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M217

Vol. 4

Maier

The Foundation Program at the School of Design
Basel, Switzerland

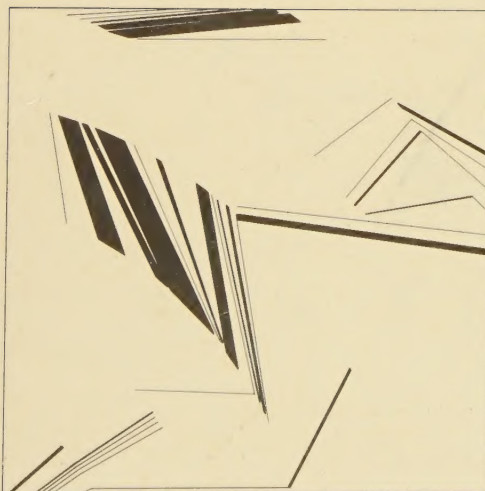
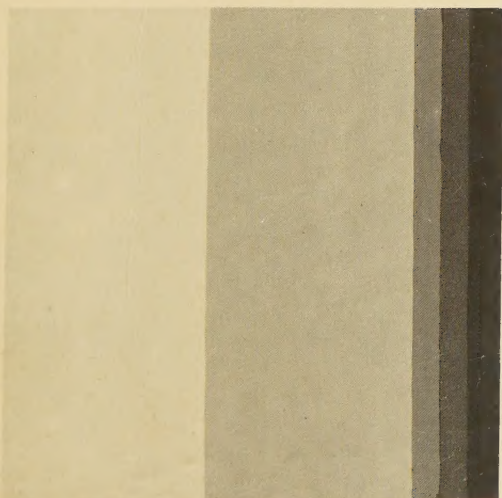
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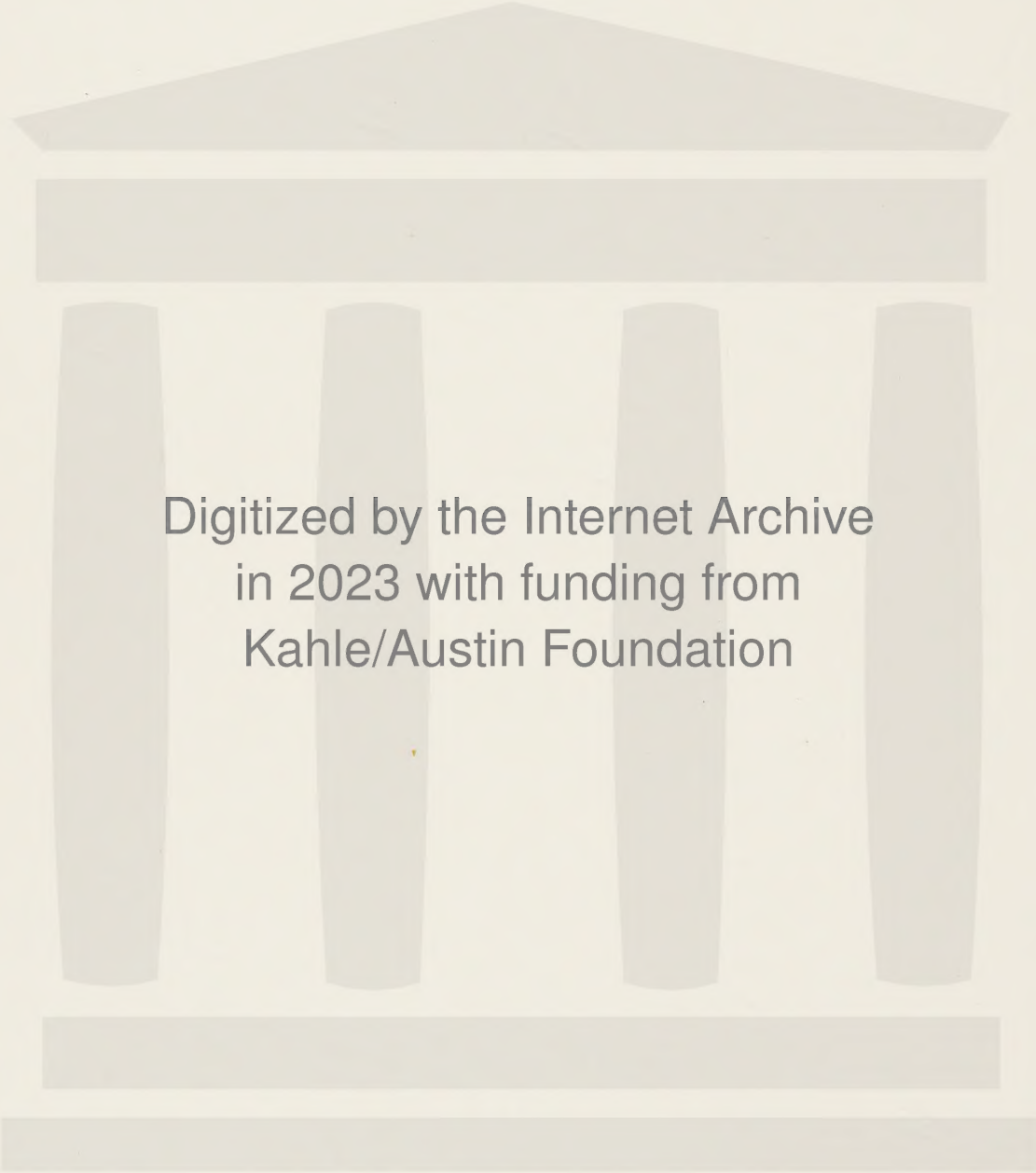
Basic Principles of Design

Van Nostrand/
Reinhold

Volume
4

Color 1
Graphic Exercises
Dimensional Design





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School of Design Basel, Switzerland

Foundation Program



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Manfred Maier

The Foundation Program at the School of Design
Basel, Switzerland

Basic Principles of Design

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Volume	Object Drawing
1	Object and Museum Drawing
	Nature Drawing

Volume	Memory Drawing
2	Technical Drawing and Perspective
	Lettering

Volume	Material Studies
3	Textile Design
	Color 2

Volume	Color 1
4	Graphic Exercises
	Dimensional Design

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General Introduction

Kurt Hauert,
Head of the Foundation Program

The Foundation Program at the School of Design in Basel, Switzerland is a fundamental education in art and design. It offers a number of interrelated, equally important courses. Subjects include drawing, color, three-dimensional studies, materials and tools, and exercises in form, aesthetics, and concepts, all of which are designed to promote optical and tactical sensitivity, formal perception, manual dexterity, and a clear understanding of creative processes and to clarify the students' individual talents. The program enables them to choose future professional training in graphic design, photography, typography, display design, goldsmithery, pottery, fine art, sculpture, and other related fields.

To be admitted into the program, students must be at least 15 years old, pass an entrance examination, and attend all the classes. The one-year program includes 42 classroom hours per week. All classes are conducted at the school and are limited to a maximum of 24 students.

Most of the faculty members are also professionals in their field, certified specialists who are active in visual, creative areas. Throughout the entire program, the teachers are available for individual or group consultation, which ensures that every student has an equal opportunity for a successful training. The teaching-learning process varies with each course. It can progress in several directions: linear, from simple to difficult principles; punctual, a collection of experiences derived from individual assignments; or complex, an analysis of variation sequences as an insight into the creative process.

The current standards of the program are outlined in this series, and the working procedure is explained clearly and understandably in chronological sequence. In order to clarify the interrelationships among the courses, they are categorized according to the teaching-learning process involved. The entire visual-creative program is presented in four volumes, each of which is a complete unit in itself and provides an introduction, course descriptions, and detailed illustrations.

The Foundation Program is based on an objective, developmental educational system over the past thirty years. It disregards fashionable vogues but allows enough freedom to integrate necessary innovations. It offers a model for all teachers, students, and administrators who are interested in a critical, investigatory approach.

In conclusion special thanks are expressed to those who devoted their time and energy to the realization of this work.

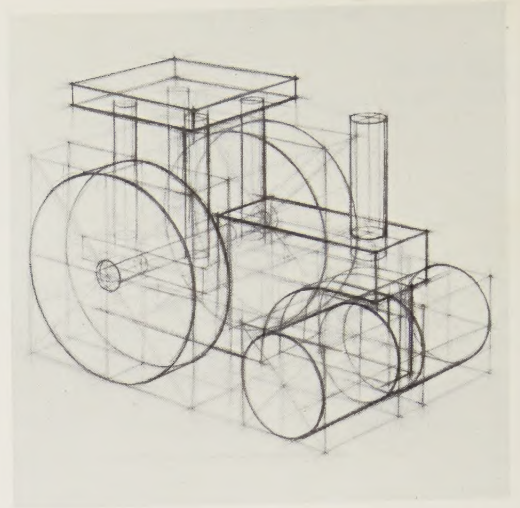
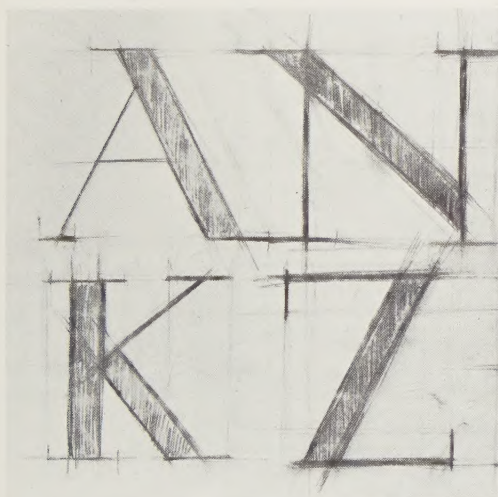
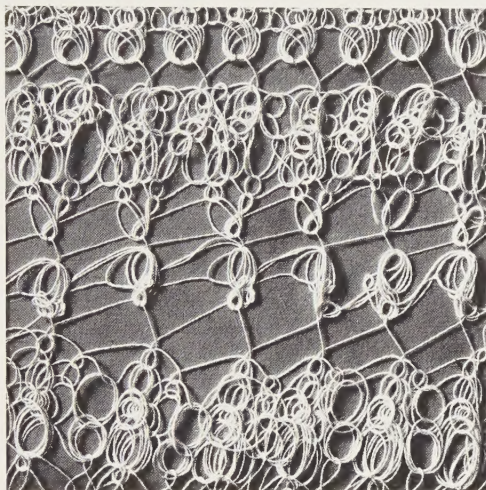
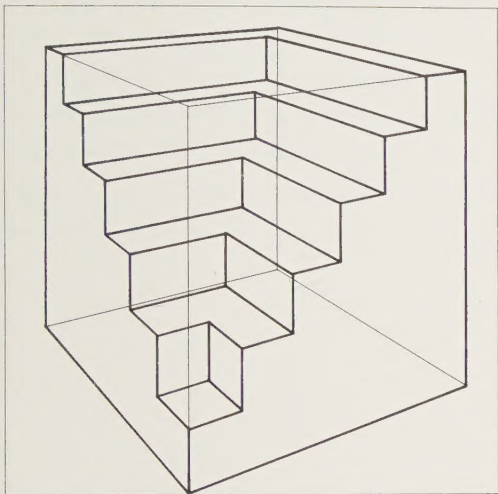
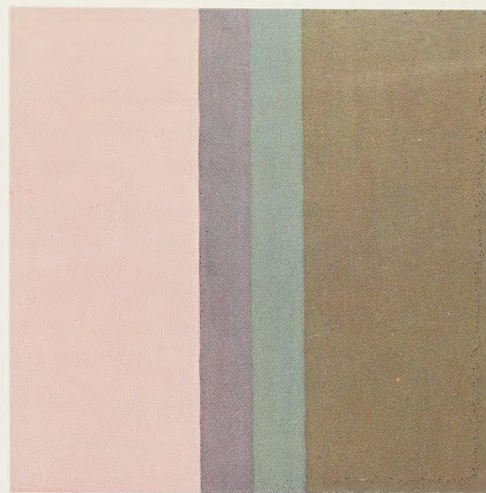


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Number of faculty in the Foundation Program 26
Number of students in the Foundation Program in six parallel classes 130 ca.

