

Basic Design

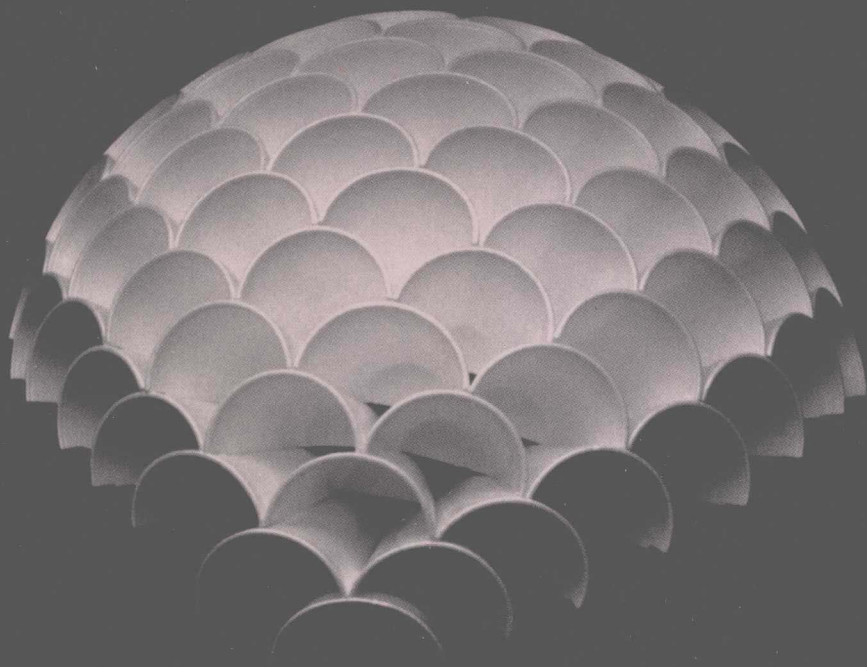
The Cultivation of Wisdom,
Reason and Sensibility

基本设计 —— 智性、理性和感性的孕育

Professor Emeritus Hu Hung-shu

胡宏述

The University of Iowa



高等教育出版社

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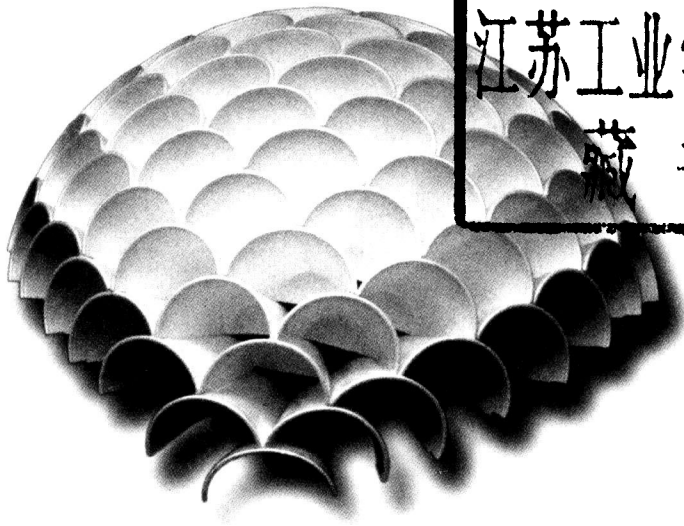
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内容提要

本书是美国爱荷华大学荣誉退休教授胡宏述总结从事近40年设计教育的经验编著而成的。数十年来,胡宏述先生沉浸于他的专业之中。他是一位杰出的教师,身兼设计家、画家、雕塑家、建筑师、哲学家、工艺师和制造者。

本书主要构成是从26个设计论点发展出28个习作,通过很多习作,引导学生学习一些基本设计概念,一步一步学习设计方面的最基本问题,从一个新的角度去了解几何上的一些关系。

