it. After analyzing Euler's reasoning and discussing combinatorics and graph theory, students go on to work through other combinatorial problems. The course includes readings from Euclid and Apollonius through Descartes and Newton to Hilbert and Russell. Applications include the bearing of projective geometry on perspective in art and experiments with mirrors and reflection.

In mathematics as in other disciplines, St. John's College in Annapolis and Sante Fe emphasizes the original texts of great authors. In the "Mathematics Tutorial," which stretches over four years, students begin with Euclid's *Elements* and move on to the mathematical descriptions of the heavens provided by Ptolemy and Copernicus. In successive years, their studies include Descartes on analytic geometry, Newton's *Principia*, Dedekind's theory of real numbers, and Lobachevsky's development of non-Euclidean geometry and its relation to Einstein's theory of relativity. Throughout the tutorial, inquiry is stressed. As students read and work through problems, they are encouraged to consider such matters as why mathematical proofs seem to carry such conviction, why some seem better than others, more "elegant" than others. They inquire into the conditions and habits of mind that have led to mathematical discoveries and investigate their consequences, not just for mathematics, but for philosophy, poetry, and religion.

Another way to involve students in "doing mathematics" is to focus primarily on problem solving and practical applications. Using materials developed by the Consortium for Mathematics and Its Applications, a national organization with offices in Arlington, Massachusetts, faculty at a number of colleges teach courses that explore the way contemporary mathematics is used in management science, statistics, and social choice theory; in describing patterns, calculating distances, and programming computers. Students solve problems involving business scheduling, polling data, legislative apportionment, the symmetry of seeds in a sunflower head, the measurement of distance from earth to moon. They explore how computers work and ways they are used. From time to time, a historical dimension is introduced. Apollonius's conic studies, for

example, might be taken up as part of a discussion on measuring the universe. At Iowa State University, where one such course is taught, supplementary readings include biographies of great mathematicians. In the Iowa State course, as well as in one based on the same materials offered at Le Moyne College in Syracuse, New York, students write papers on mathematical topics.

Professors William P. Berlinghoff and Kerry E. Grant of Southern Connecticut State University have developed a course that begins with an introduction to problem solving based on the work of mathematician George Polya and uses that approach to consider such topics as pattern, form, chance, infinity, and symmetry. A historical perspective is included so that students understand, for example, the profound impact on science and human thought of the discovery of non-Euclidean geometry. Throughout the course, mathematics is linked with other fields of human knowledge, ranging from politics to art, from social planning to music, thus making clear the relationship of mathematics to a multiplicity of human activities—and the place of the mathematical sciences in liberal education.

Extended Cores

A few liberal arts colleges have core programs of such rigor and extent that they define the entire curriculum. At St. John's College in Annapolis and Santa Fe and at Thomas Aquinas College in Santa Paula, California, all students follow a prescribed four-year program based on great works of Western civilization. At Shimer College in Waukegan, Illinois, where classics are also at the heart of the curriculum, 85 semester hours of the 125 necessary for graduation are required in the core.

Small group discussions are central to education at these colleges. Students gather with professors to inquire into questions raised by the texts they have studied. Sometimes discussions are wide-ranging, sometimes tightly focused, but in them, all participants must support ideas by argument. The professor's role is to act as guide, objecting when unsupported opinions are advanced, asking crucial questions, participating as co-inquirer in the process of learning. The teacher as learner is particularly emphasized at St. John's, where the aim is to have all faculty members teach in all parts of the curriculum, from literature to music to mathematics.

Each school organizes its core somewhat differently. Shimer requires two years of study in humanities, two in science, and two in social sciences, as well as a full year of study that integrates these fields of knowledge. Neither St. John's nor Thomas Aquinas distinguishes between the humanities and the social sciences. In year-long seminars at these two colleges—one required each year for four years—students discuss great works of literature, history, philosophy, psychology, and sociology. Both St. John's and Thomas Aquinas require four years of mathematics. St. John's requires three years of science; Thomas Aquinas, four years. St. John's requires two years of Greek and two years of French; Thomas Aquinas, two years of Latin.

The highly structured and sequenced programs at all three schools permit an integrated vision of learning. Students can learn Greek as they read Plato; Latin as they study Vergil; understand that Descartes was, at one and the same time, philosopher, mathematician, and scientist.

All three colleges are small. St. John's has about 400 students on each of its campuses; Thomas Aquinas and Shimer fewer than 200 each. A few larger institutions—Saint Mary's College near Oakland, California, and Kentucky State University—offer programs similar to the one at St. John's for a limited number of their students.

The curricula of St. John's, Thomas Aquinas, and Shimer colleges are all based on the presumption that learning should bring students to inquire into the perennial and fundamental matters that have preoccupied

some of the world's greatest minds. Thomas J. Slakey, the dean of St. John's at Annapolis, recently expressed the mission of his college this way: "[It] exists to promote, as best it can, a direct and powerful experience of some truly excellent things, subtle and complex arguments, brilliant tales and devices, noble speculations."[49]

A St. John's Reading List

In the third year at St. John's College, students read works from the early modern period. The junior-year syllabus is given below. Asterisks indicate works from which selections are read.

Cervantes, *Don Quixote*

Galileo, *Two New Sciences**

Hobbes, *Leviathan**

Descartes, *Discourse on Method, Meditations, Rules for the Direction of the Mind,* The World**

Milton, *Paradise Lost*

La Rochefoucauld, *Maximes**

La Fontaine, *Fables**

Pascal, *Pensées**

Huygens, *Treatise on Light,* On the Movement of Bodies by Impact*

Spinoza, *Theologico-Political Treatise*

Locke, *Second Treatise of Government*

Racine, *Phèdre*

Newton, *Principia Mathematica**

Kepler, *Epitome IV*

Leibniz, *Monadology, Discourse on Metaphysics, What is Nature?, Essay on Dynamics*

Swift, *Gulliver's Travels*

Berkeley, *Principles of Human Knowledge*

Hume, *Treatise of Human Nature**

Rousseau, *Social Contract, The Origin of Inequality*

Adam Smith, *Wealth of Nations**

Kant, *Critique of Pure Reason,* Fundamental Principles of Metaphysics of Morals, Critique of Judgment*

Mozart, *Don Giovanni*

Jane Austen, *Pride and Prejudice, Emma*

Hamilton, Jay, and Madison, *The Federalist**

Melville, *Billy Budd, Benito Cereno*

Dedekind, *Essay on the Theory of Numbers*

Fielding, *Tom Jones*

Tocqueville, *Democracy in America**

Essays by Young, Maxwell, S. Carnot, L. Carnot, Mayer, Kelvin, Taylor, Euler, D. Bernoulli

Foundations of the Natural Sciences: 8 hours

A one-year laboratory course that focuses on major ideas and methods of the physical and biological sciences. The course includes study of ways in which scientists, both ancient and modern, have explained matter, energy, and motion; the universe and forces of nature; the earth and life upon it. In the laboratory, students will be asked to construct experiments that explore questions about the natural world, including questions that faced great scientists in the past.

Scientists today are probing the stars and describing the human genome, explaining the universe and life in ways that previous generations never imagined. From microprocessors to CAT scans, technologies growing out of science affect our daily existence as never before.

But how many of us know fundamental concepts of science? And, even more important, how many of us understand how they were developed and validated? Professor Arnold B. Arons of the University of Washington points out that most of us would agree that the moon shines by reflected sunlight; but, he asks, "How many people are able to describe the simple evidence, available to anyone who can see, that leads to this conclusion?" For most of us, Professor Arons writes, "The 'fact' that the moon shines by reflected sunlight is received knowledge, not sustained by understanding. Exactly the same must be said about the contention that the earth and planets revolve around the sun."[50]

Our ability to make everyday decisions wisely is diminished when we do not comprehend scientific principles and the technologies built upon them. And so is our capacity for answering momentous questions. As David Saxon, chairman of the Corporation of the Massachusetts Institute of Technology, has noted, it is cause for concern when "we are quite unable as a society to distinguish sense and nonsense when it comes to science." It is a matter of concern for all of us, humanists and scientists alike, when, as Saxon puts it, "Educated, intelligent, inquisitive people are unable consistently to bring informed judgment to bear on questions connected in almost every way to science and technology, questions often vital to the future of the world."[51]

To the task of understanding these questions and knowing what we can about ourselves and the human situation, the sciences bring creativity and imagination as well as rigor and precision. A college education should provide students occasion to explore the insights that scientists offer into the physical and biological worlds and to gain comprehension of how scientific concepts originate, are validated, and refined.

Scientists concerned with general education have written on the subject and developed courses, providing information for all who are concerned with the undergraduate curriculum. These scientists make clear that the rationale for and challenges of core learning do not vary greatly from field to field. The reasons for it, in the words of biologist Ezra Shahn of Hunter College, are "to prepare the nonspecialist for the potential of lifelong learning, should that choice be made. And to increase the likelihood that the choice *will* be made."[52]

The first challenge, in the sciences as in the humanities, is to develop courses that range widely, providing insights into several fields of inquiry. Just as it is of limited usefulness for a student to know literature but not philosophy, so is it for a person to have knowledge of elementary chemistry, but not of biology, geology, and astronomy. As a faculty committee at Illinois State University recently concluded, "Majors in economics . . . should not be forced to elect between biology and chemistry or between physics and geology, since their need is a comprehension of natural science *in toto*."[53]

But how to keep such a course rigorous and coherent? Professor Shahn and his colleagues at Hunter College use three cross-cutting topics to help define subjects to be covered and to aid students in seeing connections between different bodies of learning: the heliocentric theory (the idea of a solar system and the related study of motion on earth); the atomic theory (the idea that matter is fundamentally particulate in nature and that its properties can in part be understood by understanding the properties of these particles); and the evolutionary theory (the idea that the earth and life on earth are not unchanging but have a history).

To illustrate the process by which scientific understanding is achieved, each of these themes is followed from its origins in prescientific experience to the emergence of modern concepts. The unit on heliocentric theory, for example, begins with the astronomical observations of the Babylonians, focuses on models offered by Ptolemy and Copernicus, and relates them to theories of motion of Descartes and Galileo. The unit concludes with rudimentary ideas of energy and its transformations.

Physicist James Trefil of George Mason University in Fairfax, Virginia, has developed a "Prototype Core Science Course" that uses four topics—the quantitative nature of science, the Newtonian universe, thermodynamics, and electricity and atoms—to survey basic knowledge of physical, earth, and life sciences. At Illinois State University and Boston University, general education courses in science emphasize the theme of evolution as it manifests itself in the universe, on earth, and in life forms.

The University of Chicago has an interdisciplinary science course organized around the theme of evolution, as well as one that uses

"Structure and Function in the Natural World" as its organizing topic. This latter course begins with study of elementary particles and the ways they interact and then goes on to consider the structure of matter. After studying simple molecules, students take up the more complex polymers important in biochemistry and then the structure of the cell and the place of the cell in the organism. The course concludes by examining the interactions between organisms studied in population biology.

At Auburn University in Alabama, a course being developed for the core curriculum uses questions about the nature of light as an opening onto a broad range of scientific issues. The course considers Newton's experiments, investigations of the speed of light, Einstein's theory of relativity, light as wave and particle, the absorption and emission of light by atoms, and the interaction of light with organic and biological systems.