Directorship:

until 1970 Emil Ruder
since 1971 Niklaus Morgenthaler
Head of the Foundation Program:
since 1971 Kurt Hauert

Faculty of the Foundation Program

Beck, A.	Economics	Bernoulli, L.	Architecture	1972-73
Bieseke, I.	Graphic Design	Bühler, G.	Drawing	1968-69
Bollin, M.	Sculpture	Ganahl, K.	Press-editing	1966-67
Bürgin, G.	Decoration	Gruber, A.	Sculpture	1969-70
Burla, J.	Sculpture	Hartmann, H.	Drawing	1968-69
Eya, L.	Architecture	Hauert, K.	Drawing	1969-70
Gautschi, R.	Painting	Hernandez-Moor, L.	Textile Design	1972-73
Grossenbacher, M.	Sculpture	Keller, J.	Drawing	1974-75
Gürtler, A.	Letter Design	Lienhard, E.	Sculpture	1972-73
His, A.	Painting	Messerli, E.	Painting	1972-73
Hutter, J.	Painting	Ryser, F.	Painting	1973-74
Keller, T.	Painting	Stettler, G.	Painting	1967-68
Kern, R.	Painting	Stettler, P.	Painting	1974-75
Kern, U.	Drawing	Sulzbachner, M.	Painting	1968-69
Klotz, L.	Painting	Vollé, R.	Architecture	1968-69
Maier, M.	Graphic Design	Vieira, M.	Sculpture	1968-69
Mengelt, C.	Graphic Design	Weidmann, H.	Painting	1966-67
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Pola, P.	Painting			
Schäfer, E.	Drawing			
Sommer, H. P.	Graphic Design			
Thomann, M.	Language			
Tramèr, J.	Painting			
Von Tomei, J.	Graphic Design			
Zwimpfer, G.	Graphic Design			
Zwimpfer, M.	Graphic Design			

Volume
4

Color 1

Graphic Exercises

Dimensional Design

Techniques and media have developed in a superficial, one-sided fashion because of the free-enterprise system. Creative abilities and possibilities are bound to production- and consumption-oriented goals due to continuing specialization. The existing visual chaos necessitates working abundant creative possibilities of media and techniques. The application and consequences of these possibilities on the environment introduce the future designer to complex problems. He will be confronted with new and unknown assignments, techniques, applications, and social attitudes. He must survey many complex aspects outside the design itself and be able to integrate them into his work. This requires the ability to continually question existing structures and functions.

In the three courses described in this volume complex design concepts and interrelationships are investigated and developed through elementary exercises. Structure models, series, programs, and concepts give the student insight into and perspective on a versatile creative process. Continual differentiation, definition of criteria, comparison, evaluation, objective criticism, and control of one's work develop an independent judgment and a sense of responsibility. The subjective abilities of the students expand the differentiation process and form a foundation for group experience. The abundance of possible but very different solutions is not foreseeable or achievable by the individual.

Knowledge and experience clarify the necessity and consequences of creative judgments and the inherent positive and negative effects of many factors, which can be transferred to other media and to complex problem solving.

The students' knowledge of color is limited through untested preconceptions and recipes during their previous education. Color is regarded as an expression of personal taste.

Objective, differentiated knowledge of the appearances, interrelationships, and working criteria of color is the goal of this course. Objectivity is achieved through the observation of color relationships under changing conditions and not through color theory. Within clearly defined limitations interrelations are defined and organized. Perception and experience, a prerequisite for the creative use of color, are developed through continuous comparison and analysis of color qualities and quantities.

The appearance of a color cannot be studied in isolation: it must be seen in relation to other colors. A color exhibits inherent, relative, and changeable qualities due to differences in hue, value, brightness, and its proportion to other colors. A thorough investigation of these relationships (contrasts) is the starting point for this process; the exercises test the appearance of color relationships in complex structures.

In order not to confuse the appearance of color with compositional characteristics, simple forms are chosen: a square format (9×9 cm) is subdivided vertically. Formal variation lies in the number and width of the vertical intervals and is more quantitative than qualitative.

Students learn how to mix and apply tempera directly on stretched paper. Uniform, even color application is essential to the study of pure values: brush textures and transparent layers change the appearance of the colors.

In addition to practical involvement color theory is explained in a series of lectures.

The refinement of color recognition is the goal of this exercise. This is accomplished by defining the criteria in the working process. A square divided in half serves as the format. Two opposing colors are placed next to each other and the most different contrast should be found. Each student paints approximately 30 to 40 squares and cuts them out. Using these examples as a basis, the characteristics of different colors are discussed with the students. Most students agree on some color contrasts (i.e., light-dark) while other pairs are judged more subjectively (i.e., warm-cold). Three color qualities—hue, value, and brightness—allow a precise description of the reciprocal relationships between two colors, and are used to analyze the painted examples. Other subjective criteria are not considered in this exercise.

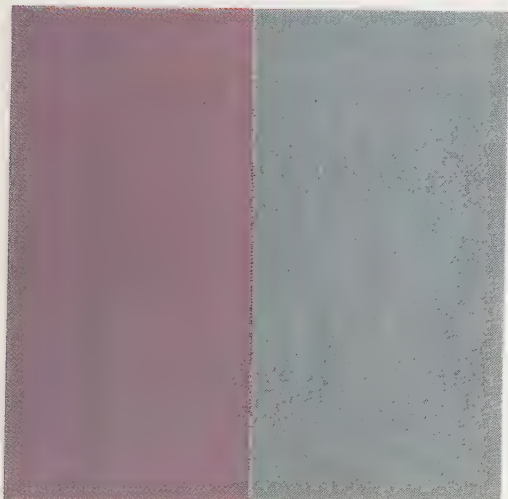
The color wheel is studied to explain the hue contrast of colors. A graduated row of grays progressing from white to black is the model for value contrast. A color model is explained in which the three criteria are visible in three-dimensional form.

The student analyzes his exercises and asks the following questions about each color pair: in comparison to the color wheel is there a difference of hue, or is one of the colors more red, yellow, or blue than the other; is one of the colors brighter than the other? Different pairs are thus found to have corresponding characteristics. In doubtful cases the teacher suggests choices and comparisons. In organizing the color squares it is obvious that different degrees of clarity are present in individual groups. Missing areas are filled and unclear examples eliminated or corrected until a few clear examples are present from each contrast possibility. The examples are arranged in groups and glued on white cardboard. The examples here and on the following two pages show color pairs arranged according to the analyzed criteria.



The above example shows minimal difference in hue: the left-hand color is slightly yellower than the right. Value and brightness are the same for each. The example below exhibits strong hue contrast between red and green. Value and brightness are the same.

The three color pairs show the contrast of hue between red-green on various brightness levels.



The three color pairs show differences in brightness. The same reddish-gray color is duller in the center example; below, in relation to another color, it is brighter. Hue and value are the same.



The three color pairs show differences in value. The darker top example becomes lighter in the center in relation to the neighboring color. The pink and brown in the bottom example are derived from the same red.



The three color pairs exhibit differences in value and in brightness. The dark brown and light pink are derived from the neighboring red by mixing black and white, respectively, and thus are the same in hue.



The three color pairs show differences in hue and value but not in brightness.



The three color pairs show differences in hue and brightness but not in value.

The five color pairs above and right simultaneously exhibit differences in hue, value, and brightness.



Above is a simple, even value gradation, which is maintained in the following examples and forms the ground structure for strong color and brightness contrasts; below are the three selected pure colors, all the nuances are obtained by mixing them with black and/or white.

The format for this exercise consists of a square divided into three equal parts. Three values are chosen as constant elements for each section. Mixing is limited to three pure colors, black, and white. They are not mixed with each other but separately with black and and/or white. Within the constant value many different but inter-related color harmonies are investigated. The situation becomes more complex if the value relationships are less regular, if the three stripes are uneven in size, or if the number of colors is unlimited.

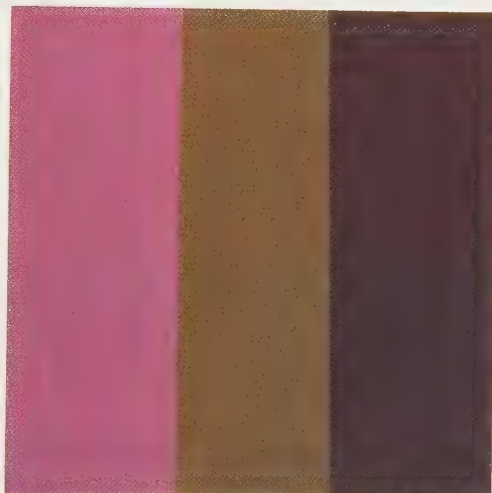
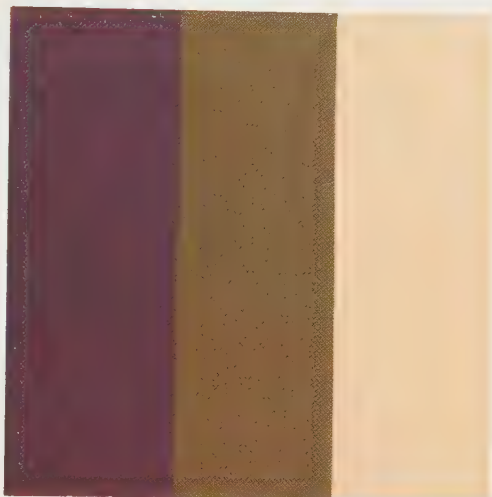
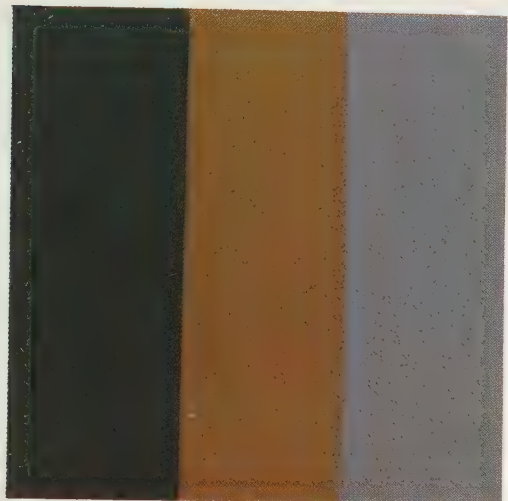




The same format is retained in this exercise. A constant color should be brought into a relationship. The color contrasts analyzed in the first exercises are consciously applied, and interest is created through the contrasting, similar or identical characteristics. Many possible combinations are to be discovered. The student assembles his collection (about 40 to 60) cutout color squares and organizes them according to color tendencies. Groups are arranged from harmonies that are equal in the kind and strength of color contrasts. The examples can be compared only as totalities (syntheses): detailed analysis of the individual relationships among

the three colors is too complex and not useful. All the squares must be included in the organization without considering spontaneous judgments such as like or dislike. The resulting groups are brought into a meaningful relationship and glued on large sheets of cardboard. Discovery and application of characteristics, constant comparison, and judgment of similarities and dissimilarities among individual color harmonies promote conscious awareness of color relationships. The students experience the simultaneous alteration of the constant color through the influence of adjacent colors.