本书可作为工业设计、建筑学等专业学生的教材,也可供其他专业学生接触艺术教育时参考使用。

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PREFACE-THE CULTIVATION OF WISDOM, REASON AND SENSIBILITY

The text which follows presents a method for the teaching of the principles of Basic Design by an author, Hu Hung-shu, who has enjoyed a successful career as an artist and teacher, designer and painter, personal architect and philosopher, craftsman and builder. The title he has chosen for this text perhaps already suggests Hu Hung-shu is writing and thinking in that glorious tradition of artists/architects/designers of which the 15th century Florentines Leon Battista Alberti and Leonardo da Vinci were early representatives in the Western world. These were thinkers who in looking back to the glories of antiquity found the principles of design as equivalent to the basic principles for living the good and noble life. This ideal life requires the ability of the human being to use the brain and all of the senses to think, to compare, to synthesize, to determine quality, to measure, to codify.

Similar thinkers are to be found in every culture in the world and at the heart of the traditional cultures of both East and West. The best artists, designers and architects of the 19th and 20th centuries internationally began to critically review and reevaluate our inheritance from the best theorists and practitioners of the past. Every political or religious, or social and cultural, or economic aspect, that has been held sacred in any sector of the great cultures of the world, has experienced serious re-investigation.

The need for reevaluation and restructuring has been and will be experienced all over the globe. No contemporary culture has found their traditional inheritances adequate in satisfying the everyday and long-term needs of increasing populations in this quickly changing world. We have become an international world with an increasingly international population with increasingly homogenous needs and desires. How traditional cultural diversities are to be resolved and how significant individual cultural integrities and traditions should be maintained will be the enormous and possibly un-resolvable question of the present century.

Consequently, Hu Hung-shu, in presenting his method for the

teaching of the principles of Basic Design, may be more of a visionary than he ever wanted or expected to be. His educational method both agrees and disagrees with inherited traditional educational applications of traditional principles. Like the artists/designers/architects that established the Bauhaus, Hu Hung-shu also understands that the original methods of teaching students how to think individually were transformed in time by later generations of followers who taught their own followers to memorize rather than to think. By so doing they changed principles into rules that could not be broken, concepts that could never be changed, never be responsive to the natural developing changes that occur in every society if it wants to remain dynamic, growing and flexible for all ideas, new as well as old. In the art academies in Europe and America, the dynamic educational theories and methods of artists such as Leonardo da Vinci were misinterpreted to satisfy authoritarian goals.

Leonardo as his teachers before him had no doubt that being able to draw what you saw was the foundation of all of the arts. He suggested that after a student selected an excellent teacher on the basis of his work and reputation, the student first should copy the works of good masters, including his own. Such art works should be those which have been proven in time to be the best that the society had to offer. This was done only in order to understand how the best artists used their faculties of vision and mind to resolve the various problems that were inherent in the conception and the making of any work of art. The second phase of a student's training was to copy nature exactly as the student saw it and found it. But the most important of all was the third step in the training of the artist in which the student should now bring to his drawing of the world around him his own personal visual understanding of that which he is recreating. A student who could not develop a personal style, a personal vision identifiable as his own was not to be considered as an artist of the first rank and because of his technical skill at copying various styles could only perform as an assistant to a master artist.

Leonardo did not suggest slavish exact copying as the desired goal of the teacher/student relationship. Leonardo also understood the primary importance of the knowledge of mathematics and geometry in the training of the artist as well. He realized the significance of a knowledge of all of humanities and sciences in enabling the artist to create a visually and conceptually challenging work of art for his contemporary cultural milieu. For Leonardo and Alberti, the visual arts were disciplines of the Liberal Arts and not Manual Arts. Technical and

manual skills were only the basic tools to assist the brain and its senses in creating the artist's conception which when realized was the work of art. The emphasis that they placed on the need for original thinking was often lost in the centuries that followed when academies became more involved in interpreting principles as absolute rules rather than provocative challenges that constantly require both the teacher and the student to ask the questions of why and how. Both the teachers and the alums of the Bauhaus and the students of students of the Bauhaus, of which Hu Hung-shu is one, would agree.