To bring science alive, to capture the moment of scientific discovery and demonstration, some general education courses have students read the original words of great scientists, to see how they themselves presented their evidence, arguments, and conclusions to their contemporaries. At Hunter College, students study the formative period of chemistry by reading classic papers by Boyle, Lavoisier, and Dalton. At St. John's College, they learn the Copernican revolution from Copernicus, Newtonian physics from Newton, and the theory of relativity from Einstein. In these readings, students encounter some of the world's greatest minds at moments of intense creativity, controversy, and excitement. They see scientists asking questions and trying to solve problems, all the while working within the limits of a particular time—just as the students themselves are.

Particularly when the general education course in science is a one-semester offering, institutions often recommend or require at least one semester of additional study in a single science. It is also usually the case that general education courses in science are designated for nonscience majors. Such a plan can leave the science major without opportunity to explore science as a whole. As the Harvard "Redbook" noted, "A general education in science needs to be provided for the future scientist or technologist as well as for [others]. One could scarcely insist that all students of history or literature should learn some biology, for example, but that the prospective physicist or chemist need not do so."[54] To fulfill this need, George Mason University is developing a senior-year seminar for science students that emphasizes multidisciplinary problems and explores ethical and philosophical issues.

The science course proposed for *50 Hours* has a laboratory component. Its purpose is to encourage students to see the connection between theory and experiment and thus to understand how scientific concepts are validated through observation. How do we know that falling bodies do not fall with velocities proportionate to their weights? At Hunter College, students answer the question in the laboratory by repeating Galileo's experiments with rolling balls on inclined planes. At the University of Chicago, students conduct structured experiments as well as ones for

which they do not know the results. In one course, they design their own projects; and as they investigate, for example, the excess energy consumed when a light bulb is repeatedly turned on and off, they come to understand in a very immediate way the intellectual motivations that inform scientific experimentation as well as the challenges of interpreting data.

Through lectures and discussions, students can come to see that science is not a closed catalog of results, but a continuing process of inquiry. In laboratories, where this idea is grounded in experience, they can move still farther beyond received knowledge toward active understanding of the natural world.

Community College Cores

"The main purpose of education," writes Evelyn Edson of Piedmont Virginia Community College in Charlottesville, ". . . is to pass on to those who come as students the values and accomplishments of a civilization, so that what is best in that civilization is not only perpetuated but enriched by the contributions of subsequent generations."[55] Recognizing the crucial role that general education plays in encouraging understanding of cultural heritage, a number of community colleges have developed core offerings during the 1980s.

Piedmont Virginia Community College recently introduced a one-year, historically organized sequence that engages students with primary works of literature, art, and philosophy from Homer to Picasso. Jefferson State Junior College in Birmingham, Alabama, now offers a number of courses to help students at that two-year school understand ways in which the events, discoveries, art, music, and literature of Western civilization have influenced one another.

Faculty members at Dixie College in Saint George, Utah, are developing a series of five core courses, all centered on primary texts. Known collectively as "Intellectual Traditions in the West," these courses will explore the physical sciences, the biological sciences, the fine arts, the social sciences, and the humanities.

At Richland College in Dallas, Texas, faculty members have worked to increase the coherence of degree requirements by designating special sections of required courses as part of the "Classics Cluster." Students who choose this emphasis take a composition course in which they read and write about classical mythology; a humanities course on the arts, literature, music, and religion of ancient Greece and Rome; a history course on the development of the Greek city-state; and a social science course on the classical foundations of the American state.

Because community college professors have heavy teaching responsibilities, often five courses a semester, it can be difficult for them to undertake the wide-ranging study necessary to teach newly conceived courses in general education. At all of the institutions mentioned above, seminars have been organized in which faculty members from different disciplines come together to discuss works to be taught in core classes. During the summer of 1988, for example, Richland College faculty gathered for four weeks to discuss writings of Vergil, Ovid, Cicero, Horace, Juvenal, and Petronius with visiting scholars of the classics.

Core programs on community college campuses are often directed to certain students: those working toward an associate of arts degree, for example, or those with outstanding academic records. But the entire

campus can gain advantages from core programs. The intellectual revitalization that their development brings to faculty benefits all the courses those faculty members teach. Lecture series and discussions inspired by core programs enhance intellectual life campus-wide.

In 1986, the most recent year for which statistics have been published, 43 percent of the nation's undergraduates were enrolled in two-year colleges.[56] If general education is to flourish, it must be nourished at community colleges as well as at four-year institutions.

Western Civilization at Piedmont Virginia Community College

The following schedule is for Humanities 201, "Survey of Western Culture," at Piedmont Virginia Community College, Fall 1988.

Week of	Readings, Topics, Activities
August 30	The World of the *Odyssey*
September 6	Homer, *Odyssey*, Books I-X
September 13	*Odyssey*, Books XI-XIII, XIX-XXIV Selections from Greek lyric poetry Paper due on the *Odyssey*
September 20	Sophocles, *Oedipus Rex*, *Antigone* Greek vase painting Trip to Virginia Museum of Fine Arts
September 27	Plato, *Symposium* Classicism in art: the Parthenon
October 4	Old Testament: *Genesis*, 1 *Exodus*, 19-23 *Job*, all but 32-37 *Psalms*, 1, 8, 23, 100 Museum paper due
October 11	New Testament *Matthew* Selections from *Acts* and *Romans* Selections from *Revelations*
October 18	Stoicism *The Handbook of Epictetus* Midterm examination

October 25	Plutarch, *Lives* (Caesar and Cato) Plautus, *Miles Gloriosus* Roman portraits
November 1	Selections from Thomas Aquinas, Anselm, and Meister Eckehart Medieval cathedrals
November 8	*Everyman* Medieval music
November 15	Art of Giotto Attend performance of Euripides, *The Trojan Woman* Dante, *Inferno*
November 22	*Inferno* (continued)
November 29	Paper due on *The Trojan Women* Selections from Vasari, *Lives of the Artists* Renaissance music Art of Raphael and Michelangelo
December 6	Pico, *Oration on the Dignity of Man* Selected sonnets by Petrarch and Shakespeare
December 13	Final examination

Social Sciences and the Modern World: 6 hours

A one-year course that explores ways in which the social sciences have been used to explain political, economic, and social life, as well as the experience of individuals, in the last 200 years. Students will read such writers as Tocqueville, Lenin, and Arendt on revolution; Smith, Marx, Weber, and Schumpeter on capitalism and industrial society; Mill and Tocqueville on democracy; Simmel and Durkheim on cities and anomie. Psychologists such as Freud and G. H. Mead and anthropologists such as Boas, Radcliffe-Brown, and Benedict will provide opportunities to consider varying concepts of human nature and how they grow out of and shape different cultures. Students will explore how the ideas and methods of these thinkers are exemplified, amplified, or challenged by contemporary studies of such topics as education, bureaucracy, urbanization, or political development.

One of the striking features of the intellectual history of the modern world is the emergence of the social sciences. At the beginning of the modern period, when mathematics and physics had already given us analytic geometry and calculus, Copernican astronomy and Newtonian physics, the disciplines of economics, sociology, psychology, anthropology—and political science in its social scientific form—had not yet assumed distinctive shape. People had written about markets and prices, for example, but it was not until 1776 that a great work of systematic thought about economic matters appeared: Adam Smith's *Wealth of Nations*. It was not until the nineteenth century that Auguste Comte coined the term *sociology* and Emile Durkheim fashioned a systematic discipline. Psychology separated itself from philosophy only during the lifetimes of Sigmund Freud and J. B. Watson. The work of anthropologists such as Sir James Frazer and Franz Boas dates from roughly the same period.

New ways of looking at the world arose out of traumatic changes: the break-up of old political and social orders; the increasing ability of scientists to offer powerful explanations—and, often, counterintuitive ones—for the world around us; the growing effects of technology on the ways that people worked and communicated. Social thinkers attempted to comprehend events and forces that were transforming the world and that

continue to shape it. Thus, their works provide opportunities for insight into major historical developments of the last 200 years.

Our vocabulary shows the impact of such thinkers on the way we conceptualize contemporary phenomena. It is full of words that have either emerged from the social sciences or been given special meaning by them: *inflation, personality, alienation, bureaucracy, monopoly,* and *role model,* to name just a few. New words and new concepts frequently grew out of methods derived from the sciences—an emphasis on observation, in particular. Data gathering was a hallmark of the human sciences in the beginning, and it remains so today. Everywhere we encounter studies of such matters as whether our schools tend properly to the developmental needs of adolescents, whether there is a political realignment in the United States, how urbanization is affecting Brazil. To live intelligently in the modern world one must be able to evaluate such studies. One must understand concepts and methods of the social sciences.

In many distribution requirements, students are instructed to take one from a list of courses, some of which are very narrowly focused. At one large West Coast university, for example, a sociology course in "Status, Friendship, and Social Pressure" fulfills the social science requirement. Even when the courses are conceived as introductions to one of the disciplines of the social sciences, students can come away with decidedly limited notions. The student who takes only economics may get the impression that the only way to analyze behavior in a village marketplace is as a set of optimizing exchange relations. The student who takes only anthropology may not realize that the marketplace can be analyzed in terms of exchange relations.

Thus, the course proposed for this core ranges over the social science disciplines. It focuses on works that are monuments of thought, works that repay study in and of themselves—for their synthesis, creativity, and explanatory power. It focuses on works that established theoretical constructs that have profoundly affected subsequent generations. "Strip from present-day sociology the perspectives and frameworks provided by men like Weber and Durkheim," sociologist Robert Nisbet has written, "and little would be left but lifeless heaps of data and stray hypotheses."[57] By providing challenge to thought as well as pattern for it, thinkers like Smith and Freud have spurred the development of new perspectives for understanding human and social problems and possibilities.

In the course proposed for this core, concepts and methods of the works read will be stressed. With what presuppositions does a Weber or B. F. Skinner begin? On what information did they and thinkers like Tocqueville and Smith base their analyses? How do the perspectives, data, and conclusions of social scientists differ today? By seeing how great social scientists defined problems, sought out information, and developed concepts—and by testing their ideas against contemporary findings—students will have occasion to evaluate the strengths and limitations of the social sciences and the explanations they offer for contemporary life.

One pattern for core social science courses is to begin with comprehensive matters, then move to a perspective that focuses on individuals. The University of Chicago, which offers several social science sequences in its core program, has two that are organized in this way. The older one, "Self, Culture, and Society," focuses in the first quarter on conceptual foundations of political economy. Students read works of Smith, Marx, and Weber, then test their concepts against contemporary empirical studies. In the second quarter, theories of the individual and society are considered. The third quarter explores varying concepts of "lives" in different times and places.

The social science component of Boston University's new core curriculum also moves from macro to micro, with the first semester entitled "The Making of the Contemporary World" and the second "The Individual and the World." The first semester begins with the setting of a broad historical framework that encompasses such nineteenth- and twentieth-century occurrences as the great wars, new forms of economic competition, and demographic changes, then moves to specific examples of how social scientists have interpreted these phenomena. The second semester moves from the life of the individual—looking at ways in which social scientists have answered the question, "What is human nature?"—to the experience of individuals in groups: in the family, the village, the city.