These examples are taken from a larger grouping. Groups with similarly strong contrast are positioned vertically underneath one another. The group on the extreme left exhibits only minimal difference in hue, value, and brightness; on the extreme right the differences are very large. The other examples fall between these extremes.





From the previous exercises an interrelated color pair is selected. The three colors are remixed in large quantities and stored in jars. The original harmony changes with rearrangements of the sequence and variations of proportions. In some cases the color harmony is emphasized or refined; in others it is unfavorably affected. It is obvious that the positions and proportions of the colors are influenced by their reciprocal relationships.

In the two harmonies in the above examples, the proportions and not the sequence of the colors are varied.



The photograph shows the necessary materials for the color exercises: the assorted tempera colors, two or three brushes, a container for water, paper, a flat dish for mixing, and a board for stretching the paper.



*The following photographs show how to stretch the painting surface.
The paper is moistened on both sides with a sponge so that it expands.*

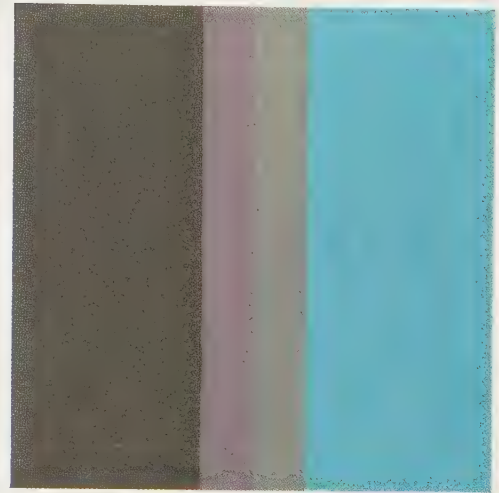
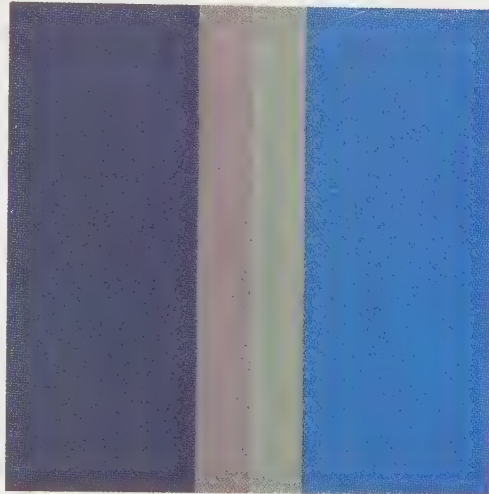
While wet, it is paper-taped to the board.

The paper stretches while it dries, forming an even painting surface that will not wrinkle when wet paint is applied.





Two equal, narrow stripes of colors with the same value form the constant element in this exercise. The given pair is strongly influenced in different ways by the two variable adjacent colors: not only the appearance of the individual colors but also the relationship between them changes. The effect of one color on another (simultaneous contrast) can occur in all three dimensions. A bordering color can influence it in color direction (yellowier, blue, redder), value (lighter, darker), and brightness (brighter or less bright).



In the following exercises five squares are divided into three equal sections and organized in a continuous series. One color in the selected harmony remains constant, while the other two change progressively from the first to the last square: color changes can occur simultaneously in one or more contrast directions. Equal or unequal intervals can be used to systematically change the corresponding color fields, but the intervals from square to square should appear equal. In the series on the following four pages colors and proportions change simultaneously. This quantitative change occurs continuously in intuitively equal intervals parallel to the progression of the colors.

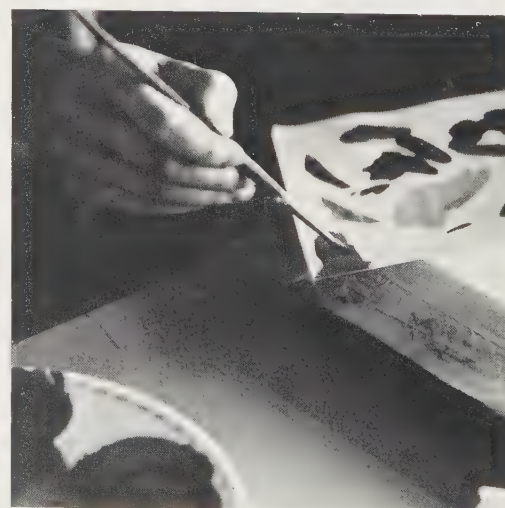
The need to coordinate the relationships between color and color, color and proportion, part and part, and part and whole confronts the students with a series of decisions. They are never encountered in isolation but only through relationships. In such complex assignments different creative abilities are developed and exercised at the same time: imagination for color, thinking and planning large relationships, and a feeling for fine distinctions of color and proportion. These abilities are prerequisites for a conscious involvement with color as a creative medium.



The photographs show part of the working area in which colors are being mixed and applied.

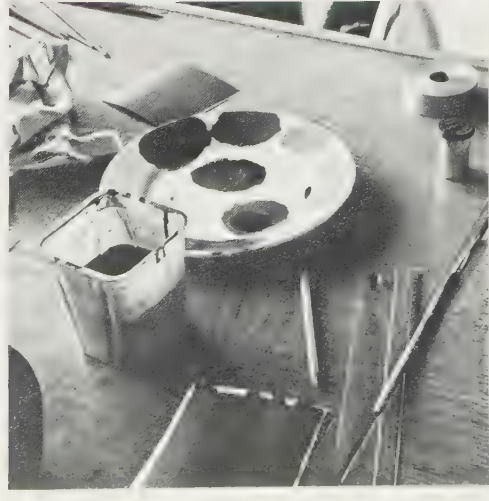
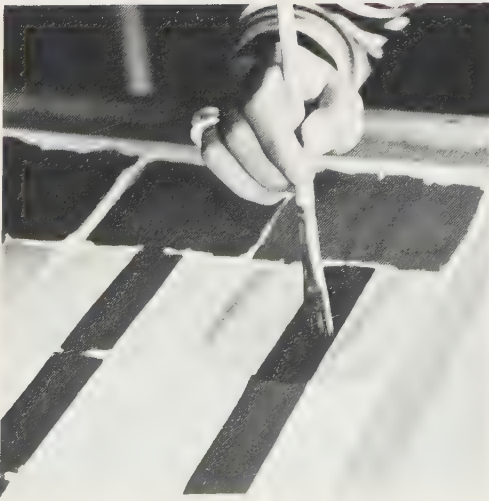
Wet tempera colors cannot be compared to one another.

Color samples are tested on the edge of a separate sheet of paper.





Only the dried color gives a true comparison.





In the top row the center and right stripes, which have the same proportions, change in color; in the center row the same colors have different proportions; in the bottom row all three stripes change in both color and proportion.



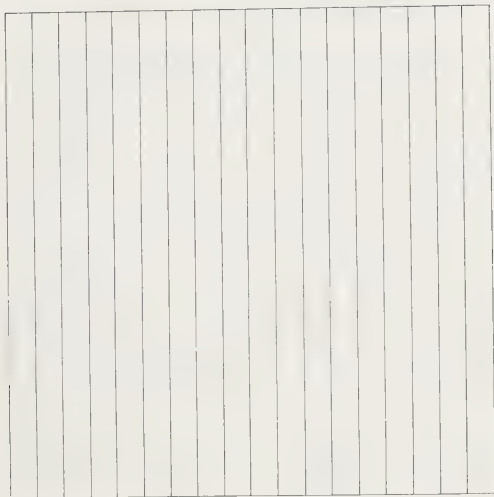
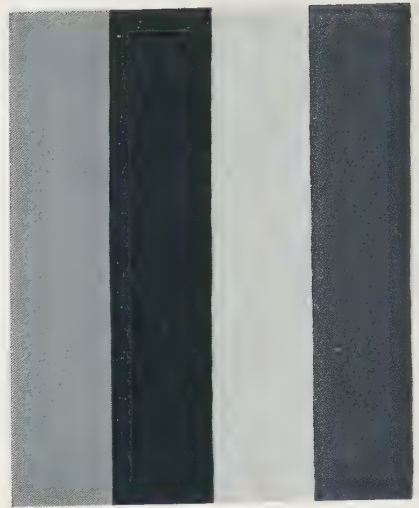
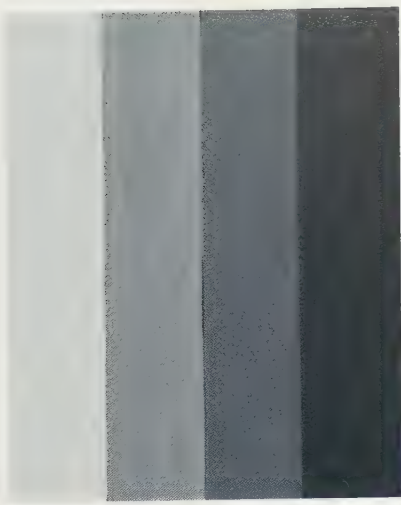




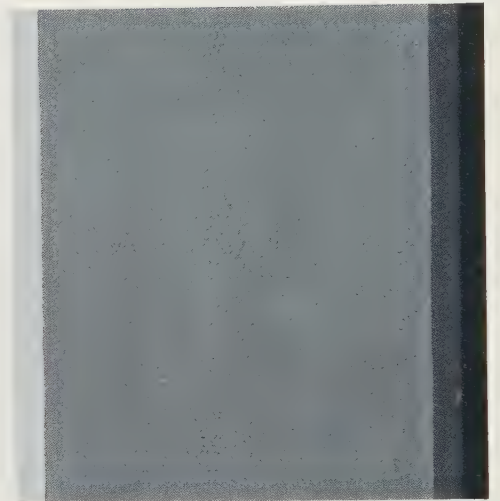
In the top row the color of the left stripe changes only slightly in relation to the other two, and the proportions remain the same; in the center row the same colors have different proportions; in the bottom row: all three sections change in color and proportion.