Hu Hung-shu's method of teaching Basic Design, as well as his philosophical exegesis, justify including him in the worthy spectrum of Western tradition from Leonardo and Alberti to the Bauhaus. Like theirs, his teaching methods and principles are strongly based in fostering the position of the visual arts in the world of the Liberal Arts and not in the world of the Manual Arts, where ancient Roman and Medieval writers had placed them. Both the Greeks and Romans did allow particular praise and glory for the great artists who memorialized their political rulers who were also their patrons. This was quite opposite to the position taken by Christian writers of the intervening centuries before Leonardo. Hu Hung-shu's educational ideas have also been honed by his experience as a professor of design in a prestigious School of Art and Art History securely ensconced in a College of the Liberal Arts and Sciences in a large public university. He has constantly stressed the fine arts role of design as the foundation of all of the other visual arts and the various commercial design professions, because the teaching of the basic principles of design demands teaching the students how to think, how to compare, how to interpret what they see, and feel, and hear, and smell, and taste. His sense of design is an extension of the human mind and body.

Hu Hung-shu's response to computers is to stress the importance of not including them in the teaching of Basic Design. This seemingly radical rejection depends on his strong belief that computers do not think and should never be misunderstood as anything but an excellent tool to be used as the designer requires and as the designer programs it to do. The conceptual thinking process comes first and the computer can only do what human beings program it to do. He strongly believes that once the student has thoroughly understood the principles of design and is in the process of creating his own personal design conception and style, then he can make a more creative use of the computer as a tool. Included in the Appendix section of the text are two of Hu Hung-shu's previously published articles (Appendix 3 and Appendix 4)

which best reveal and describe his thinking on these matters.

Hu Hung-shu is an artist who has lived in and has been educated in two cultures which have many distinguishing differences and yet surprising similarities. To understand him properly one must begin by never forgetting that he himself still actively lives and functions in both worlds. Inevitably, he continues to believe in the traditions of both while struggling with the traditions of both. Intellectually this makes for a very interesting human being who as a teacher never loses his basic respect for the student. For Hu Hung-shu, a student is an individual human being who possesses very individual mental and physical qualities that a teacher must help them to know, to understand, to control, and to use to their best advantage. I have learned this about him by observing him teaching, and by observing how students reacted to his often disarmingly honest evaluations of their work and personalities. However, upon meeting him and beginning to know him, no one can remain unaware of his total acceptance of the student's right to think for themselves and his hope that he has helped in making that possible.

I can attest to the fact that Hu Hung-shu is possibly the best advocate for the "rightness" of his educational method. In order to do so, however, I must go back to the spring of 1972 and a studio faculty meeting that I convened and chaired. As the then Director of the School of Art and Art History of the University of Iowa, it was my opinion that the faculty had to reconsider the curriculum structure of our undergraduate B. A. and B. F. A. programs. The School and its faculty were so dominated by the very large enrollment of the graduate programs that it seemed that undergraduates were being more or less ignored. At this meeting each of the professors involved in the teaching of the first year programs in the areas of Ceramics, Design, Drawing, Intermedia, Metalsmithing, Painting, Photography, Printmaking, and Sculpture had to present the structure and syllabus of their basic course. It was from this presentation that the faculty would select the basic courses that would be required of all studio undergraduates. Hu Hung-shu made the second presentation and mesmerized the faculty for the entire remaining time scheduled for the meeting. Inevitably it was a unanimous decision that Prof. Hu's Basic Design course was unquestionably to be required for all students. It should be understood that the majority of our faculty then considered the area of design to be inappropriate for a program concerned only with the Fine Arts and not the Commercial Arts. From that moment on no faculty member ever considered design not to be an appropriate discipline within the

curriculum of a Fine Arts school. Hu Hung-shu in his presentation discussed the first lesson in his course, the folding of one piece of paper. He demonstrated how that seemingly simple exercise could open each individual student's mind to analyzing, comparing, transforming, conceiving and by the end of the course understanding the nature of two-dimensional and three-dimensional forms.