Although the social sciences are modern disciplines, the questions they pose about human nature and society have ancient roots. The same fundamental issues were taken up by Aristotle and Augustine, Hobbes and Rousseau. When these authors are read in the humanities part of the core, as in *50 Hours*, study in the social sciences can build upon earlier readings. As students connect questions that contemporary social scientists ask with those posed by earlier thinkers, they come to see that central concerns transcend both ages and disciplines.

Some core sequences establish these links by beginning study of the social sciences with the Greeks. At the University of Tennessee at Chattanooga, for example, freshmen in the honors core take "Classical and Medieval Historical and Political Thought" and read such works as Aristotle's *Politics* and Machiavelli's *The Prince*. In a proposed sophomore-year course, "Origins of the Social Sciences," students move on to such works as Martin Luther's "Address to the Christian Nobility," Locke's *The Second Treatise on Civil Government*, and Rousseau's *The Social Contract*; they examine these works in terms of current hypotheses. Core writings for the third course in this sequence, "Contemporary Social Sciences," include Freud's *Civilization and Its Discontents*, Marx's *Critique of Political Economy*, writings of Max Weber, and Lévi-Strauss's *The Savage Mind*.

Rice University's new "Social Sciences Foundation Course" begins with Plato and Aristotle and uses their ideas about the individual and society as a foundation for the rest of the course. Proceeding historically, students read authors whose works were crucial to the emergence of modern social sciences and thinkers who grappled with causes and

consequences of industrialization, including Tocqueville, Marx, Durkheim, and Weber. The last part of the course takes up current debates—the problem of objectivity, the challenge of free-market advocates like Milton Friedman to Keynesian economic theory—and concludes with consideration of postindustrial trends in technology, demography, and ideology that pose new problems for social scientists to consider.

Honors Cores

Curriculum, like politics, is often the art of the possible; and when institutional pressures against a structured and sequenced core for all students are too great, colleges and universities sometimes establish programs that offer such an experience to good students who choose it. The University of Texas at Austin's "Plan II," begun in 1936, is perhaps the most famous of these programs. It presents the some 150 students that enroll in it each year with a demanding schedule—and many opportunities. They undertake work required of all undergraduates in special, usually smaller classes taught by some of the university's most distinguished faculty. In tutorials, they complete extra coursework that particularly stresses the humanities and social sciences.

The University of North Texas in Denton admitted the first freshmen—101 of them—into its "Classic Learning Core" in the fall of 1986. This program has revised sections of existing courses, designing them around classic humanities texts. In a speech course, for example, students discuss such works as Aristotle's *Rhetoric* and Cicero's *De Oratore*. Courses in this program are integrated by drawing from a common reading list as well as by a thematic focus on "reason, virtue, and civility."

At the University of Southern Maine, an honors program has, since 1986, supplemented the school's general education requirements for a limited number of students. The foundation of the program is two-year, integrated study of the literature, philosophy, religion, science, and art of Western civilization. In small classes—rarely more than twelve or thirteen students—works ranging from three dialogues concerning Socrates' trial and death to Samuel Beckett's *Waiting for Godot* are discussed.

The University of Tennessee at Chattanooga has developed a sequence of nine courses in literature, music, history, Asian cultures, social science, and science for students in its new honors core. Southeastern Louisiana University at Hammond is developing a program that will offer three alternatives to students who wish to complete an honors core. The most demanding of these programs—sixty-seven hours—requires twelve hours of Western literature and history and twelve hours of upper-division seminars that range across the disciplines of rhetoric, literature, history, philosophy, government, psychology, and sociology.

Critics of honors programs often argue that they benefit the few rather than the many, but when they are properly conceived, their benefits are felt across the institution. By providing an occasion for faculty to come together to work out intellectual problems, they encourage collegiality. By

providing a model of rigorous and coherent learning, they encourage larger curricular reform. At Providence College in Rhode Island, for example, an honors program introduced in 1957 provided the prototype for the Western civilization sequence now taught throughout the college.

A Reading List from the University of North Texas

One way to promote coherence in a core program is to have a common reading list. Central to the "Classic Learning Core" at the University of North Texas is a list of seventy-six works. They represent authors and titles assigned in humanities and social science classes as well as other works that faculty members wish to encourage students to read. The following is a sample of fifteen authors drawn from P to V on the list.

Plato	*Gorgias*
	Phaedrus
	The Republic
Plutarch	*The Lives*
Posner	*Chronometric Explanations of Mind*
Potter	*People of Plenty*
Rawls	*A Theory of Justice*
Sartre	*No Exit*
Shakespeare	*Hamlet*
	Henry IV, Part I
	Julius Caesar
Skinner	*The Behavior of Organisms*
Smith	*The Wealth of Nations*
Stowe	*Uncle Tom's Cabin*
Swift	*Gulliver's Travels*
Vergil	*The Aeneid*
Voltaire	*Candide*

Afterword

If liberal education is a journey, as many have conceived it, then the curriculum is a map. It sets out the past so that we understand that here, in this time and place, Greek temples gleamed, whole and serene under Attic sun. Here Galileo looked through his telescope and saw the shining moons of Jupiter. Here Shakespeare's genius flashed upon the Elizabethan stage, illuminating his time and the human spirit.

But charting a map for learning has this difference from charting land and sea: We are always, as we draw the map, living in the Age of Discovery, likely to find ourselves awed by the significance of what had once seemed of only passing importance, amazed by wonders we didn't know existed. Euclid's parallel postulate, a curiosity for centuries, suddenly becomes crucial to a new understanding. Emily Dickinson's poetry, known to only a few, emerges from obscurity to alter the imaginative horizon. Familiar continents remain, but new islands are discovered and new peninsulas that make us rethink the map we have drawn.

A world dynamic in its details is difficult to chart, and so is a world that is rich in possibilities. Choices must be made, and even when they are meant only to be illustrative, as they are in the core curriculum set forth in this report, the omissions are painful. Where is Pascal? Do we want students to graduate without having encountered his "two infinities" or his wager of faith? Just as the task is finished, one is tempted to go back and add, to suggest that more should be included.

Other authors and topics could have been—and surely will be—suggested, and others would accord with the principle of selection informing this core, particularly in the humanities: that students should encounter works and ideas whose influence can be traced through the history of thought and deed. These works and ideas should be studied not as tribute to the past, though part of education lies in coming to understand that wisdom is to be found there. Rather these works and ideas should be studied because they are part of the present. They exist in the matrix of our experience, whether we know it or not; and to become aware of them is to better understand our lives and ourselves.

An argument sometimes advanced against requirements is that they are limiting, but a core curriculum devised so that students encounter classic works and significant ideas is just the opposite. It expands choices and enriches possibilities for the individual. No two students will come through its complex explorations quite the same. One will love the ordered world of the theorem, another the untamed landscapes of the

Romantics. But both will know both, if education has done its duty; and they will share this: an enthusiasm for the journey, a sense of the satisfactions a lifetime of learning can bring.

Ancient mapmakers inscribed legends on their maps—warnings, usually, of monsters and wonders. For a map of learning, another kind of instruction is fitting, a legend drawn from a poet: "Now voyager sail thou forth to seek and find."[58]

Notes

1. Frederick Rudolph, *Curriculum: A History of the American Undergraduate Course of Study Since 1636* (San Francisco: Jossey-Bass, 1978), ix.
2. *Humanities in America: A Report to the President, the Congress, and the American People* (Washington, D.C.: National Endowment for the Humanities, 1988), 5.
3. *General Education in a Free Society: Report of the Harvard Committee* (Cambridge, Mass.: Harvard University Press, 1945), 51.
4. *Undergraduate General Education and Humanities Requirements*, Higher Education Surveys, no. 7 (Rockville, Md.: Westat, Inc., 1989), 5 and Table A-2.
5. Edwin J. Delattre, *Education and the Public Trust: The Imperative for Common Purposes* (Washington, D.C.: Ethics and Public Policy Center, 1988), 137.
6. Quoted by Martin J. Svaglic, ed., *The Idea of a University* (Notre Dame, Ind.: University of Notre Dame Press, 1982), xviii.
7. *A Survey of College Seniors: Knowledge of History and Literature*, conducted for the National Endowment for the Humanities (Princeton, N.J.: The Gallup Organization, 1989), 33-56.
8. Michael Oakeshott, *The Voice of Liberal Learning: Michael Oakeshott on Education*, ed. Timothy Fuller (New Haven, Conn.: Yale University Press, 1989), 29.
9. Erwin Schrodinger, *Science and Humanism: Physics in Our Time* (London: Cambridge University Press, 1951), 4.
10. Loren C. Eiseley, *The Unexpected Universe* (New York: Harcourt, Brace & World, 1964), 6.
11. Joseph S. Johnston, Jr., Susan Shaman, and Robert Zemsky, *Unfinished Design: The Humanities and Social Sciences in Undergraduate Engineering Education* (Washington, D.C.: Association of American Colleges, 1988), 10; *National Association of Schools of Music: 1987-1988 Handbook* (Reston, Va.: National Association of Schools of Music, 1987), 51-57.
12. *Undergraduate General Education and Humanities Requirements*, Higher Education Surveys, no. 7 (Rockville, Md.: Westat, Inc., 1989), Table A-4.
13. The National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Educational Reform* (Washington, D.C.: U.S. Government Printing Office, 1983), 24. The Educational Testing Service reports that at least 75 percent of high school seniors taking the Scholastic Aptitude Test in 1988 were meeting these standards. *What Americans Study* (Princeton, N.J.: Educational Testing Service, 1989), 8.
14. Henry Wilkinson Bragdon, *Woodrow Wilson: The Academic Years* (Cambridge, Mass.: Harvard University Press, 1967), 293.

15. James Q. Wilson, "A View from the Inside," *The Great Core Curriculum Debate: Education as a Mirror of Culture* (New Rochelle, N.Y.: Change Magazine Press, 1979), 47.

16. *General Education Requirements in the Humanities,* Higher Education Panel Reports, no. 66 (Washington, D.C.: American Council on Education, 1985), Table 14.1.

17. *Reports on the Course of Instruction in Yale College* (New Haven, Conn.: Hezekiah Howe, 1830), 7.

18. Charles Frankel, "The Philosopher" (Paper presented at the National Meeting of State-Based Committees, Washington, D.C., 2-3 May 1973), 56.

19. Leo Raditsa, "On Sustenance: Teaching and Learning the Great Works," *Academic Questions* (Spring 1989), 34-35.

20. Augustine, *City of God* 19. i. 3.

21. R. P. Blackmur, as quoted by John Berryman in the poem "Olympus."

22. Douglass Adair, *Fame and the Founding Fathers* (New York: W. W. Norton & Company, 1974), 97.

23. William H. McNeill, *A World History*, 3rd ed., (New York: Oxford University Press, 1979), 6.

24. Michael Oakeshott, *The Voice of Liberal Learning: Michael Oakeshott on Education*, ed. Timothy Fuller (New Haven, Conn.: Yale University Press, 1989), 29.