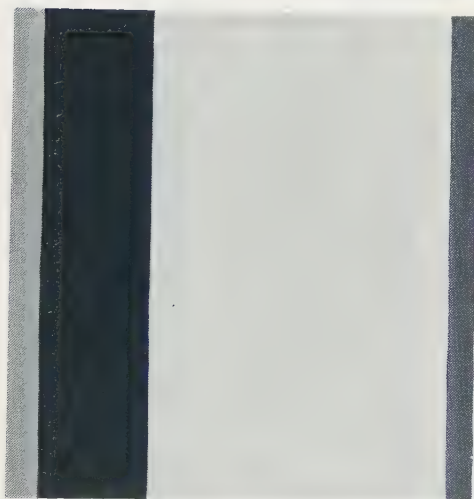
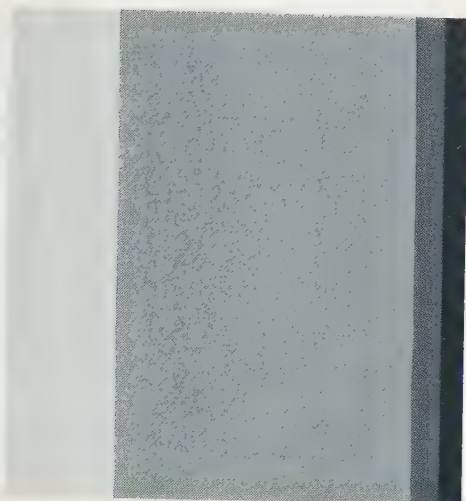


The change of proportions is effected on a finely divided grid, a useful instrument for determining clear, unequivocal proportional relationships. Even with great changes of sequence and proportion the clear value relationship of the original gradation produces a positive effect.



In this exercise five gray values in the same progression from white to black are mixed and stored in jars. They form the foundation for an investigation into value contrast. In the first exercise colors are investigated according to the kind of contrast. Here, the amount of the difference is investigated within the contrast. The five values are synchronized into a series with optically equal intervals. Quantity contrast adds a new factor to the three analyzed color contrasts. It has an essential influence on the appearance and harmony of colors. The relationship between quantity and value of a color can be observed: i.e., the possibility of strengthening or weakening the existing contrasts through a change of proportions. A change of sequence also produces a weight shift in the values of the different colors.

The row of examples show, above, a change in the original sequence but with the same proportions; center, a change of proportions within the original sequence; below, simultaneous change of sequence and proportions.





This exercise involves designing a five-section color progression in which the colors change gradually and simultaneously in many contrast directions. Similarities to the color wheel and value progressions alone are avoided. The sequence must also contain an asymmetrical progression from one color to another. An interesting example is selected from the many solutions. Each progression is selected by the student for a proportion exercise, and the individual colors are remixed in jars. As in the preceding exercise, equal color steps must be synchronized exactly: many simultaneous changes are not parallel: for example, in a sequence with intuitively equal value steps brightness intervals appear unequal. In such cases different criteria must be weighed and an intermediate solution found.

The photographs show the procedure for designing and organizing color harmonies. The paint extends slightly beyond the predrawn format.

After the paint dries, the individual pieces are cut to the correct size.





Good lighting conditions are necessary for comparing and organizing the color harmonies.

The pieces are placed on a neutral gray background for evaluation.

The resulting organization is glued on many large sheets of cardboard.





The sequences and proportions of the five color progressions change similarly to those on the page before the preceding double spread. Innumerable possibilities result despite the limitations of color and form. Systematic representation of these variations is not possible within the available time. With advice by the teacher concerning the necessity of planning each student assembles a limited program for the following investigation. It is more comprehensive than the examples shown here. Changes of sequence and

proportion should be intentional, and the examples should not be chosen at random. Grid divisions and other formal structures (i.e., the above progression) are valuable aids in formulating clear proportions.

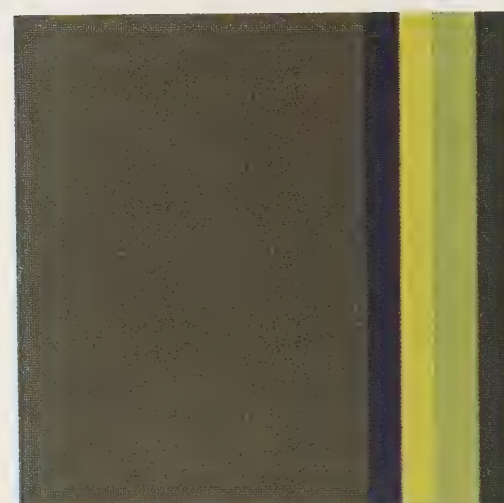
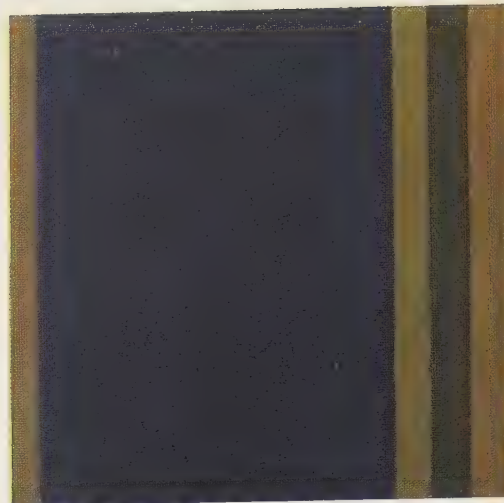
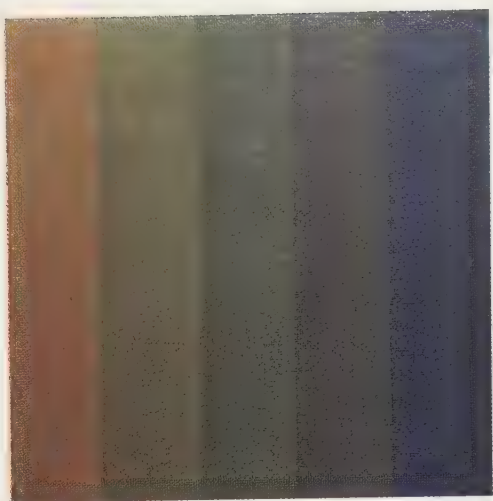
Only rarely is a student's sense of proportion developed sufficiently to find equivalent solutions without such help.

In each of the three horizontal rows on these two pages the sequence of colors remains the same, while the proportions change. The examples on this page are based on a grid.



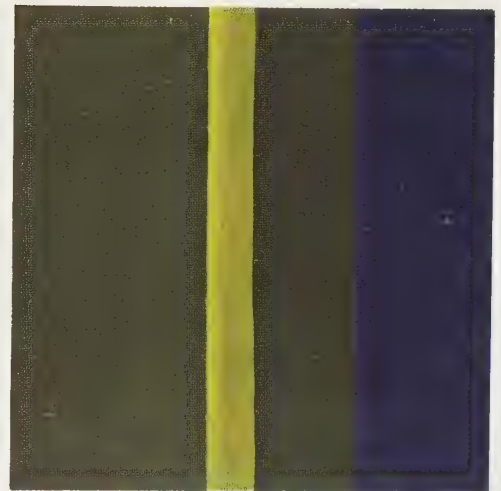
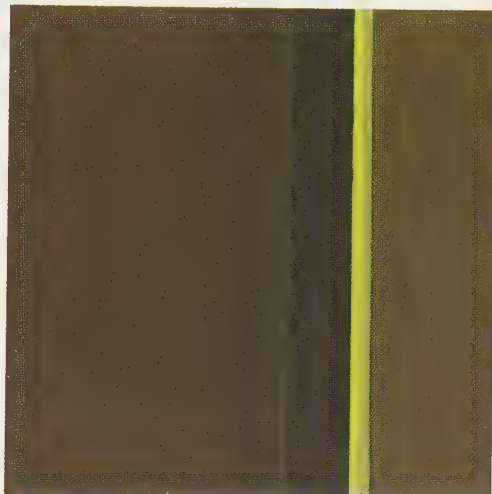
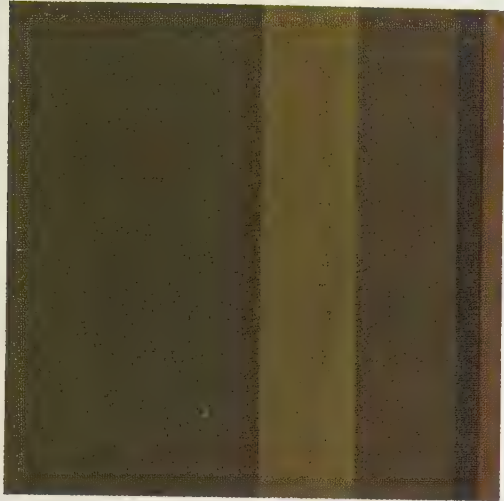
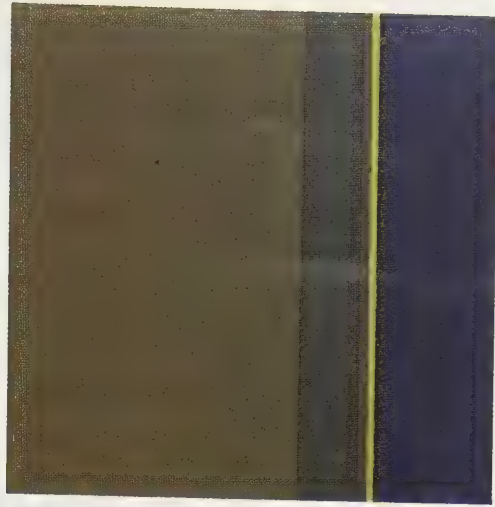
The same progressive divisions are contained in all the examples on this page. Above left, middle, the progression of colors is simultaneously increased through a progressive gradation of the proportions.

Above right, continuous color gradation with the proportions in a changeable sequence. Middle left, below, the sequence of colors is changed, while the formal progression remains constant (as above). Below right, colors and proportions in a changed sequence.



Pieces from two different color progressions are compared and combined as an extension of the preceding exercise. The students remix new color values or exchange them. Sequence and proportions are varied, and the possibilities are even more numerous in this exercise.

The following examples are based on the two color gradations on the left.