This first presentation recalled for me a story told to me about an ancient Chinese sage who placed a handkerchief on a table and lifted one corner, saying, "I teach my students how to lift one corner, and if they can not lift any of the other corners, they are not my students." Very much in the manner of this story, Hu Hung-shu's exercises are so forthrightly presented that students may feel again like children whose teacher has taken them by the hand to lead them through a maze. This seeming simplicity is in actuality very profound. Hu Hung-shu taught me how to lift the corner of the handkerchief, and I did conceive of how to lift the other corners. Reading the following pages and completing each lesson should direct anyone doing so on the right course of action to learn the same. All knowledge from the beginning of time began with a question, the posing of a problem to solve: not only a Why? or a Why not? Instead, perhaps, a How?

Wallace J. Tomasini, Ph. D.
Professor of Art History and
Director of the School of Art and Art History
University of Iowa (1972-1993)

ACKNOWLEDGMENTS

As I was working on the Basic Design manuscripts, the images of two people often appeared. One was the late architect Prof. Y. C. Yu, who in 1961 was the new director of the Architecture Department at Chung Yuan Christian University in Taiwan, and who offered me my first job teaching Basic Design to architecture students. The other person was Prof. Chi-kwan Chen, an architect and a famous painter, who was the founder of the architecture school at Tunghai University in Taiwan. He asked me to teach Basic Design in 1962. Later, he told me I was hired because I had asked three questions in his public speech at the Cheng Kung University when I myself was an architecture student. At that time, students of architecture were required to take courses for two years, which qualified them to work in an architecture office during the summer for practical training. Our Dean of the school wanted to know why my students only needed to take one year of basic design to be qualified to work. He asked me to write it down, which was published in the bimonthly architectural magazine, *Chien-Chu*, issue 14, June 1964. Those four years of teaching experiences altered the direction of my career. After I graduated from the Design Department at Cranbrook Academy of Art, Michigan in 1966, my design experience in a pure fine art school gave me a clearer understanding of its important role in a student's education.

From 1966-1968, I taught at University of Northern Iowa, and from 1968 until my retirement in 2002, I was the head of the Design Department in the School of Art and Art History at the University of Iowa, Iowa City, Iowa, U. S. A.

This Basic Design book is based on the results of my thirty-nine years of teaching. I never planned to write this book when I began my teaching career, and as a result, pictures and drawings created by my students, collected for this book, are without credit. I hope I am able, one day, to identify all of their names and give them recognition for their beautiful work. Without their diligent effort in the classroom, this book could not have been accomplished. But I have to mention several names who helped me teach the Basic Design courses: John Bowers, Gary Gnade, Pat Heddell, Uta Krapf, Karin Schminke, Cinda Sham-

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Finally, I am very thankful to my wife, Judy (Chiu-ti Chang), who worked day and night on this project. Her devotion to this endeavor helped to bring it to fruition, and it is to her that I dedicate this book.