25. Jaroslav Pelikan, *The Vindication of Tradition* (New Haven, Conn.: Yale University Press, 1984), 81.

26. Martin Luther King, Jr., "Letter from the Birmingham Jail" (1963).

27. Joseph Tussman, *Experiment at Berkeley* (New York: Oxford University Press, 1969) 54, 126.

28. Joseph Campbell, *The Hero with a Thousand Faces*, 2nd ed. (Princeton, N.J.: Princeton University Press, 1968), 3.

29. John Van Doren, remarks given at the Fortieth Anniversary Symposium of the Oriental Humanities Course, Columbia University (18 March 1988); quoted in "Report of the Commission on the Core Curriculum," Wm. Theodore de Bary, Chairman (December 1988), 29.

30. Ethyle R. Wolfe, remarks given at the November Visitors Program, Brooklyn College (23 November 1987). Subsequent quotations of Ethyle Wolfe, unless otherwise indicated, are from this speech.

31. David Arnow, letter to Ethyle R. Wolfe (31 January 1989).

32. Ethyle R. Wolfe, remarks given at Iona College Conference, New Rochelle, N.Y. (15 October 1988).

33. Defense Language Institute Foreign Language Center. Pamphlet no. 350-12 (1 April 1988), Appendix C-1.

34. *American Memory: A Report on the Humanities in the Nation's Public Schools* (Washington, D.C.: National Endowment for the Humanities, 1987), 13.

35. Thomas H. Kean, "Chairman's Overview," *America in Transition: Report of the Task Force on International Education* (Washington, D.C.: National Governors' Association, 1989), v.

36. "Report on Foreign Language Enrollment in Public Secondary Schools, Fall 1985," *Foreign Language Annals* (October 1987), Table 1.

37. Beatrice Patt, letter to NEH (July 1989).

38. In 1987-88, 26 percent of the nation's four-year schools had foreign language entrance requirements, typically two years of high school study. "The MLA Survey of Foreign Language Entrance and Degree Requirements, 1987-88," *ADFL Bulletin* (January 1989), 17.

39. Roald Hoffman, conversation with Lew Lord, "Horizons," *U.S. News & World Report* (14 March 1988), 58.

40. Charles Peters, telephone conversation with the author (November 1988).

41. Ainslie Embree, interview with the author (February 1989).

42. "Report of the Commission on the Core Curriculum," Wm. Theodore de Bary, Chairman (December 1988), 28.

43. Mark Van Doren, *Liberal Education* (New York: Henry Holt and Company, 1943), 134.

44. National Research Council, *Everybody Counts: A Report to the Nation on the Future of Mathematics Education* (Washington, D.C.: National Academy Press, 1989), 45.

45. Larry Copes, "An Innovative Curriculum Idea for the First Two Years of College Mathematics" (Paper summarized at meeting of North Central Section of Mathematical Association of America, 30 April 1988), i.

46. Lynn Arthur Steen, letter to NEH (4 July 1989).

47. Phyllis Keller, *Getting at the Core: Curricular Reform at Harvard* (Cambridge, Mass.: Harvard University Press, 1982), 101.

48. William Dunham, "A 'Great Theorems' Course in Mathematics," *American Mathematical Monthly* (December 1986), 809.

49. Thomas J. Slakey, "Statement of Educational Policy" (Presented to the instruction committee, the faculty, and the board of St. John's, College, Annapolis, Md., April 1987), 4.

50. Arnold B. Arons, "'Critical Thinking' and the Baccalaureate Curriculum," *Liberal Education* (Summer 1985), 142.

51. David S. Saxon, "The Place of Science and Technology in the Liberal Arts Curriculum," *American Journal of Physics* (January 1983), 12.

52. Ezra Shahn, "The Meaning of Literacy and Some Goals of College Education" (Unpublished paper, Hunter College, 1989).

53. "Report by the College of Arts and Sciences Committee Studying Technology and the Curriculum," Illinois State University, Normal-Bloomington, Ill. (May 1986), 7.

54. *General Education in a Free Society: Report of the Harvard Committee* (Cambridge Mass.: Harvard University Press, 1945), 221.

55. Evelyn Edson, "Strengthening General Education through the Humanities" (Proposal submitted to NEH, 30 September 1987), 2.

56. U.S. Department of Education, *Digest of Education Statistics*, 1988 ed., Tables 118 and 136.

57. Robert A. Nisbet, *The Sociological Tradition* (London: Heinemann Educational Books, 1966), 5.

58. Walt Whitman, *Leaves of Grass*

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A SURVEY OF COLLEGE SENIORS

KNOWLEDGE OF HISTORY AND LITERATURE

Conducted for:

The National Endowment for the Humanities

The Gallup Organization
100 Palmer Square, Suite 200
Princeton, New Jersey, 08542

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EXECUTIVE SUMMARY

The Gallup Organization tested nearly 700 U.S. college seniors on their knowledge of American and world history and literature, and, if the students' answers were to be graded, more than half of those tested would have failed. Using the standard "A" to "F" scale, where a less than 60-percent-correct score means failure, 55 percent of the students would have received a grade of "F" and another 20% a "D." Just 11 percent would have received an "A" or "B" grade.

The National Endowment for the Humanities (NEH), whose mission is to promote the study of the humanities, contracted with the Gallup Organization to conduct the survey in order to measure the students' command of basic historical and literary knowledge in the last year of their undergraduate education. Each senior was asked 87 questions concerning important historical figures, dates and events as well as significant authors and literary works. The survey was conducted in the spring of 1989.

More than one-third of the 87 questions were originally designed in 1986 to assess 17-year-olds' grasp of history and literature. These questions were constructed in the expectation that virtually all high school 17-year-olds should be able to answer the large majority of them.[1] Yet if one considers performance on only these questions designed for measuring high school juniors' knowledge of literature and history, one-half (49%) of the college seniors still would receive failing grades.

The test also included five history questions derived from Immigration and Naturalization Service examinations given to prospective U.S. citizens. A high percentage of college seniors surveyed could correctly answer only two of these -- both dealing with the founding of the nation. Thus the survey showed that colleges seniors, even after having completed almost four full years of undergraduate work, did not know a number of facts that are considered important for prospective citizens to know.

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[1] *Diane Ravitch and Chester E. Finn, Jr.: What Do Our 17-Year-Olds Know? (New York: Harper and Row, 1987), pg. 45. The survey reported on by Ravitch and Finn was conducted by the National Assessment of Educational Progress (NAEP) and funded by the National Endowment for the Humanities.*

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SUMMARY FINDINGS

Close to 700 college seniors were asked 87 questions on literature and history, and if these surveys were being graded, more than half would have failed. Using a traditional academic grading system where correctly answering 100% of the questions means a "perfect" score, and answering less than 60% correctly is "failing," 55 percent of students would have received a grade of "F," another 20 percent a grade of "D." Only 11 percent would receive an "A" or "B."

Performance of College Seniors
on History and Literature Questions

Grade	(%)
A	2
B	9
C	14
D	20
F	55
Total	100
Mean % correct	58
Median % correct	56
Number of questions	87
Number of interviews	691

Of the 87 questions dealing with American literature, American history, world literature and world history, more than one-third -- 33 questions in all -- are questions that were designed in 1986 to gauge what 17-year-olds knew about history and literature. The original intention in the construction of these 33 questions was that virtually all high school 17-year-olds should be able to answer the large majority of these questions.[1] Yet if one

[1] *Diane Ravitch and Chester E. Finn, Jr.: What Do Our 17-Year-Olds Know? (New York: Harper and Row, 1987), pg. 45. The survey reported on by Ravitch and Finn was conducted by the National Assessment of Educational Progress (NAEP) and funded by the National Endowment for the Humanities.*

considers performance on only these 33 questions, one-half (49%) of the college seniors still would receive failing grades.

Performance of College Seniors on
Questions Designed for 17-year-olds

Grade	(%)
A	3
B	14
C	16
D	18
F	49
Total	100
Mean % correct	60
Median % correct	61
Number of questions	33
Number of interviews	691

DEMOGRAPHIC DIFFERENCES IN TEST PERFORMANCE

Differences are seen in overall performance based on gender, type of school, and field of study. On average, men score higher than women on the 87 questions asked (60% vs. 56%). Likewise, seniors attending private colleges or universities on average score better than do students who go to public universities (62% vs. 56%). Not surprisingly, seniors who have chosen to concentrate their studies in the humanities[1] tend to have higher average scores than do those people majoring in subject areas outside the humanities (73% vs. 57%).

[1] *The humanities includes majors in English, history, foreign languages, philosophy, and other humanities (i.e., religion, linguistics, archaeology, art history and appreciation, and music history and appreciation). Reflecting the fact that the percentage of college students majoring in the humanities is small, the sample size for humanities majors in this survey is small: 89 respondents.*

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HISTORY QUESTIONS

The examination given to college seniors included 49 questions pertaining to American and world history, and the level of historical knowledge demonstrated by college seniors is quite discouraging. Fully four in ten (39%) graduating seniors "failed" the history section of this questionnaire -- that is, correctly answered less than 60% of the history questions. The same proportion (41%) would pass but with only marginal grades (a "C" or "D"). Only one in five (20%) college seniors would earn a grade of "A" or "B" by giving the correct answer to 80% or more of the questions asked.

Performance of College Seniors on History Questions

Grade	(%)
A	6
B	14
C	18
D	23
F	39
Total	100
Mean % correct	53
Median % correct	53
Number of questions	49
Number of interviews	696

About one-third (18 questions) of the history questions were used by NAEP (the National Assessment of Educational Progress) in 1986 to assess 17-year-olds' knowledge of history. Overall, college seniors do as poorly on these history questions designed for younger students as they do on all the history questions combined.

Performance of College Seniors
on History Questions Designed for 17-year-olds

Grade	(%)
A	7
B	14
C	15
D	20
F	44
Total	100
Mean % correct	62
Median % correct	61
Number of questions	18
Number of interviews	696

SENIORS DISPLAY SOME KNOWLEDGE OF FOUNDING DOCUMENTS

Ten of the 49 questions on history are answered correctly by at least 80% of the seniors surveyed, with half of those -- five questions -- correctly answered by nine out of ten respondents.

Those questions that top the list involve America's two most famous historical documents -- the Constitution and the Declaration of Independence. Nearly all seniors knew that Thomas Jefferson was the primary author of the Declaration of Independence (94%), and that the first ten amendments to the Constitution are called the Bill of Rights

(95%). Furthermore, nine in ten seniors could match the sentence that begins "We hold these truths to be self-evident" with the Declaration of Independence (90%) and knew that the phrase "We, the people of the United States, in order to form a more perfect union" is in the United States Constitution (91%). Even more seniors knew that John Kennedy's exhortation "Ask not what your country can do for you, ask what you can do for your country" is not part of the Constitution (94%).

While college seniors did display a fair amount of knowledge about the Declaration of Independence and the Constitution, this knowledge may be superficial since many students were unable to identify correctly aspects of history that relate directly to the two documents. Only six in ten named Thomas Paine as the author of the pamphlet *Common Sense* -- the pamphlet that argued for independence of the American colonies; less than half knew that the purpose of *The Federalist* papers was to gain ratification of the U.S. Constitution (46%); or that at the Constitutional Convention of 1787, the three-fifths compromise concerned the status of slaves (48%).