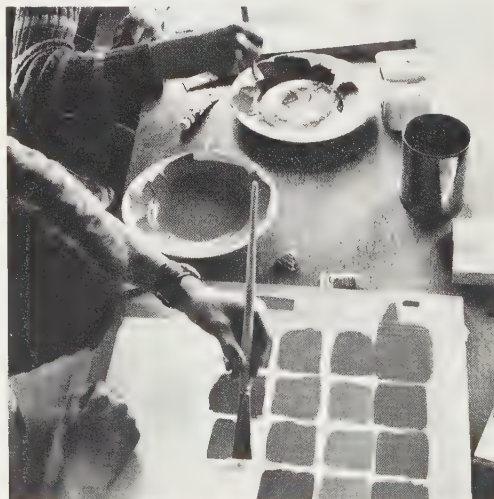


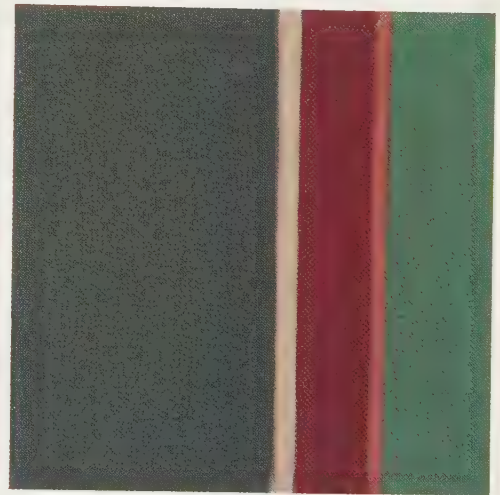
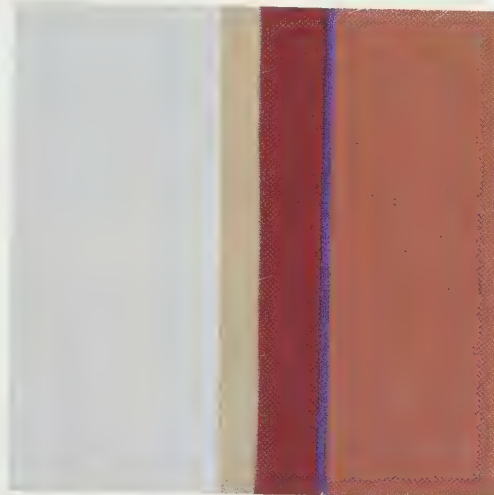
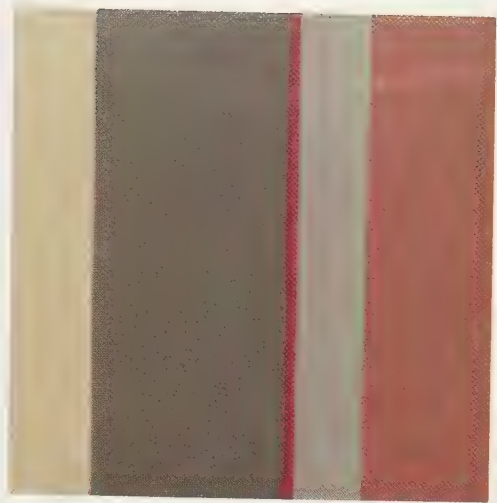


The three-part color harmony above is the basis for the examples on these two pages.

Three colors in a clear, proportional relationship form the starting point for this exercise. This three-part color harmony is expanded to five elements by adding two color surfaces. The two new surfaces must be incorporated into the existing groups in such a way that the original divisions are still recognizable. Two of the original color surfaces are reduced in size. By adding supplementary elements the student develops as many new groupings and harmonies as possible from these color and formal differentiated factors. He is not limited in his selection of additional colors. They must be brought in the existing relationships of hue, value, brightness, position, and proportion.

The photographs show the classroom environment. The exercises are completed by the students within the same period of time, but the individual working rhythms of each student can vary widely.







The preceding exercises are based on a vertical division of the surface. The above examples show horizontal divisions. An abundance of new formal possibilities result from adding another simple element—contrast between horizontal and vertical forms, contrast between above and below, and surface bordering on more than two sides—so the color relationships are more complex. The mutual relationship between color and amount resembles that between color and form. In the two examples below the four triangles formed by the diagonals are divided into two different-size fields parallel to the format. Both examples are taken from complex color-form sequences.

In this course fundamental concepts and design processes are developed in elementary exercises that require creative decisions. Clearly determined conditions are manipulated, analyzed, and developed over a period of time, using simple graphic media. An understanding of the entire working process is the result. Criteria are defined and differentiated according to the actual working situation.

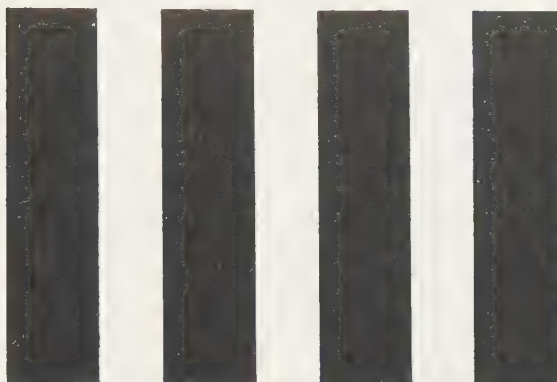
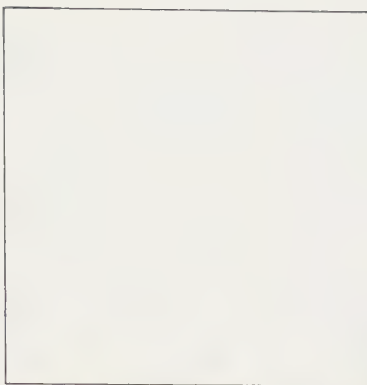
Criticism and control of the individual's work increase his sensitivity, independence, and competence. Insight into and perspective on the abundance and complexity of designing processes develop from a close collaboration with the teacher and within the group. Principles of aesthetic composition are not offered and single, chance results are not goals. Technical perfection and composition are only part of the design process.

Group relationships form the basis for decisions, deeper involvement with design, and refinement of creative quality through constant, unprejudiced comparison and evaluation of the work. The personal abilities of the students form additional factors in the creative processes which are differentiated in several activities: a clear, determined starting point for a problem situation; critical definition of many possible solutions from abundant trials; selection of a theme, investigation of variations within the chosen theme; the order and definition of the relationships among the variations according to criteria of the individual theme; integration of the different criteria into vertical and horizontal relationships among the single elements; choice of a vertical or horizontal direction from the discovered order; refinement and supplementation of the intervals and relationships from a logical and qualitative point of view; application of experience derived from these studies to new, complex goals. This development process is a foundation of visual communication.

Due to the length of time required to develop the design process on different levels, it is necessary to limit technical skills. Students work with black-paper, knives, scissors, and glue on white paper. The paper can be cut, folded, torn, or turned over. The graphic appearance of the surfaces and forms constitutes the foundation. Designing with paper has the advantage that formal elements can be exchanged or shifted, allowing a flexible, comparative working method. The development of skills and exactness results from the working process and the abundance of pieces. Sensitivity to differentiated formal qualities develops simultaneously. Four phases of an exercise are completed by the students in approximately the same amount of time, allowing group discussion, comparison, and exchange of experiences. Insight of the individual into the visual and conceptual aspects of design is expanded.

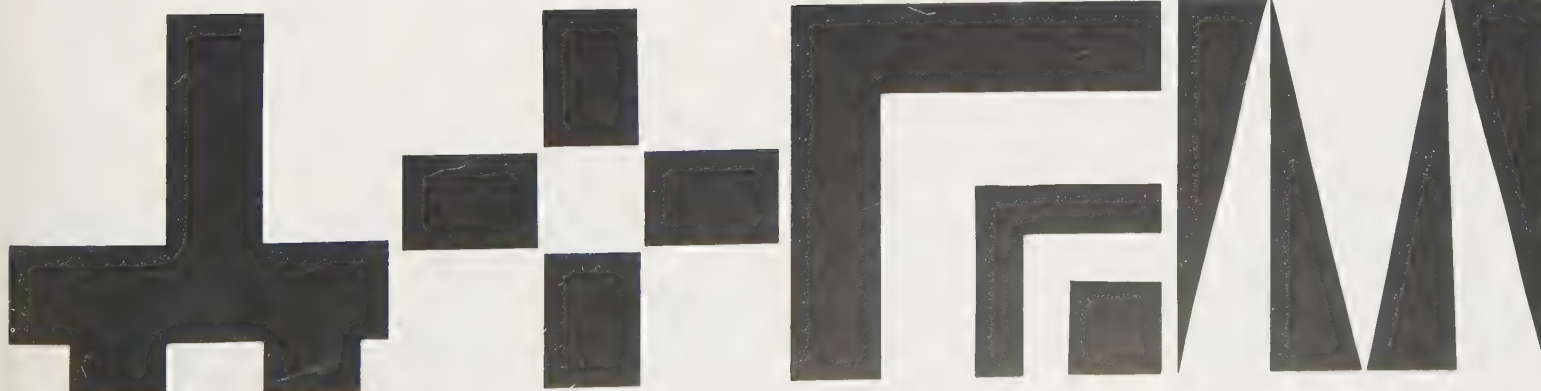
The examples on the following pages show different sequences, starting from the same conditions. They are the exercises of three students and only show a section of the possibilities. Similar work results are represented to document the different personal approaches. Four equally wide black paper strips and a square format corresponding to their combined width form the starting point of this exercise, in which the four strips are always contained in the square. If they are lined up vertically, a black quadratic shape is produced, and they are no longer readable as a graphic form.

Elementary creative manipulations should be found in the first exercise phase, in which the four strips are again recognizable. The actual manipulation must be clear and must determine the graphic form. Composition and formal aesthetic qualities must be subordinated to the function and unequivocal recognition of the strips: they should not be used to compose decorative ornaments, basic shapes such as triangles and circles, the structure of a graphic symbol, or pictorial images.



The three illustrations above show the initial solution, the format, and the four equal strips, which are arranged vertically to form a black quadratic shape.

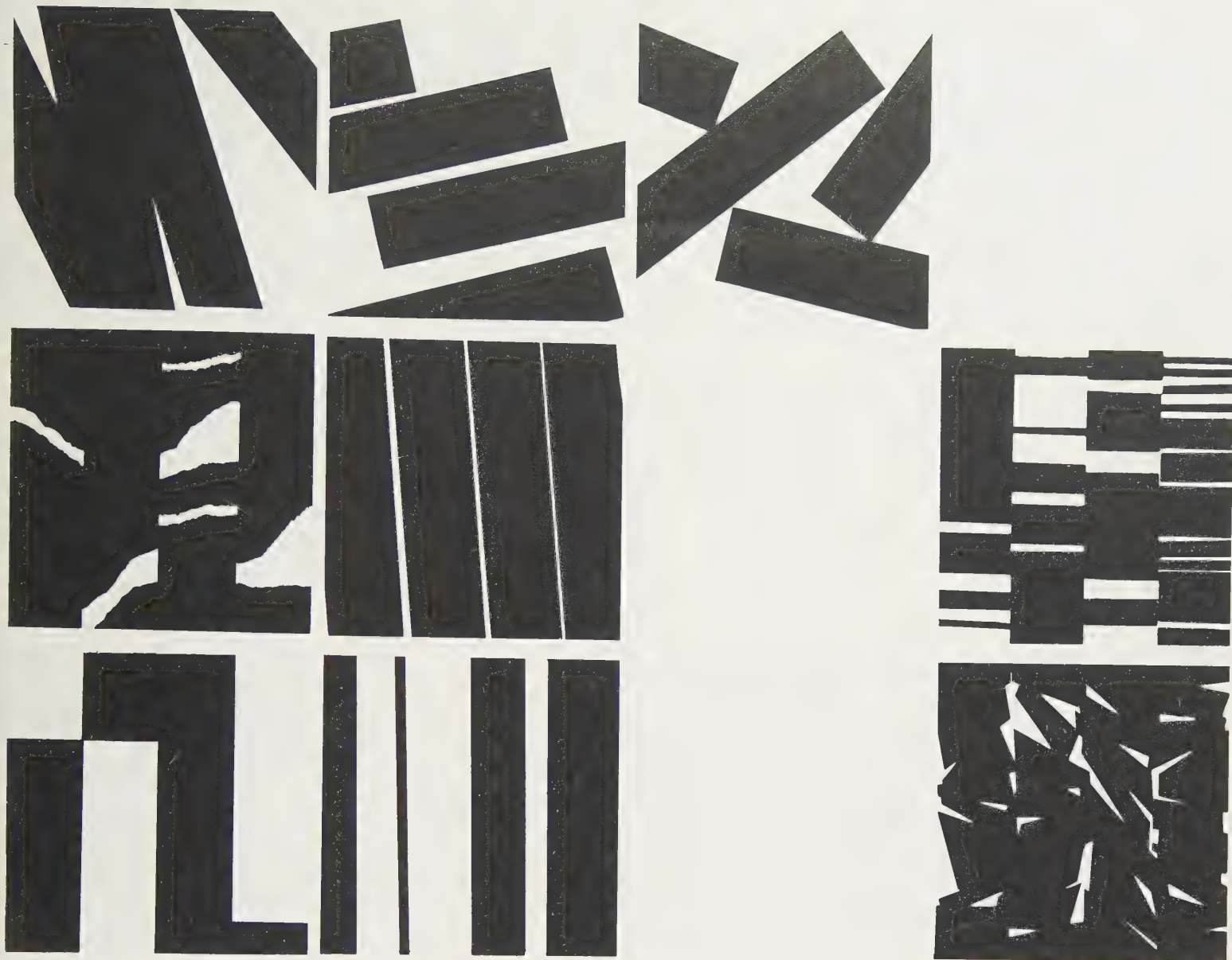
Here and on the following page, below, the examples show attempted solutions that are unsuitable to the defined limitations and functions. Symbollike forms, angles, triangles, curved lines on a black background, pictorial formations, and figures are produced by the four strips.