Hu Hung-shu
December, 2007

CONTENTS

Introduction	Philosophy of Basic Design	1
	Issue 1 Design is as Important as Mathematics	6
	Issue 2 Design with Wisdom, Reason, and Sensibility	8
	Issue 3 How to Improve Sensibility	9
	Issue 4 Forcing Oneself to be Different	10
	Issue 5 Always Right	10
	Issue 6 Decided by the Truth	11
	Issue 7 Geometric Instruments vs. Computer Graphics ...	12
	Issue 8 Three Basic Forms: Square, Equilateral Triangle, and Circle	14
	Issue 9 Squares, Equilateral Triangles and Circles are Close Relatives	14
	Issue 10 Design and Geometry as One	16
	Issue 11 Organic Geometry—Rationale to Create a Form	17
	Issue 12 The True Meaning of the Golden Section	18
	Issue 13 Introducing the Irrational Number	19
	Issue 14 Music Composed with Rational Time and Performed with Irrational Numbers	21
	Issue 15 Geometry is the Source of Irrational Numbers	21
	Issue 16 A Circle within a Circle	22
	Issue 17 Equilateral Triangle as a Seed	23
	Issue 18 Sensibility from Our Hearts	24
	Issue 19 The Three “S” Principles for a Line	25
	Issue 20 2D & 3D Should be Taught Together	26
	Issue 21 Design and Craft	26
	Issue 22 Blueprint is Required	27
	Issue 23 Three Forbidden Drawing Methods for a Designer	28
	Issue 24 Learning How to Simplify	29
	Issue 25 All Assignments are Related	30
	Issue 26 This is Why	31
Part One	Adding a Third Dimension to a Square	33
	Introduction	33
	Assignment 1 One Surface, One Edge x 12	34

	Assignment 2	Is the Problem Solved?	38
	Assignment 3	Organic Geometry: a Refined Translation	42
	Assignment 4	Forms in Progression	47
	Assignment 5	Making the Best from the Worst	50
	Assignment 6	Geometric Refinement	52
	Assignment 7	Finding a Seamless Connection	53
	Assignment 8	Enlarge and Reduce	54
	Summary		56
Part Two	Relationship Between Two		61
	Introduction		61
	Assignment 1	Joining Paper to Paper x 24	62
	Assignment 2	The Top Eight	64
	Assignment 3	Geometry and Plan View Drawing	70
	Assignment 4	Multi-view Drawing	75
	Assignment 5	Isometric Drawing	80
	Assignment 6	Isometric Ambiguity	86
	Assignment 7	Lines in Space	94
	Assignment 8	Three-dimensional Ambiguity	101
	Assignment 9	A Letterform in an Isometric Universe	106
	Assignment 10	25 More for the Alphabet	113
	Summary		118
Part Three	Visual Connection		122
	Introduction		122
	Assignment 1	Logotype Design	127
	Assignment 2	Geometric Refinement	130
	Assignment 3	Circles: a Side Trip	133
	Assignment 4	A Set of Two Drawings to Refine a Logo	134
	Assignment 5	Variations of the Logotype	135
	Assignment 6	Modular Warm up	142
	Assignment 7	The Logo Goes Modular	145
	Assignment 8	Modules into Units	147
	Assignment 9	Ambiguous Forms as Modules	160
	Assignment 10	Modules in the Third Dimension	161
	Summary		182
Appendix			186
	Appendix 1	List of Tools and Materials	186
	Appendix 2	Basic Geometry	187
	Appendix 3	Art and Science	197
	Appendix 4	The New Mission of Design Education	211

Introduction Philosophy of Basic Design

Design is a factor to be considered in all endeavors of art. The Basic Design course structure is beneficial to every student, irrespective of his or her major. Anyone taking the basic course is treated as a future designer. To achieve this, Basic Design attempts to cultivate within the student:

1. The Ability to Discover and Solve Problems

Projects are developed so one not only finds solutions, but also creates one's own design problems, and continually re-evaluates one's progress toward achieving a satisfying resolution to the problem. This means that solutions found in earlier assignments can suggest new problems for future assignments.

2. The Ability to Compromise

As one confronts and discovers both the artificial and inherent limitations of a particular assignment, one learns to compromise and alter the original conception of the solution. This mental flexibility allows for continual re-examination and reworking of projects in the attempt to search for more variations as a regular part of all design assignments.