Further indication of students' superficial knowledge about the Constitution is shown by fully two-thirds of the seniors identifying the close of Lincoln's Gettysburg address -- "Government of the people, by the people, and for the people shall not perish from the earth" -- as part of the Constitution (66%). Perhaps even more surprising, one-quarter (23%) of graduating seniors surveyed thought that Karl Marx's phrase "from each according to his ability, to each according to his need" is part of the U.S. Constitution, while one-third (36%) believed "citizens ... have the right to work, ... the right to health protection, ... the right to housing" is part of our Constitution, when in fact it is part of the Constitution of the Soviet Union.

History questions that seniors did well on included knowing the period when World War I occurred (86%), knowing Israel has never been occupied by the Soviet Union (83%), understanding that the controversy surrounding Senator Joe McCarthy involved investigations into communist activities (81%) and recognizing that the Supreme Court decision in *Brown v. Board of Education* declared racial segregation in public schools as unconstitutional (80%).

MANY SIGNIFICANT GAPS FOUND

Significant gaps in knowledge about history were found among college seniors on a variety of subjects. In thirteen of the forty-nine history questions asked, seniors score very poorly. Fewer than half were able to identify the correct response even though offered multiple choices on these questions. For example, only two in five students knew that the "shot heard round the world" that signified the start of the American Revolution was fired at Concord, Massachusetts (39%). Even fewer recognized that Shawnee Chief Tecumseh tried to organize Indian tribes into a single confederation (32%). Likewise, only three in ten correctly named Elizabeth I (31%) as the ruler of England at the time of the Spanish Armada. A plurality of seniors (42%) mistakenly believed Henry VIII, Elizabeth's father, was ruling England during the time of the Spanish Armada.

Significant percentages of college seniors had difficulty locating major historical events or pairing major events and figures. One-quarter placed the time that Columbus landed in the Western hemisphere sometime after 1500 (24%); one-third thought that Jamestown was founded sometime after 1750 (34%); well over one-third could not place the Civil War in the correct half-century (42%); more than one-fourth could not identify Joseph Stalin as the leader of the Soviet Union during World War II (28%); and more than one-half failed to connect Harry Truman's presidency with the Korean War (58%).

One history item stands out by the very large percentage of students who incorrectly answered it. Only one in every five (21%) seniors understood that the Emancipation Proclamation declared slaves to be free only in areas of the Confederate states not held by the Union. Interestingly, although college seniors generally did somewhat better than 17-year-olds on virtually all of the 18 NAEP-designed history questions, college seniors did worse on this particular question.[1]

---

[1] *Differences that do exist between this survey and the earlier one conducted by NAEP should not be seen as resulting from college education. Causal connections cannot be established for many reasons, including:*

a) *it is unknown which high school juniors who participated in the NAEP study go on to become college seniors; and,*

b) *the test questions are administered under substantially different conditions.*

The Emancipation Proclamation issued by Lincoln stated that ...

	College Seniors %	17-year-olds %
Slaves were free in areas of the Confederate states not held by the Union	21	38
Slavery was abolished in the Union	64	42
The slave trade was illegal	14	18
Slaves who fled to Canada would be protected	1	2
Total[1]	100	100
Number of interviews	(689)	(1,914)

[1] *Percentages based on those people who answered the question.*

PERFORMANCE ON HISTORY QUESTIONS FROM NAEP TEST

As previously stated, college seniors outperformed their 17-year-old counterparts on almost all of the 18 NAEP history questions.[1] The biggest differentials in the percent correct responses between college seniors and 17-year-olds were seen on two questions dealing with more recent historical events. Twice as many college seniors as high school juniors correctly answered that the controversy surrounding Senator Joe McCarthy involved investigations into Communist activities. Even larger differences between the two groups were found in identifying Gloria Steinem and Betty Friedan as women's rights activists in the 70's.

The controversy surrounding Senator Joseph R. McCarthy focused on ...

	College Seniors	17-year-olds
	%	%
Investigations of individuals suspected of Communist activities	84	43
Agitation to secure civil rights for Irish immigrants	3	15
Leadership of the movement protesting the war in Vietnam	10	29
Leadership of the movement to improve veterans' benefits	3	13
Total[2]	100	100
Number of interviews	(669)	(1,786)

[1] *Differences that do exist between this survey and the earlier one conducted by NAEP should not be seen as resulting from college education. Causal connections cannot be established for many reasons, including:*

a) it is unknown which high school juniors who participated in the NAEP study go on to become college seniors; and,

b) the test questions are administered under substantially different conditions.

[2] *Percentages based on those people who answered the question.*

Which of the following were leaders in the women's rights movement in the 1970's?

	College Seniors	17-year-olds
	%	%
Betty Friedan and Gloria Steinem	62	23
Elizabeth Cady Stanton and Susan B. Anthony	21	38
Sandra Day O'Connor and Margaret Bourke-White	12	25
Margaret Chase Smith and Frances Perkins	5	14
Total[1]	100	100
Number of interviews	(681)	(1,864)

On four history questions, the response pattern for college seniors and high school juniors is very similar, with differences in the correct answers amounting to less than ten percentage points. One such question concerns the authorship of the Declaration of Independence, where vast majorities of both groups knew Jefferson was the primary author (college seniors = 94%[1], 17-year-olds = 87%). Selecting the correct answer for the other three questions was difficult for both college seniors and 17-year-olds:

[1] *Percentages based on those people who answered the question.*

The Missouri Compromise was the act that ...

	College Seniors %	17-year-olds %
Granted statehood to Missouri but denied the admission of any other new states	5	12
Settled the boundary dispute between Missouri and Kansas	44	40
Admitted Maine into the Union as a free state and Missouri as a slave state	47	43
Funded the Lewis and Clark expedition on the upper Missouri River	4	5
Total[1]	100	100
Number of interviews	(674)	(1,881)

The constitutional amendment that guaranteed women the right to vote was adc , .ed in ...

	College Seniors %	17-year-olds %
1783	*	3
1877	10	18
1920	61	54
1933	29	25
Total[1]	100	100
Number of interviews	(688)	(1,839)

* Less than one-half of one percent

[1] *Percentages based on those people who answered the question.*

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The purpose of the authors of *The Federalist* papers was to ...

	College Seniors	17-year-olds
	%	%
Win foreign approval for the Revolutionary War	20	15
Establish a strong, free press in the colonies	30	41
Gain ratification of the United States Constitution	48	40
Confirm George Washington's election as first President	2	4
Total[1]	100	100
Number of interviews	(661)	(1,852)

[1] *Percentages based on those people who answered the question.*

QUESTIONS ON WORLD HISTORY AND CULTURE

On world history and culture questions, college seniors also performed disappointingly. Only 58% knew that the Koran is a sacred text of Islam, only 42% that the Maya lived in Mexico, only 64% that Mao Tse Tung was the founder of the People's Republic of China, and only 67% that Anwar Sadat opened up talks with Israel and was subsequently assassinated by members of his army. Significant minorities of respondents showed some rather startling confusions on some of these questions: 12% thought that the Koran was a Judaic text; 12% that Chiang Kai-Shek founded the People's Republic of China. Similarly, 23% of the college seniors surveyed confused Churchill's words with Stalin's.

QUESTIONS DERIVED FROM INS CITIZENSHIP EXAMS

Five questions in the history section of the survey were derived from questions asked on examinations administered to individuals seeking to become U.S. citizens. Of these five, only two -- both dealing with the founding of the nation -- were answered correctly by a high percentage of college seniors. Seniors met with less success in answering questions concerning American foreign policy after World War I (only 46% knowing that the policy was isolationist) and concerning Germany's allies in World War II (30% unable to identify Italy and Japan). And almost a quarter of students (24%) could not identify Franklin Roosevelt as the nation's president during the Depression. Thus, basic history questions that the Immigration and Naturalization Service considers important for prospective citizens to know could not be answered by many college seniors.

LITERATURE QUESTIONS

College seniors were asked 38 questions dealing with American and world literature. Using the "A" through "F" grading system described previously, fully two-thirds (68%) of the students questioned would receive a grade of "F" because they could correctly answer fewer than sixty percent of the literature questions. An additional 20% would receive a "C" or "D," with just 12% of graduating seniors rating an "A" or "B."

Performance of College Seniors
on Literature Questions

Grade	(%)
A	3
B	9
C	8
D	12
F	68
Total	100
Mean % correct	51
Median % correct	47
Number of questions	38
Number of interviews	691

A significant portion (15) of the questions posed to college seniors were literature items designed for 17-year-olds. While college seniors did score better on these questions than on the test as a whole, fully one-half still failed (51%).

Performance of College Seniors
on Literature Questions Designed for 17-year-olds

Grade	(%)
A	3
B	13
C	12
D	21
F	51
Total	100
Mean % correct	56
Median % correct	53
Number of questions	15
Number of interviews	691

MATCHING AND MULTIPLE CHOICE FEATURED

The literature section of this survey is comprised of two segments. The first nineteen questions deal with title-author relationships using a matching format. Respondents were asked to select the author of the work from a list of twenty-nine possible choices. The second part of the literature section consists of nineteen questions in a multiple choice format with one correct answer and three "foils" presented. In addition to title-author questions, the second part of the literature section also included test items that require some knowledge of plot or information about authors.

MATCHING TITLE TO AUTHORS

In the matching title-to-authors segment, scores ranged widely, from a high of 95% knowing Mark Twain is the author of *The Adventures of Huckleberry Finn* to a low of 12% identifying Ralph Ellison as the author of *Invisible Man*. Second behind *Huckleberry Finn* in the number of correct responses is the Greek classic, *The Iliad*, with three-fourths of the seniors correctly identifying this work with Homer. About six in ten seniors knew that Chaucer wrote the *Canterbury Tales* (62%) and that *Uncle Tom's Cabin* was written by Harriet Beecher Stowe (58%). One-half or slightly more of the respondents also knew the authors of *Moby Dick* (56%), *David Copperfield* (55%) and *War and Peace* (50%).

Among the works that fewer than half the college seniors could match with their authors were Shakespeare's *The Tempest* (42% correct), Dante's *Divine Comedy* (34%), John Milton's *Paradise Lost* (33%) and Jane Austen's *Pride and Prejudice* (24%). Aside from *Invisible Man*, the least recognized works were James Joyce's *Ulysses* and *A Portrait of the Artist as a Young Man* (20%), and T.S. Eliot's *The Wasteland* and *The Love Song of J. Alfred Prufrock* (17%).

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Seniors Performance on Matching Section

	% Correct
The Adventures of Huckleberry Finn	95
The Iliad	74
Canterbury Tales	62
Uncle Tom's Cabin	58
Moby Dick	56
David Copperfield	55
War and Peace	50
"Letter from Birmingham Jail"	47
Gulliver's Travels	47
The Tempest	42
The Republic	42
The Divine Comedy	34
Paradise Lost and *Samson Agonistes*	33
The Aeneid	28
Crime and Punishment	26
Pride and Prejudice	24
Ulysses and *A Portrait of the Anist as a Young Man*	20
The Wasteland and *The Love Song of J. Alfred Prufrock*	17
Invisible Man	12
Number of interviews	(691)

No pattern was found as to type of authors identified: i.e., more students able to identify American authors, or classic authors of Greece, Rome, or British authors, etc. While an American author tops the list -- Mark Twain -- an American author also was least recognized -- Ellison. Although three-fourths could name Homer as the author of *The Iliad*, only 42% knew that Plato wrote *The Republic*, and significantly fewer still knew Virgil as the author of *The Aeneid* (28%).