Corresponding to his abilities, each student creates as many different solutions as possible (at least 15 to 20). Expected solutions designed through spontaneous experiments form the foundation for a general definition of criteria and for differentiation within the functional limitations: false or unclear solutions are fundamental in understanding the different processes and lead to unequivocal solutions. In each solution the formal character of the manipulation should be uniform; combinations are justified only if they serve the intended function. Variations on a single solution do not count as different solutions. Three-dimensional designs or changes merely of surface structure are eliminated with reference to the subjects "Dimensional Design" and "Material Study". After comparing his designs and determining which are clear solutions, the student selects one example as a theme (form model) for the second phase of the exercise.

The examples on the right show several solutions by the same student. A few different possibilities of oblique positions and crossings are produced by shifting the strips. The second example in the top row is done by shifting, tearing, and folding. The first and third examples in the third row show simple diagonal and horizontal cutting; in the third example in the second row parts of the strips are removed by tearing. The fourth example in the third row is a borderline case: the thickness of the strip is changed, but the interval of its width is preserved. With the exception of the borderline case, each of these examples could be selected as a form model for the second phase of the exercise. The two examples on the far right were chosen. They are formed by removing parallel cut elements and shifting diagonally cut elements. Selecting two different processes has a complicated effect on the sequel.





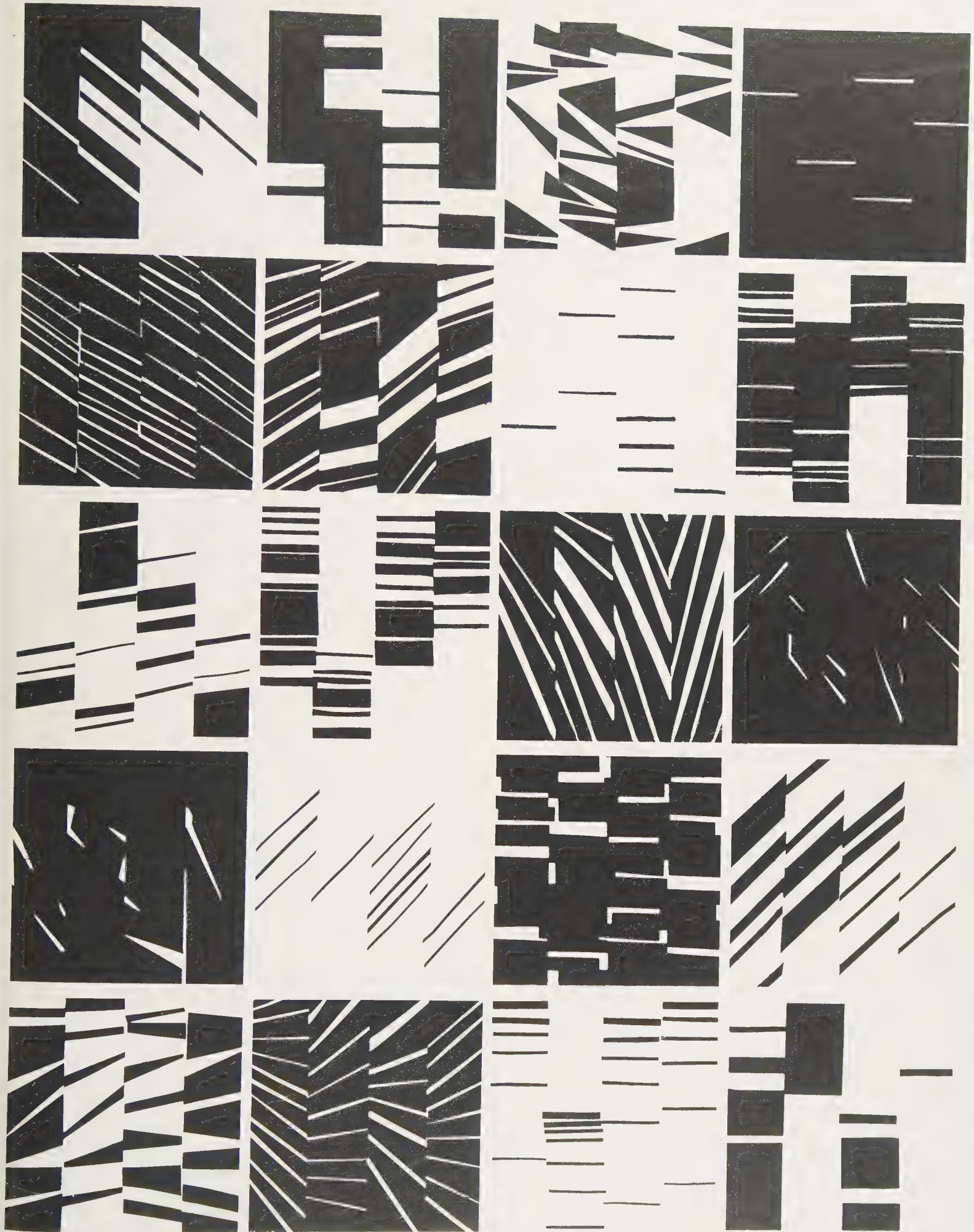
The photographs show the working environment.



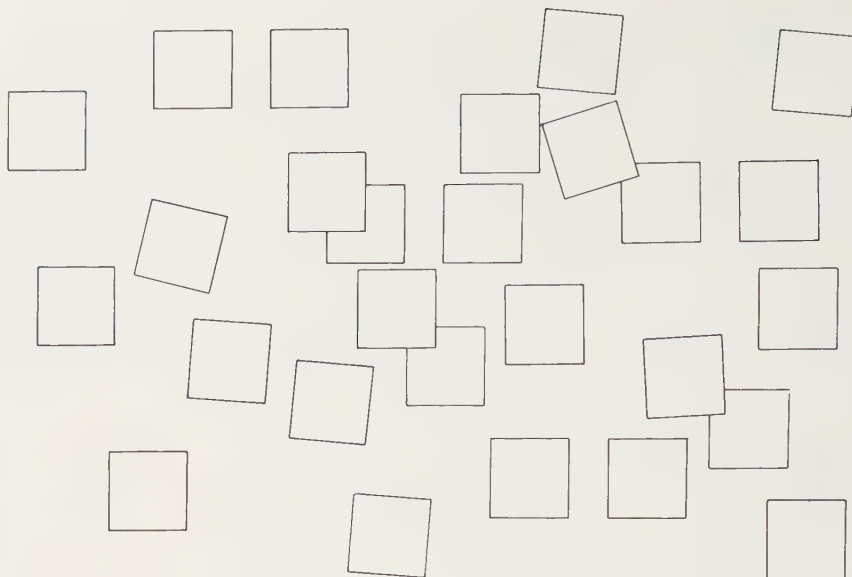
The range of variations discovered in the first phase are developed in the second phase: the determined formal character remains clearly visible. The student attempts to derive as many different variations as possible (at least 30). The range of variations is expanded through comparing the work, each individual result may contain a new dimension for exploration. Mere visual adaptation or compliance with a purely intellectual system would be unsuccessful, as it would cover only unlimited self-contained possibilities of differentiation.

The examples on the right show the variations on the chosen theme depicted previously. Extreme situations are produced that are legible only in a relationship. In the first phase these are defined as unclear solutions: the fifth example in the second row can be read only as line intervals. In the second example on the third row progression seems to be the creative intention.