3. Increased Creativity

Everyone is directed to discard the obvious or traditional in favor of creating one's own unique solutions. All are encouraged to be different, and to show one's findings in public. This is the best way to protect original work from being copied or imitated by others. This, along with learning new methods of analyzing design problems, opens the way for increasing creativity.

4. Improved Self-understanding

Through design everyone learns to analyze and improve one's own method of problem solving and to find what tends to block one's creative thinking and to learn ways to overcome such obstacles. Not only does one discover one's design abilities, but also learns how these abilities are able to relate to other art forms.

5. Craftsmanship

Careful craftsmanship is required on all projects. Everyone learns patience, precision and the use of basic tools which allows one to

create finished works of professional quality.

6. Relevance

This Basic Design course gives an introduction of basic geometry, engineering principles, and their relationship to artistic design. This course helps to develop abilities useful not only by artists or designers such as observation, analysis, innovation, adaptation, planning and creativity.

The assignments in this Basic Design course are unique in that each project is built one on each other. This approach allows people to gain new insights by looking at one's previous work. In addition, this course can direct everyone's individuality, allowing one's work to reflect their own personality and cultural background. All aspects of the results obtained will be beneficial.

Although this Basic Design course is for teachers and students of design, it can be applied to many other fields as well.

This book can be read in any order. However, to take full advantage, it is recommended that all assignments are taken in sequence. It is crucial to use only basic drafting tools to complete each assignment rather than high tech equipment. The assignments in this book are highly adaptable to any future studies by its reader. They are not simply focused on one area of study such as design or art or architecture but are designed to teach principles useful for everyone.

This book is divided into two main sections: twenty-six "issues" and twenty-eight assignments, the latter sub-divided into three parts.

1) The Introduction includes the philosophy of basic design and twenty-six issues. Each issue reveals the reasons for writing this book and the philosophy of teaching design. Some issues will be illustrated with the author's own design works.

2) Numerous design assignments are included in the three parts — each part addresses a problem through a sequence of assignments that may seem, at first, to be unrelated. An illustration appears at the end of each of the parts for review.

a. Part One starts with adding a third dimension to a square — challenging 2D and 3D as one. All assignments that follow allow one to go through changes, improving the senses through comparison and the ability to rationally understand the results.

b. Part Two begins with making a joint out of two pieces of paper, and follows many related lessons. This leads to the design of a new font based on all 26 letters of the alphabet.

c. Part Three deals with the visual connection between two letters. Working with geometric principles, one learns to simplify the

drawing process, and to understand and work with negative spaces. The concepts of mass production and work with 2D and 3D modular systems are introduced.

3) The Appendix contains several of the author's design education articles that have been published or presented at conferences.

All pictures and diagrams used in this book are the result of the author's teaching—99% of them have never been published before.

As more universities and colleges establish design programs, the need for a teaching method at the fundamental level becomes essential. Basic Design — a foundation course in a fine arts curriculum — is often taught by one who is not familiar with the problem-solving process of design, or by one who has not been properly trained as a designer. Usually, 2D design is taught by painters and 3D design is taught by sculptors. There are questions about what should be covered in a Basic Design course at the beginning stage: should it offer a diluted exposure to the other fine arts, or should it focus specifically on one area of the design field?

In this book, the approach to Basic Design is to take a generalized view. The concern lies with the process of solving problems, and not only with results. The process of seeking new problems is more important than the answer itself. [An answer is only a solution to one problem. The process of seeking a problem provides solutions to many problems, the process of education.] A critical aspect of the author's Basic Design course is its sequence of learning experiences; it is the progressive learning process that follows an organized, interrelated course. It is built on an awareness of what information is needed, when it is needed, and how it is presented. Each project is revealed in sequential phases, and each general problem builds upon the one that precedes it.