MULTIPLE CHOICE QUESTIONS

Seniors generally did better in the multiple choice section of the literature test than on the author-title matching section. It should be remembered, however, that the odds of guessing correctly on the multiple-choice questions are one in four rather than one in 29, as was the case for the first 19 questions.

The five multiple choice questions in the literature section on which seniors scored "C" or better involved knowing the meaning of the "Golden Rule" (88%), knowing that Shakespeare wrote sonnets in addition to plays (81%), knowing Cain and Abel were the children of Adam and Eve (81%), and knowing the general plot of *The Scarlet Letter* (72%) as well as the plot of *1984* (71%).

Students also received passing grades on seven other questions, with 66% correctly answering that Job is known for his patience, 65% knowing that *A Raisin in the Sun* is about experiences of a black family planning to move into an all-white neighborhood, 65% knowing that *Walden* is about simplifying one's life, and 65% knowing that the central episode in *Beowulf* involves a hero's battle with the monster Grendel. Slightly fewer, but still more than three in five, knew Walt Whitman wrote *Leaves of Grass* (62%), and that Prometheus was punished for stealing fire from the gods (62%).

Fewer than half the college seniors, on the other hand, could identify William Faulkner as the author of *The Sound and the Fury*, *The Bear* and *As I Lay Dying* (44%). Only one in three seniors knew that Willa Cather wrote *My Antonia* (34%), that Thomas Hardy wrote *The Return of the Native* (33%) or that Richard Wright wrote *Native Son* (31%). Even fewer seniors were able to identify Eudora Welty and Flannery O'Connor as southern authors (23%). Further, more seniors mistakenly identified Louisa May Alcott and Katherine Anne Porter as a pair of southern writers than correctly cited Welty and O'Connor (33% vs. 23%). Just as many respondents identified Midwestern writers Sherwood Anderson and Sinclair Lewis as Southern writers as named Welty and O'Connor (25% vs. 23%).

Similar lack of knowledge was demonstrated in the incorrect responses to the question concerning the authorship of *Native Son* and *Black Boy*. As many seniors believed that Malcolm X wrote these two works as correctly named Richard Wright (31% vs. 31%). Likewise, almost as many respondents named Eldridge Cleaver (23%) as named

Wright. The even distributions among right and wrong answers on this questions, as on the one about southern authors, suggests a generalized lack of knowledge and a fair amount of guessing.

The proportion of college seniors who correctly named Richard Wright as the author of *Black Boy* is statistically identical with the proportion of 17-year-olds who got this question right on the earlier NAEP survey.[1]

Who wrote *Native Son*, a novel of black life in Chicago, and *Black Boy*, which is highly autobiographical?

	College Seniors	17-year-olds
	%	%
Richard Wright	33	33
Eldridge Cleaver	25	25
LeRoi Jones	9	22
Malcolm X	33	20
Total[2]	100	100
Number of interviews	(655)	(1,869)

While college seniors were slightly more likely than 17-year-olds to know Eudora Welty and Flannery O'Connor are Southern writers, and to know that Thomas Hardy wrote *Tess of the d'Urbervilles*, these questions were still difficult for the overwhelming majority of seniors to answer correctly.[1]

---

[1] *Differences that do exist between this survey and the earlier one conducted by NAEP should not be seen as resulting from college education. Causal connections cannot be established for many reasons, including:*

a) It is unknown which high school juniors who participated in the NAEP study go on to become college seniors; and,

b) the test questions are administered under substantially different conditions.

[2] *Percentages based on those people who answered the question.*

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Two authors who are known for their well-crafted stories set in the American South are ...

	College Seniors	17-year-olds
	%	%
Eudora Welty and Flannery O'Connor	26	14
Louisa May Alcott and Katherine Anne Porter	36	41
William Saroyan and Truman Capote	10	16
Sherwood Anderson and Sinclair Lewis	28	29
Total[1]	100	100
Number of interviews	(636)	(1,789)

The Return of the Native, *Tess of the d'Urbervilles* and *The Mayor of Casterbridge* were written by:

	College Seniors	17-year-olds
	%	%
Sir Walter Scott	28	34
Thomas Hardy	37	25
Oscar Wilde	21	21
Robert Louis Stevenson	14	20
Total[1]	100	100
Number of interviews	(628)	(1,833)

[1] *Percentages based on those people who answered the question.*

METHODOLOGY

The Gallup Organization conducted a nationwide survey of graduating college seniors commissioned by the National Endowment for the Humanities. The survey was designed to obtain accurate and timely information about senior undergraduates' knowledge of significant events, dates, and historical figures in the history of America, and Western civilization, and their knowledge of major authors and works in Western and American literature. The goal of producing nationally projectable test score parameters on knowledge of history and literature was acheived by conducting the project in two phases. The first phase involved project planning, questionnaire design, pre-test and sample frame development. When it was determined that the sample frame developed in phase one met the goals of the study, phase two was initiated. The second phase involved data collection, data processing, analysis and reporting.

The survey findings are based on 696 personal interviews conducted among a representative random sample of college seniors currently attending four-year American colleges and universities. Interviewing for this survey took place between April 4, 1989 and April 27, 1989. The margin of error associated with this survey is plus or minus 4 percentage points. More detailed descriptions of scoring the test, the sample composition, design of the sample, sampling tolerance tables and responses to questions are found in the technical appendix of this report.

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TECHNICAL APPENDIX

SCORING THE TEST

The 87 questions about history and literature were submitted to college seniors in the form of a self-administered booklet. Before the interviewer handed over the self-administered section respondents were read:

> "The rest of the interview is a self-administered questionnaire with questions on literature and history. Read each question carefully, and answer it as well as you can. When you are finished, please give the completed booklet back to me. All responses are strictly confidential and no one respondent will be identifiable."

In order to be consistent with the 1986 NAEP survey of 17-year-olds, respondents were not given any specific instructions regarding guessing or the effects of skipping questions for which they did not know the answer.

The percentages for each individual question are based on total sample, including a separate line for "Blank/No Answer," and therefore total responses sum to 100 percent. When college seniors are compared to high school juniors, the "Blank/No Answer" tests are factored out, and responses are re-percentaged based only on those respondents who gave an answer to each question.

It should also be noted that total sample was defined separately for summary scales on literature and history. If a respondent skipped all questions in one of the two major sections of the examination (i.e., history or literature), that respondent was dropped from the total sample for the calculation of the summary score for that section. (Only five students are dropped, which affects the base on the total and literature scales). A total of 691 college seniors attempted to answer literature questions, and 696 seniors attempted history items. Hence, these sample bases are used to construct the summary scales for literature (N = 691) and history (N = 696). The summary scale scores for the total humanities test are based on the 691 college seniors that attempted to answer both literature and history questions.

For this report, the "A" through "F" grading scale is defined as follows:

A	90% or more correct
B	80% - 89% correct
C	70% - 79% correct
D	60% - 69% correct
F	Less than 60% correct

All percentages are rounded to the nearest whole number.

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SAMPLE COMPOSITION

	Weighted Percentages %	Number of Interviews #
Total College Seniors	100.0	696
Sex		
Male	50.8	364
Female	49.2	332
	100.0	696
Type of School		
Private	29.0	210
Public	71.0	486
	100.0	696
Major Field of Study		
Humanities	6.2	89
Not Humanities	93.8	607
	100.0	696

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DESIGN OF THE SAMPLE

The college seniors interviewed for this survey were selected by means of a multi-stage probability sampling procedure.

In the first stage, a sample of colleges was selected with probability of selection proportionate to their share of the total enrollment according to a sampling frame of institutions of higher education accredited by the U.S. Department of Education. The sampling frame was itself based on a 1983 survey of institutions of higher education in the United States undertaken by the National Center for Education Statistics (NCES). The response rate for this NCES survey was 97.4%.

One hundred colleges were selected in this manner, and are used by the Gallup Organization on an ongoing basis for a variety of college surveys. Twenty-three of these colleges were excluded from the sample of colleges to be used for this study of seniors in four-year colleges, either because they were two year colleges or because they were no longer in existence. The first stage sample of colleges for the NEH survey thus consisted of 77 accredited four year institutions in the United States.

Student directories were solicited from these colleges either by telephone or, where necessary, by sending a Gallup representative to the college, in order to proceed to the second stage of sampling. Student directories were obtained for 40 colleges in this manner.

Thirty-seven colleges refused to provide their student directory or a list of seniors. Ten of these were ultimately unable to be included in the NEH survey because no alternative list of students could be obtained. For the remaining twenty-seven colleges that declined to provide student lists, it was possible to obtain student samples from one of two alternative sources: the Metromail Corporation's College Student Index, and the American Student List Company's 1989 College Student List. List company counts of the number of seniors (or alternatively, the total number of students for schools that did not identify seniors separately) were obtained for each of the 27 schools and were compared to enrollment figures obtained from the college registrar to assess the inclusiveness of the lists. In all cases the list company figures were within 10% of the official enrollment figures.

Hence, Gallup was able to obtain accurate, up-to-date lists of students from 87% of the eligible colleges and universities in its sample frame (i.e., 67 out of 77 institutions). The ten schools that were not included in the sample were compared with the total sample in order to determine any systematic bias that may result from their omission. Excluding institutions did not significantly alter the relative proportions in the sample of colleges and universities on the following characteristics: public/private, small/large, religious/secular, and regional location.

In the second sampling stage, the student directories and lists were used to select a random sample of seniors (or, where seniors were not identified, a larger random sample of students from which seniors were to be identified via telephone screening, as described below).

In the case of schools for which lists did not provide any indication of the students' class status (i.e., where it was impossible to distinguish between seniors and other students) telephone screening was used to identify seniors from among a larger sample of randomly selected students. Even in cases for which seniors were able to be identified in advance however, interviewing proceeded in two stages.

First, telephone interviewers attempted to contact sampled students, in order to confirm their status as a senior, and to enlist their cooperation in the survey. Up to three telephone contact attempts were made in order to obtain cooperation from each student included in the sample. A brief, general explanation of the study was provided to the eligible students, their participation was encouraged, and they were informed that they would receive $5 for their participation. In addition, if they were willing to cooperate with the final phase of the survey, detailed information was obtained about the most convenient time for a personal interviewer to contact them in order to schedule an appointment to complete the actual questionnaire phase of the study.

For the final data collection phase of the study, the contact information obtained in the telephone screening interview was sent to interviewers located in the vicinity of each college. The interviewers were instructed to contact the students who had expressed willingness to cooperate, and to arrange an appointment to conduct the actual self-administered questionnaire. Six hundred and ninety six questionnaires were completed by college seniors in the final data collection phase.

Respondent weights were calculated and applied in analysis, in order to bring the marginal distributions of four variables into correspondence with the most recent data available from the U. S. Department of Education, National Center for Education Statistics. The variables were region of the country, type of school (public or private), gender, and college major field of study (humanities vs. all others). This type of statistical adjustment is commonly used to minimize the possible effects of bias and random error. Such weighting was not deemed necessary or appropriate for any other demographic or descriptive variables for which survey data were available.

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SAMPLING TOLERANCES

In interpreting survey results, it should be borne in mind that all sample surveys are subject to sampling error, that is, the extent to which the results may differ from what would be obtained if the whole population surveyed had been interviewed. The size of such sampling errors depends largely on the number of interviews.