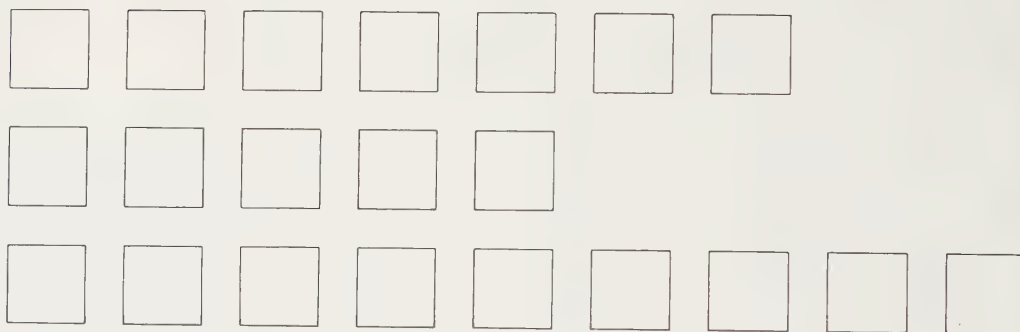




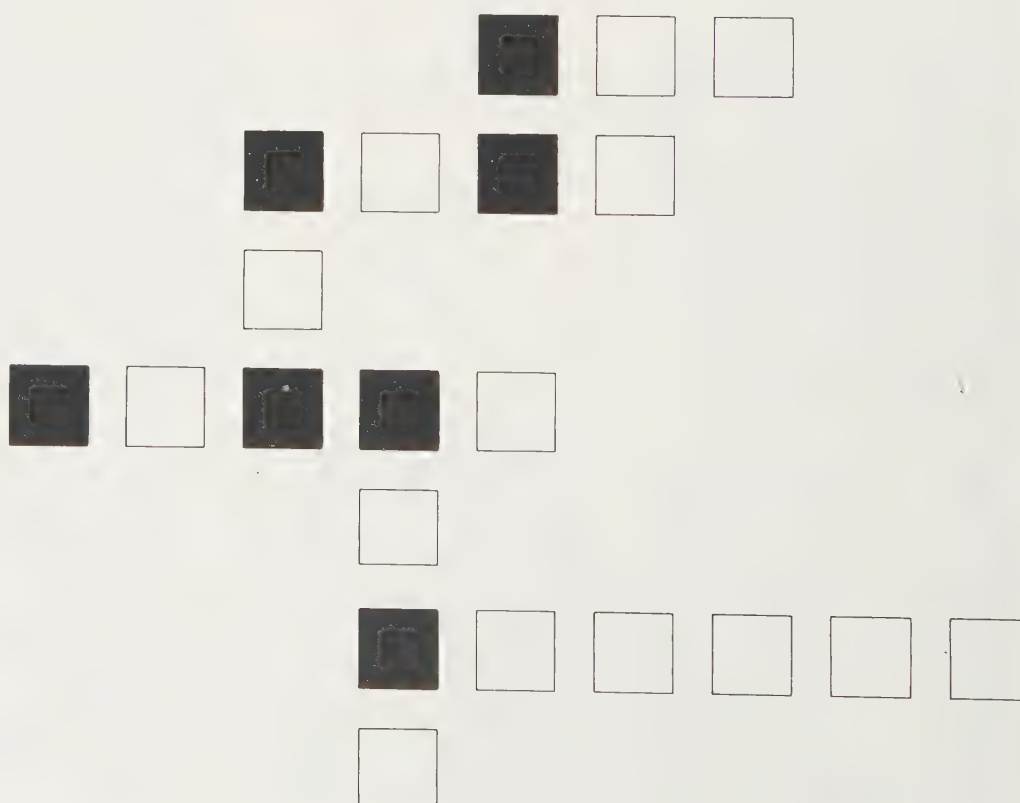
The third phase of the exercise consists in recognizing, defining, and ordering relationships among the individual variations with each other. The available pieces should be examined as equally important: subjective evaluations such as like or dislike are avoided. The examples developed freely, not systematically, resulting in overlapping and in interval differences (scheme 1). The student tries to analyze these differences as open distances or blank spaces and to indicate the missing pieces still to be supplied.



In laying out and comparing the pieces graphically different characteristics and relationships are defined in terms of criteria such as light-dark, static-dynamic, simple-complex, one-several, and few-many. The pieces that fall under a single criterion are arranged in linear sequences (scheme 2), which enables the student to understand the determining factors in his pieces, a prerequisite for further investigation. The groups, arranged according to suitable criteria, should be integrated into a readable horizontal-vertical structure (scheme 4). All criteria are considered equivalent.

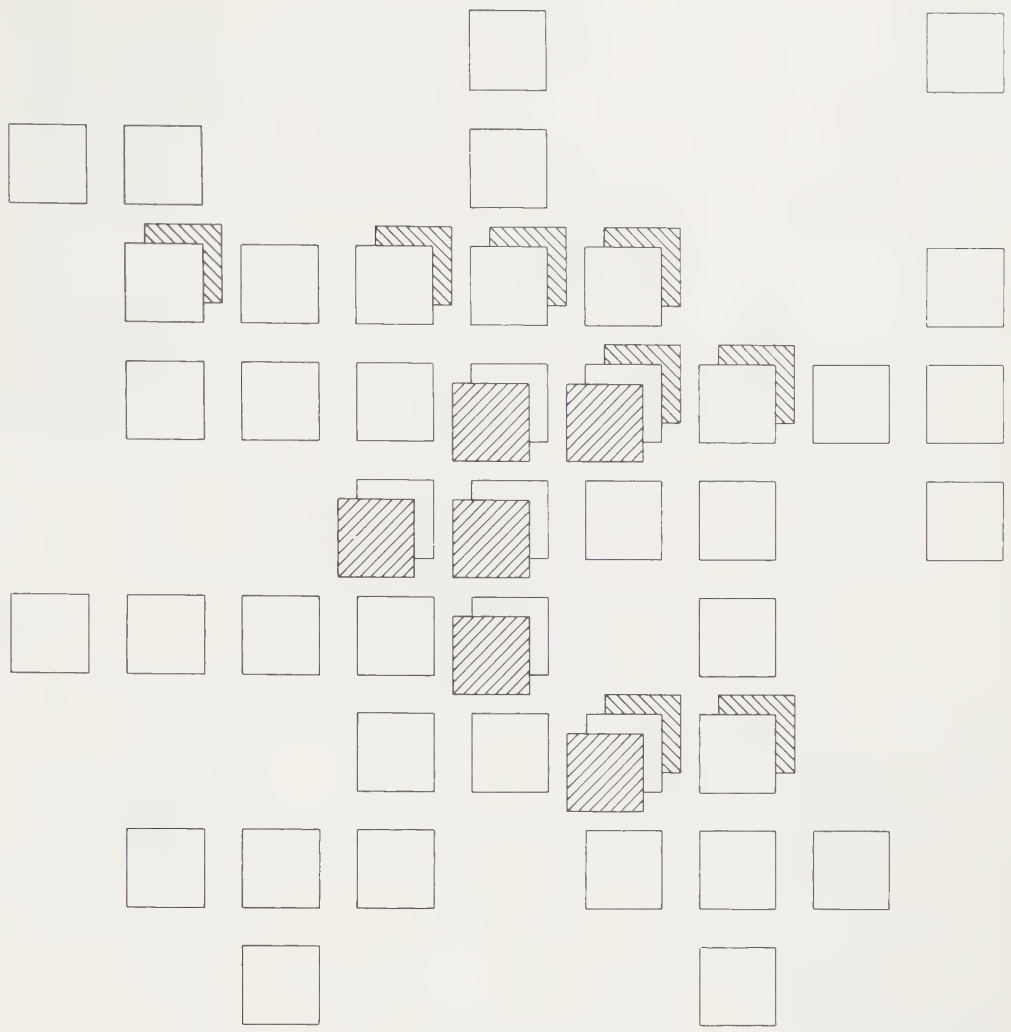


A chance arrangement of the pieces in a linear, branching structure would be a contradiction. The initial element determines the possible branchings in the sequel, which hold key positions in relation to the other pieces (the indicated black pieces, in scheme 3). The branching structure can be changed by selecting a different starting point: the relationships between part and part and part and whole are unequal in a given system and determined by the system chosen. The defined criteria are distributed only in the individual relationships between different linear branchings over the entire structure: dark pieces can stand next to light ones or in different places. The intervals from piece to piece and from branch to branch result from chance. The blank spaces are not related to all the pieces.



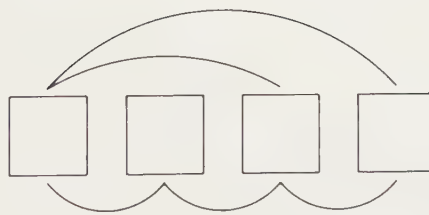
The defined criteria relate primarily to parallel horizontal or vertical relationships. Interrelating and overlapping combinations—for example, light-dark, one-several, few-many, or simple-complex, static-dynamic—must be coordinated. In many time-consuming trials the clearest organization of the relationships is created by comparing and moving the laid-out pieces. The first attempts are usually very undifferentiated, a frustrating situation for all participants similar to that of scheme 3. Possible connections and fine distinctions are eventually consciously perceived, and deficiencies in quality discovered. Each trial organization suggests further differentiations and is retained in sketch form for comparison. The dimensions of the organization are determined through the smallest interval, the difference between two pieces (at least in theory), and are open in every direction. Each individual piece intersects horizontally and vertically with the other pieces. The resulting open spaces between the intervals are also involved in this relationship and can be completed. Unclear or insufficient definition in the first phase of the exercise (derived from the limited number of original solution possibilities) results in variations that cannot be dimensionally related to all the components. This requires exploration on additional dimensionally relating planes (as the toned pieces in scheme 4).

The hypothesis is that all the pieces of the organizations can be assembled into an open, related, three-dimensional structure. Moreover, all the pieces have the same starting point and are subject to the same criteria.

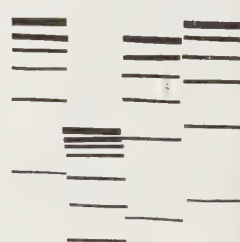
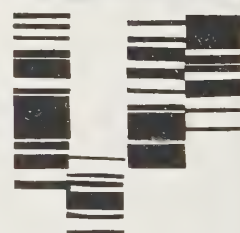
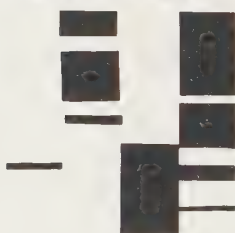
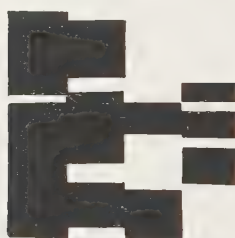
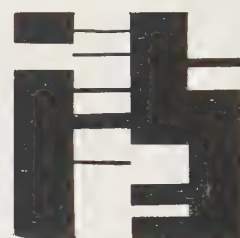


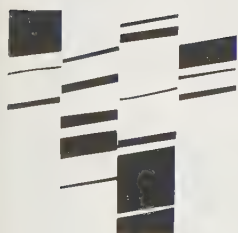
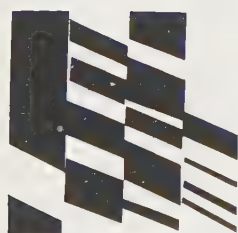
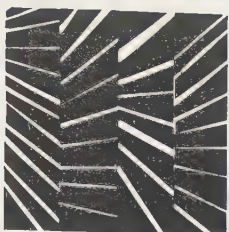
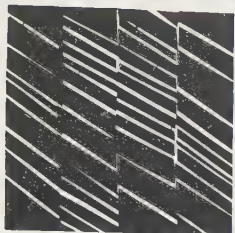
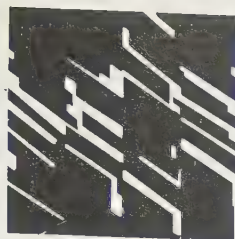
One horizontal or vertical row is selected from the organization, and completed in the total relationship. In the preceding stages purely formal, aesthetic, and rhythmical aspects are secondary: thus at this point the rows are relatively coarse and imperfect.

In the fourth phase of the exercise the intervals and relationships between the pieces are differentiated from one another, as are the details within the pieces and the pieces themselves, from a logical and qualitative point of view. Three pieces comprise the smallest unit for which interval size and detail relationships can be determined (scheme 5): for example, piece 1 is to piece 2 as piece 2 is to piece 3 and to the totality. The resulting number of pieces and the actual criterion are retained. Imperfections may not be reduced adding pieces (quantity): quality must be achieved by relating the existing pieces to each other and to the whole. Allowed changes are made one at a time for a complete row and compared with the original row. In this context many rows with different characteristics can be produced.