Another aspect of teaching Basic Design is the manner by which problems are given. The introductory phase of each problem becomes a period of protraction; it is a time when the problem is stretched and viewed from all its conceptual angles. It is this extension, this "thinking around" the problem, which is the main ingredient of any creative problem-solving process. Following a period of protraction is retraction, when the actual problem and its limitations are presented to Basic Design students. Each problem is designed to sharpen awareness in three areas: wisdom, the rational, and sensibility. The presentation of the problem lies not only in its question, but also in the alternate manner of posing the question. The Basic Design students are not only asked to find a single answer, but to explore the territory of the prob-

lem for alternate solutions. This search and discovery process creates better problem-solvers in any discipline.

An extension of this inclusive approach is the combination of two- and three-dimensional experiences in Basic Design. Since two- and three-dimensional design problems share common concepts, projects in this Basic Design course involve transitions back and forth between the dimensions.

The author strongly believes that art courses are essential to a well-rounded college education. Such courses help to expand a student's problem-solving skills and their ability to think three-dimensionally. In addition it gives students a chance to explore their senses, to realize how delicate and precise they are — it encourages them to be visionary.

Since 1968, the author has regularly accepted students into the design classes who did not major in the arts. Some of these students even changed their major to design, or felt compelled to study architecture in their advanced studies. The author has always been against restricting foundation art courses to arts majors only. Such courses should be open to all students in the university. The art department is an integral part of the liberal arts college, not a specialized program. Everyone can gain from an association with the visual arts, and even students from other disciplines with no intention of becoming artists can still be inspired to approach problems creatively.

People tend not to refer to themselves as a two- or three-dimensional designer, but rather simply as a designer. This gives them the freedom to become complete designers. The design program falls under the fine arts tradition, and as such, one does not train a designer to be a designer only. This curriculum is unique in that it trains a designer as a creative thinker — an idea overlooked by most design programs.

People trained as architects have created much of the best design work. It is a fact that most good furniture is designed by architects, not by furniture designers. This does not mean all architects can be good designers, but aspects of architectural training are crucial in design. The author hopes that after taking this course, many young students will study architecture as undergraduate students, followed by industrial design in graduate school. Architectural courses are not offered at many universities. However the author integrates important aspects gained from his architectural background into the curriculum. By including important elements such as materials, structure, space, and time to the curriculum, one has a virtual exposure to architectural

training.

This Basic Design course is different and more comprehensive than any other basic design program in use. An emphasis is placed on design as a complete program without separating it into two- and three-dimensional design. This allows one to understand that a designer can create any graphic, interior, industrial, and environmental design. Everyone must be aware that a designer is a thinker, not just someone who can solve a problem but can identify the problem as well. After graduation, one realizes that one doesn't just go out to serve but to lead.

This type of textbook exists nowhere else. From the participation in design foundation workshops, the author has been encouraged many times to write a book about the special Basic Design course. Educators in the field would find this book very interesting. Additionally, people who graduated from this program who have teaching positions at other colleges and universities in this country and abroad are likely to use this book in their teaching.

There are a number of Basic Design texts currently available. A majority of them address design with respect to the basic elements of art and design principles. These books isolate each study of line, shape, texture, principles of balance, proportion and rhythm, but they do not teach one how to design. This book's approach to Basic Design assumes that the experience with both principles and elements must occur as part of a larger problem-solving process. An understanding of the parts derives from an understanding of the interrelationships of these parts—a quality that is not evident when the parts are studied in isolation. Similarly, existing textbooks often distinguish between two- and three-dimensions in the Basic Design experience. This book concentrates on the reciprocal relationships between the two different dimensions.

In contrast to the “basic element” texts are those which have a specialized focus for graphic design, interior design, industrial design or architecture. This book is a general sampling of concepts which occur in all design specialties, not excluding the other fine arts or areas outside the fine arts. It seems that the function of any basic course is to create a foundation from which one can build in any direction. Such a foundation must be broad in scope in order to support future development within the specialty.

A number of design books are concerned with creative problem-solving processes and methods which are beneficial. What they lack, though, is a specific connection with art and design that would permit