The following tables may be used in estimating the sampling error of any percentage in this report. The computed allowances have taken into account the effect of the sample design upon sampling error. They may be interpreted as indicating the range (plus or minus the figure shown) within which the results of repeated samplings in the same time period could be expected to vary, 95 percent of the time, assuming the same sample, sampling procedure, the same interviewers, and the same questionnaire.

The first table shows how much allowance should be made for the sampling error of a percentage:

Recommended Allowance For Sampling Error of a Percentage

In Percentage Points
(At 95 in 100 Confidence Level)*

	Sampling Size					
	6	550	450	350	200	100
Percentages near 10	3	3	3	4	5	7
Percentages near 20	3	4	4	5	6	9
Percentages near 30	4	4	5	5	7	10
Percentages near 40	4	5	5	6	8	11
Percentages near 50	4	5	5	6	8	11
Percentages near 60	4	5	5	6	8	11
Percentages near 70	4	4	5	5	7	10
Percentages near 80	3	4	4	5	6	9
Percentages near 90	3	3	3	4	5	7

The table would be used in the following manner: Let us say a reported percentage is 43 for a group which includes 696 respondents. Then we go to row "percentages near 40" in the table and go across to the column headed "696." The number at this point is 4 which means that the 43 percent obtained in the sample is subject to a sampling error of plus or minus 4 points. Another way of saying it is that very probably (95 chances out of 100) the average of repeated sampling would be somewhere between 39 and 47 with the most likely figure the 43 obtained.

In comparing survey results in two samples, for example, men and women, the question arises as to how large must a difference between them be before one can be reasonably sure that it reflects a real difference. In the tables below, the number of points which must be allowed for in such comparisons is as indicated.

Two tables are provided. One is for percentages near 20 or 80; the others for percentages near 50. For percentages in between, the error to be allowed for is between those shown in the two tables:

Recommended Allowance For Sampling Error
of the Differences

In Percentage Points
(at 95 in 100 confidence level)*

Table A — Percentages near 20 or percentages near 80

Size of Sample	696	550	450	350	200	100
696	5					
550	5	5				
450	5	6	6			
350	6	6	6	7		
200	7	7	8	8	9	
100	9	10	10	10	11	13

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Table B Percentages near 50

Size of Sample	696	550	450	350	200	100
696	6					
550	6	7				
450	7	7	7			
350	7	8	8	8		
200	9	9	9	10	11	
100	12	12	12	13	14	16

Here is an example of how the tables would be used: Let us say that 40 percent of men respond a certain way and 50 percent of women respond that way also, for a difference of 10 percentage points between them. Can we say with any assurance that the 10-point difference reflects a real difference between men and women on the question? The sample contains approximately 350 men and 350 women.

Since the percentages are near 50, we consult Table B, and since the two samples are about 350 persons each, we look for the number in the column headed "350" which is also in the row designated "350". We find the number 8 here. This means that the allowance for error should be 8 points, and that in concluding that the percentage among men is somewhere between 2 and 18 points higher than the percentage among women we should be wrong only about 5 percent of the time. In other words, we can conclude with considerable confidence that a difference exists in the direction and that it amounts to at least 2 percentage points.

If, in another case, male responses amount to 22 percent, say, and female to 24 percent, we consult Table A because these percentages are near 20. We look in the column headed "350" and see that the number is 7. Obviously, then, the 2-point difference is inconclusive.

Responses to Questions

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RESPONSES TO QUESTIONS

N=696 MARGIN OF ERROR + OR - 4 INTERVIEWING DATES: 4/4/89/ - 4/27/89
SELF-ADMINISTERED QUESTIONNAIRE ON LITERATURE AND HISTORY

The first set of questions deals mostly with literature. Please choose your answers for the first section of questions from the following list of authors.

01. Jane Austen
02. Geoffrey Chaucer
03. Samuel Taylor Coleridge
04. Joseph Conrad
05. Dante
06. Charles Dickens
07. Emily Dickinson
08. John Donne
09. Feodor Dostoevsky
10. John Dryden
11. T. S. Eliot
12. Ralph Ellison
13. Ralph Waldo Emerson
14. Robert Frost
15. Nathaniel Hawthorne
16. Homer
17. James Joyce
18. John Keats
19. Martin Luther King, Jr.
20. Herman Melville
21. John Milton
22. Plato
23. William Shakespeare
24. Harriet Beecher Stowe
25. Jonathan Swift
26. Leo Tolstoy
27. Mark Twain
28. Virgil
29. Alice Walker

** First 20 literature questions N=691. Percent mentioning correct answer. **

Identify the author of these literary works by entering the appropriate number in the space provided.

1. The Aeneid — 28%
2. The Canterbury Tales — 62%
3. Crime and Punishment — 26%
4. David Copperfield — 55%

5.	The Divine Comedy	34%
6.	Gulliver's Travels	47%
7.	The Adventures of Huckleberry Finn	95%
8.	The Iliad	74%
9.	Invisible Man	12%
10.	"Letter from Birmingham Jail"	47%
11.	Moby Dick	56%
12.	Paradise Lost and Samson Agonistes	33%
13.	Pride and Prejudice	24%
14.	The Republic	42%
15.	The Tempest	42%
16.	Ulysses and A Portrait of the Artist as a Young Man	20%
17.	Uncle Tom's Cabin	58%
18.	War and Peace	50%
19.	The Wasteland and The Love Song of J. Alfred Prufrock	17%

*** For literature questions 20-38 N=696. Starred item is correct answer ***

For the rest of the literature questions, please pick your answers from the choices provided beneath each question. Circle the number in front of your answer. Read each question carefully, and answer it as well as you can.

20. Which American poet wrote the volume of poetry Leaves of Grass, which includes the line "I celebrate myself, and sing myself"?

11	1	Robert Lowell
13	2	Edna St. Vincent Millay
6	3	Archibald MacLeish
*62	4	Walt Whitman
8		Blank / No answer
100		

21. Who wrote about the settling of the West in My Antonia, O Pioneers!, and Death Comes for the Archbishop?

16	1	Laura Ingalls Wilder
8	2	Ole Rolvaag
29	3	Louisa May Alcott
*34	4	Willa Cather
13		Blank / No answer
100		

22. In addition to writing plays, Shakespeare also wrote more than 100 poems in the form of the ...

8	1	ballad
*81	2	sonnet
6	3	ode
4	4	elegy
1		Blank / No answer
100		

23. Who wrote Native Son, a novel of black life in Chicago, and Black Boy, which is highly autobiographical?

*31	1	Richard Wright
23	2	Eldridge Cleaver
9	3	LeRoi Jones
31	4	Malcolm X
6		Blank / No answer
100		

24. A Greek play about a woman who defies a king in order to honor her dead brother is ...

14	1	Medea
*49	2	Antigone
14	3	Electra
16	4	Agamemnon
7		Blank / No answer
100		

25. A central episode in the Anglo-Saxon epic Beowulf involves a ...

*65	1	hero's battle with the monster Grendel
14	2	group of people trying to escape the plague
2	3	monster that dwells in Loch Ness
12	4	young boy's battle against a giant
7		Blank / No answer
100		

26. Who wrote The Sound and the Fury, The Bear, and As I Lay Dying?

16	1	Jack London
21	2	Ernest Hemingway
13	3	James Fenimore Cooper
*44	4	William Faulkner
6		Blank / No answer
100		

27. In Greek mythology, Prometheus was chained to a rock as punishment for...

*62	1	stealing fire from the gods and giving it to mortals
5	2	killing a sacred animal in defiance of religious laws
19	3	marrying a mortal woman and boasting about her great beauty
7	4	deceiving humanity and bringing about widespread destruction
7		Blank / No answer
100		

28. The Return of the Native, Tess of the d'Urbervilles and The Mayor of Casterbridge were written by:

25	1	Sir Walter Scott
*33	2	Thomas Hardy
19	3	Oscar Wilde
13	4	Robert Louis Stevenson
10		Blank / No answer
100		

29. Two authors who are known for their well-crafted stories set in the American South are . . .

*23	1	Eudora Welty and Flannery O'Connor
33	2	Louisa May Alcott and Katherine Anne Porter
9	3	William Saroyan and Truman Capote
25	4	Sherwood Anderson and Sinclair Lewis
10		Blank / No answer
100		

30. What is the novel 1984 about?

22	1	The destruction of the human race by nuclear war
*71	2	A dictatorship in which every citizen was watched in order to stamp out all individuality
2	3	The invasion and ultimate takeover of the earth by creatures from outer space
3	4	A man who went back into time and changed history
2		Blank / No answer
100		

31. The Koran is the sacred text of

14	1	Buddhism
*58	2	Islam
14	3	Hinduism
12	4	Judaism
2		Blank / No answer
100		

32. Walden by Henry David Thoreau is a book about ...

*65	1	simplifying one's life
10	2	tracing one's heritage
13	3	traveling cross-country alone
4	4	studying the diaries of patriots
8		Blank / No answer
100		

33. In the Bible, who were the first descendants of Adam and Eve?

4	1	Saul and David
2	2	Shadrach, Meshach and Abednego
12	3	Abraham and Isaac
*81	4	Cain and Abel
1		Blank / No answer
100		

34. The novel The Scarlet Letter is the story of ...

17	1	the correspondence between a woman and her fiance during the Civil War
3	2	the correspondence between a Revolutionary War spy and George Washington
*72	3	a woman who was unfaithful and had to observe the effects of her sin on others
6	4	a woman in a New England town who was executed for being a witch
2		Blank / No answer
100		

35. Which of the following is a play about the experiences of a black family as they made plans to move into an all-white, suburban neighborhood?

4	1	The River Niger
*65	2	A Raisin in the Sun
15	3	Porgy and Bess
9	4	Blues for Mister Charlie
7		Blank / No answer
100		

36. What is the Golden Rule?

1	1	The standard U.S. measurement for gold bars
5	2	The law of sociology which says that in any given society, people with the most wealth dominate
4	3	The idea that moderation in all things is best
*88	4	The idea that we should treat others as we would have them treat us
2		Blank / No answer
100		

37. In the Bible, Job is known for his ...

15	1	skill as a builder
*66	2	patience during suffering
3	3	prowess in battle
12	4	prophetic ability
4		Blank / No answer
100		

38. Who was the European who traveled in the United States and wrote down perceptive comments about what he saw in Democracy in America?

5	1	Napoleon
38	2	Lafayette
*41	3	Tocqueville
10	4	Crevecoeur
6		Blank / No answer
100		

*** N=696 for the all the history questions 38-87 ***

The next set of questions deals with history. As before, circle the number in front of your answer. Read each question carefully, and answer it as well as you can.

39. What is Magna Carta?

3	1	The Great Seal of the monarchs of England
*45	2	A foundation of the British parliamentary system
16	3	The French Declaration of the Rights of Man
34	4	The charter signed by the pilgrims on the Mayflower
2		Blank / No answer
100		

40. The region of Asia known as "the cradle of civilization" is . . .

22	1	Egypt
4	2	Peloponnesus
*70	3	Mesopotamia
2	4	Stonehenge
2		Blank / No answer
100		

41. "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." These words are from ...

2	1	Common Sense
*90	2	The Declaration of Independence
5	3	Lincoln's Second Inaugural Address
3	4	The Rights of Man
**		Blank / No answer
100		

** Less than one half of one percent

42. The Ottoman Empire included all of what is now. . .

20	1	Spain
*69	2	Turkey
4	3	Brazil
3	4	Zimbabwe
4		Blank / No answer
100		

43. Who ruled England at the time of the defeat of the Spanish Armada?

42	1	Henry VIII
*31	2	Elizabeth I
11	3	Catherine the Great
11	4	William and Mary
5		Blank / No answer
100		

44. The rupture within Christianity that resulted in the first Protestant churches is known as ...

13	1	the Great Awakening
9	2	the Puritan Revolution
*69	3	the Reformation
7	4	the Great Divide
2		Blank / No answer
100		

45. Which twentieth-century leader said, "I have nothing to offer but blood, toil, tears, and sweat," and "From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the Continent"?

5	1	Adolph Hitler
*67	2	Winston Churchill
2	3	William Gladstone
23	4	Joseph Stalin
3		Blank / No answer
100		

46. Voltaire, Montesquieu and Benjamin Franklin are all associated with...

19	1	the Victorian period
13	2	the Reformation
*56	3	the Enlightenment
9	4	the Romantic period
3		Blank / No answer
100		

47. What are the first ten amendments to the U.S. Constitution called?

*95	1	Bill of Rights
1	2	Mayflower Compact
3	3	Articles of Confederation
1	4	Declaration of Independence
**		Blank / No answer
100		

** Less than one-half of one percent

48. The Bolshevik Revolution of 1917 in Russia was led by . . .

*59	1	Lenin
23	2	Stalin
5	3	Rasputin
11	4	Czar Nicholas II
2		Blank / No answer
100		

49. The Scopes trial was concerned with ...

16	1	freedom of the press
16	2	prayer in schools
*61	3	teaching evolution in schools
2	4	education in private schools
5		Blank / No answer
100		

50. Who was the primary author of the Declaration of Independence?

**	1	Paul Revere
*94	2	Thomas Jefferson
3	3	Thomas Paine
3	4	George Washington
**		Blank / No answer
100		

** Less than one-half of one percent

51. Which one of the following nations has never been occupied by forces of the Soviet Union?

7	1	Hungary
4	2	Czechoslovakia
4	3	Afghanistan
*83	4	Israel
2		Blank / No answer
100		

52. When the U.S. entered World War II, which of the following were allied with Germany?

*70	1	Italy and Japan
9	2	Soviet Union and Italy
5	3	France and England
15	4	Japan and the Soviet Union
1		Blank / No answer
100		

53. Mayans lived in . . .

7	1	Babylonia
*42	2	Mexico
38	3	Peru
11	4	Indonesia
2		Blank / No answer
100		

54. Who wrote Common Sense, a 1776 pamphlet that argued for the independence of the American colonies?

16	1	Patrick Henry
*61	2	Thomas Paine
11	3	Thomas Jefferson
10	4	James Madison
2		Blank / No answer
100		

55. The founder of the People's Republic of China was . . .

7	1	Sun Yat-sen
14	2	Ho Chi Minh
*64	3	Mao Tse-tung
12	4	Chiang Kai-shek
3		Blank / No answer
100		

56. In which time period was the First World War?

**	1	Before 1750
2	2	1750-1800
4	3	1800-1850
8	4	1850-1900
*86	5	1900-1950
**	6	After 1950
**		Blank / No answer
100		

** Less than one-half of one percent

57. The "shot heard round the world" was fired at ...

21	1	Gettysburg
15	2	Yorktown
*39	3	Concord
23	4	Bunker Hill
2		Blank / No answer
100		

58. The Egyptian leader who opened up talks with Israel and was subsequently assassinated by members of his army was . . .

15	1	Gamal Abdel Nasser
2	2	David Ben-Gurion
13	3	Menachem Begin
*67	4	Anwar Sadat
3		Blank / No answer
100		

59. The purpose of the authors of The Federalist papers was to . . .

19	1	win foreign approval for the Revolutionary War
28	2	establish a strong, free press in the colonies
*46	3	gain ratification of the United States Constitution
2	4	confirm George Washington's election as the first President
5		Blank / No answer
100		

60. The Monroe Doctrine was a statement of U.S. policy that . . .

13	1	no country once democratic should be allowed to become communist
5	2	trade with Japan should be open to all nations
*66	3	European powers should not extend their influence into the Western hemisphere
13	4	no foreign power had a right to search U.S. vessels at sea
3		Blank / No answer
100		

61. American foreign policy toward Europe after the First World War is usually described as ...

*46	1	isolationist
19	2	imperialistic
18	3	interventionist
14	4	internationalist
3		Blank / No answer
100		

62. The constitutional amendment that guaranteed women the right to vote was adopted in ...

**	1	1783
10	2	1877
*60	3	1920
29	4	1933
1		Blank / No answer
100		

** Less than one-half of one percent

63. "Reconstruction" is a term used to describe . . .

2	1	efforts by historians to establish the exact causes of past events
26	2	a plan to repair homes, factories and highways damaged in the Civil War
*40	3	a period during which the federal government administered southern states prior to their readmission to the Union
31	4	a plan of U.S. economic assistance to help Europe recover after World War II
1		Blank / No answer
100		

64. In which time period was the Civil War?

**	1	Before 1750
15	2	1750-1800
24	3	1800-1850
*58	4	1850-1900
2	5	1900-1950
**	6	After 1950
1		Blank / No answer
100		

** Less than one-half of one percent

65. Who was elected President during the Depression and remained so during most of World War II?

7	1	Herbert Hoover
11	2	Harry Truman
5	3	Dwight Eisenhower
*76	4	Franklin Delano Roosevelt
1		Blank / No answer
100		

66. The Shawnee chief Tecumseh ...

*32	1	tried to organize Indian tribes from Canada to Florida into one confederation
14	2	supported the English during their first difficult years at Plymouth
20	3	defeated General Custer at the Battle of the Little Big Horn
25	4	was relocated to Oklahoma along the "Trail of Tears"
9		Blank / No answer
100		

67. Who was the leader of the Soviet Union when the United States entered the Second World War?

3	1	Yuri Gagarin
2	2	Marshal Tito
*72	3	Joseph Stalin
21	4	Nikita Khrushchev
2		Blank / No answer
100		

68. The Korean War began during the presidency of . . .

14	1	John F. Kennedy
5	2	Franklin D. Roosevelt
37	3	Dwight D. Eisenhower
*42	4	Harry S. Truman
2		Blank / No answer
100		

69. Three important cultural figures of the Renaissance were ...

8	1	Byron, Keats, and Shelley
3	2	Aeschylus, Sophocles, and Euripides
*77	3	Machiavelli, Michelangelo, and Leonardo
10	4	Hobbes, Locke, and Rousseau
2		Blank / No answer
100		

70. In which time period was Jamestown founded?

*63	1	Before 1750
22	2	1750-1800
6	3	1800-1850
2	4	1850-1900
**	5	1900-1950
4	6	After 1950
3	·	Blank / No answer
100		

** Less than one-half of one percent

71. The Missouri Compromise was the act that ...

5	1	granted statehood to Missouri but denied the admission of any other new states
43	2	settled the boundary dispute between Missouri and Kansas
*46	3	admitted Maine into the Union as a free state and Missouri as a slave state
3	4	funded the Lewis and Clark expedition on the upper Missouri River
3		Blank / No answer
100		

72. Which of the following were leaders in the women's rights movement in the 1970's?

*61	1	Betty Friedan and Gloria Steinem
21	2	Elizabeth Cady Stanton and Susan B. Anthony
11	3	Sandra Day O'Connor and Margaret Bourke-White
5	4	Margaret Chase Smith and Frances Perkins
2		Blank / No answer
100		

73. In Brown v. Board of Education, 1954, the Supreme Court decided to...

2	1	require the hiring of more minority teachers
*80	2	declare racial segregation in public schools unconstitutional
**	3	forbid the practice of discrimination in hotels and motels
16	4	mandate busing of students to achieve racial balance in public schools
2		Blank / No answer
100		

** Less than one-half of one percent

74. In the Constitutional Convention of 1787, which of the following concerned the status of slaves?

6	1	The Bill of Rights
40	2	The Emancipation Proclamation
5	3	The Missouri Compromise
*48	4	The three-fifths compromise
1		Blank / No answer
100		

75. The controversy surrounding Senator Joseph R. McCarthy focused on...

*81	1	investigations of individuals suspected of Communist activities
3	2	agitation to secure civil rights for Irish immigrants
9	3	leadership of the movement protesting the war in Vietnam
3	4	leadership of the movement to improve veterans' benefits
4		Blank / No answer
100		

76. The Emancipation Proclamation issued by Lincoln stated that...

*21	1	slaves were free in areas of the Confederate states not held by the Union
64	2	slavery was abolished in the Union
14	3	the slave trade was illegal
**	4	slaves who fled to Canada would be protected
1		Blank / No answer
100		

** Less than one-half of one percent

77. At the Battle of Hastings in 1066 ...

20	1	the House of York triumphed over the House of Lancaster
*42	2	the Normans won a major victory over the English
5	3	the military superiority of infantry over cavalry was established
24	4	the Thirty Years' War came to an end
9		Blank / No answer
100		

78. To suppress counterrevolution, the French government in 1793 set up what has come to be known as ...

*59	1	the Reign of Terror
28	2	the Inquisition
1	3	the Holocaust
9	4	the St. Bartholomew's Day Massacre
3		Blank / No answer
100		

79. The French philosopher Descartes wrote:

7	1	"To be or not to be, that is the question."
6	2	"Whatever is, is right."
14	3	"The life of man (is) solitary, poor, nasty, brutish, and short."
*69	4	"I think, therefore I am."
4		Blank / No answer
100		

80. Which Roman leader was assassinated because his political enemies saw him as a threat to the republic?

11	1	Alexander the Great
*77	2	Julius Caesar
7	3	Claudius
3	4	Hannibal
2		Blank / No answer
100		

81. In which time period did Columbus first land in the western hemisphere?

*75	1	Before 1500
5	2	1500-1550
7	3	1550-1600
12	4	1600-1650
1		Blank / No answer
100		

The final series of questions concerns the U.S. Constitution. Are the following phrases part of the Constitution? Indicate True or False.

82. "Ask not what your country can do for you, ask what you can do for your country."

6	1 True
*94	2 False
**	Blank / No answer
100	

** Less than one-half of one percent

83. "We the people of the United States, in order to form a more perfect union. . ."

*91	1 True
8	2 False
1	Blank / No answer
100	

84. "From each according to his ability, to each according to his need."

23	1 True
*76	2 False
1	Blank / No answer
100	

85. "No person except a natural born citizen . . . shall be eligible to the Office of the President."

*86	1 True
14	2 False
**	Blank / No answer
100	

** Less than one-half of one percent

86. "Government of the people, by the people, and for the people shall not perish from the earth."

66	1	True
*33	2	False
1		Blank / No answer
100		

87. "Citizens ... have the right to work, ... the right to health protection, ... the right to housing."

36	1	True
*64	2	False
**		Blank / No answer
100		

** Less than one-half of one percent