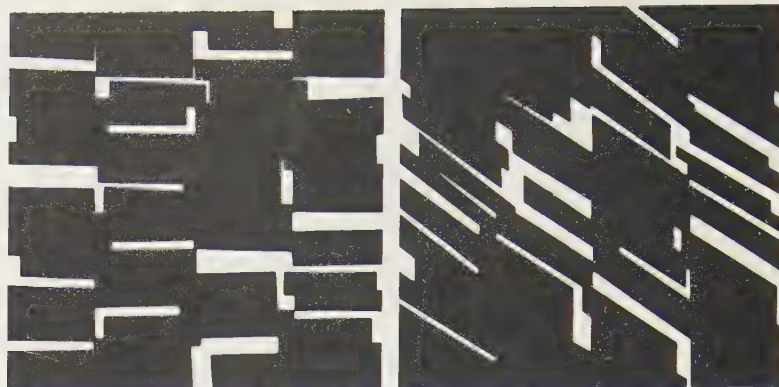


This illustration shows the organization and its variations for the example discussed previously. The pieces are coordinated with each other in terms of these criteria: from top to bottom, dark-light; from left to right, static-dynamic, few-many, simple-complex, and flat-oblique. There are imperfections in some of the relationships: for example, the contrast one-many proceeds in a vertical as well as a horizontal direction. Likewise, the differentiation of the light-dark and the flat-oblique relationships could be more clear. Since two essentially different criteria were selected as the theme for variation, some pieces cannot be included directly in the organization (those in the uppermost row and the four pieces separated below on the left). The design process is different for both examples: above, cuts in a different direction and shifts of formal elements; left, unparallel cuts in different directions and partial removal of formal elements. These pieces should be coordinated in their respective contextual relationships with the organization of the pieces on other levels. The first piece to the left, which is within the organization, is used as a coordination guide. The above row would partially overlap the dark elements; it is selected for further differentiation.

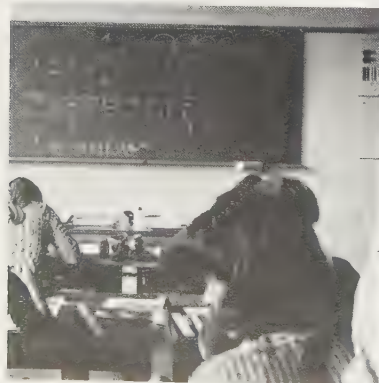
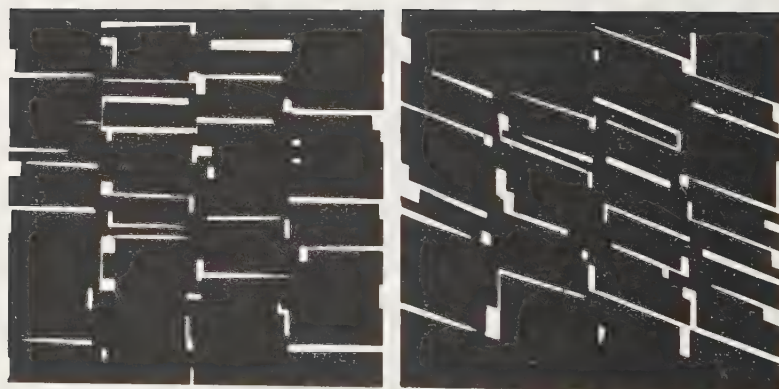


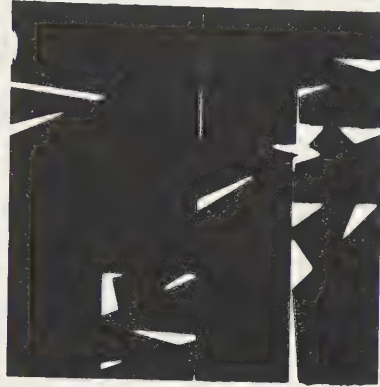
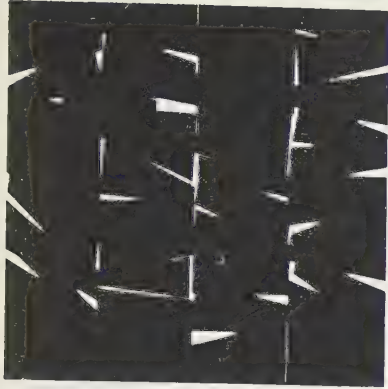


The fourth phase of the exercise is documented with the selected row of the previous example. The sequence of the pieces in the organization is represented above. The pieces are unequal in darkness and irregular in number, formal progression, and angle. The student tried to adjust deficiencies of quality and interval purely through spontaneous intuition: the realized row is represented below. The pieces are approximately equal in darkness; the angle changes and the formal progressions are relatively uniform. The number of elements in the individual strips is unequal and does not relate progressively. The sixth piece in the row apparently could not be resolved.



The photographs show the teacher's blackboard explanation of how to organize the relationship structure and the students comparing working methods.

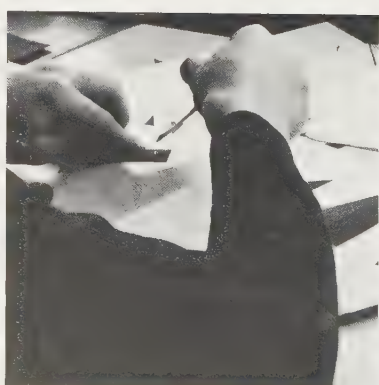
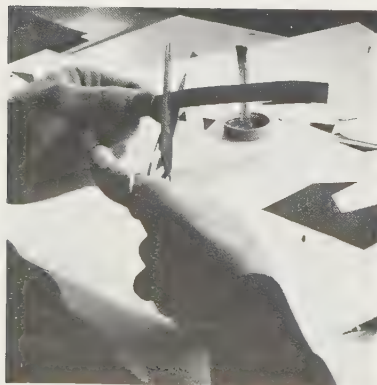


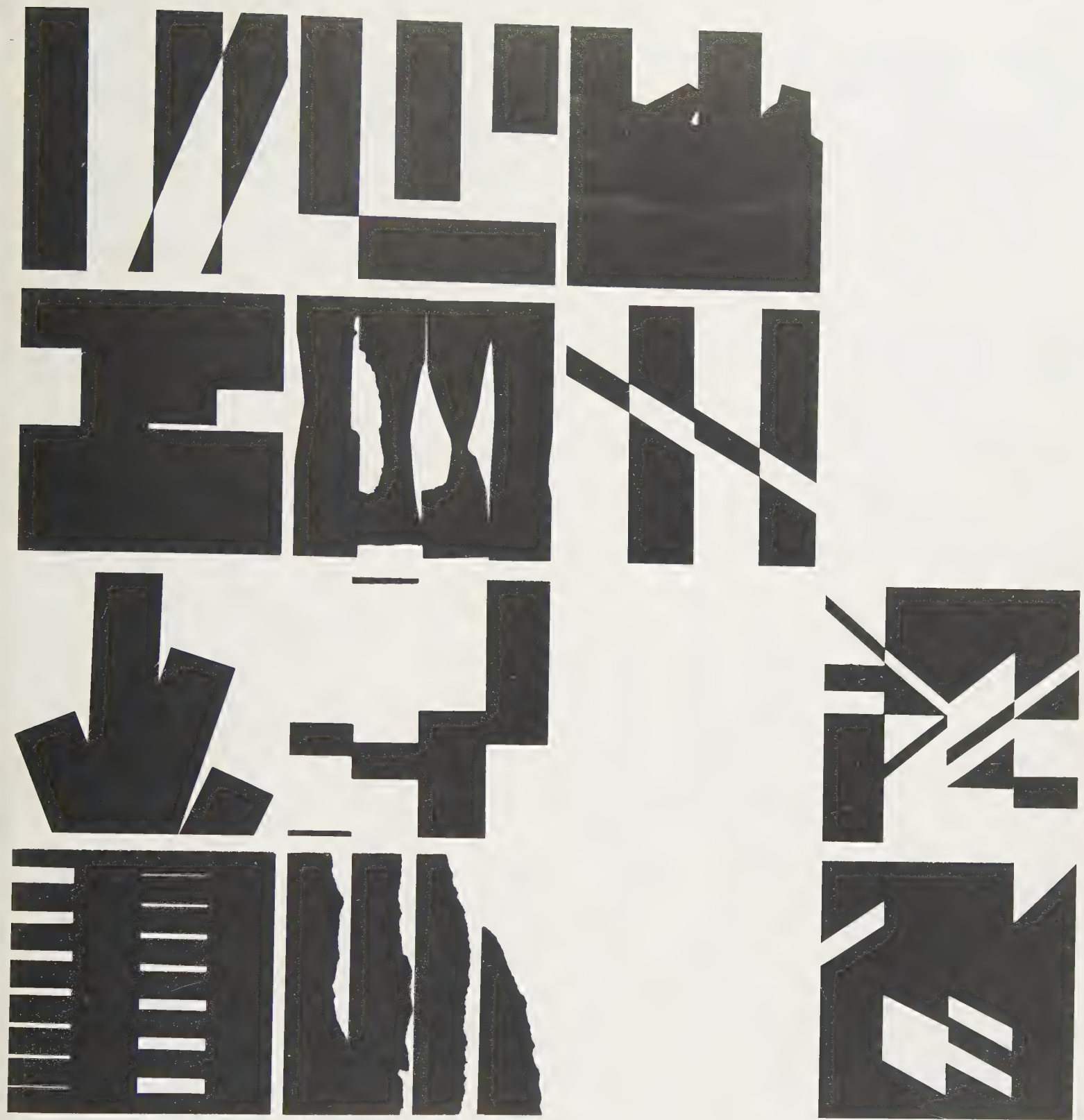


The following solution possibilities, developed by another student, exhibit a different method than that of the student discussed earlier. For example, different combinations of tearing, folding, and flipping are found. The first, third, and fourth examples in the above row do not exhibit a clear concept and are essentially compositions of different opposing strip elements. In both examples on the far right the formal model chosen for variations is the oblique cutting and removal of the resulting elements.

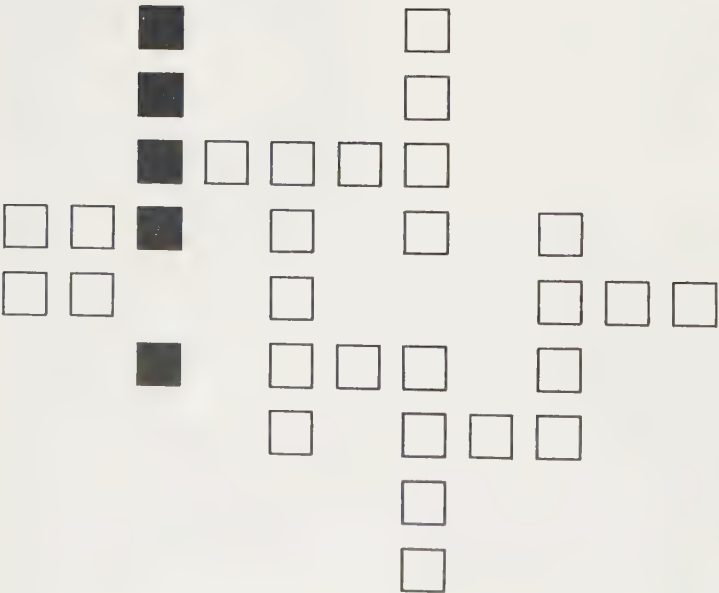


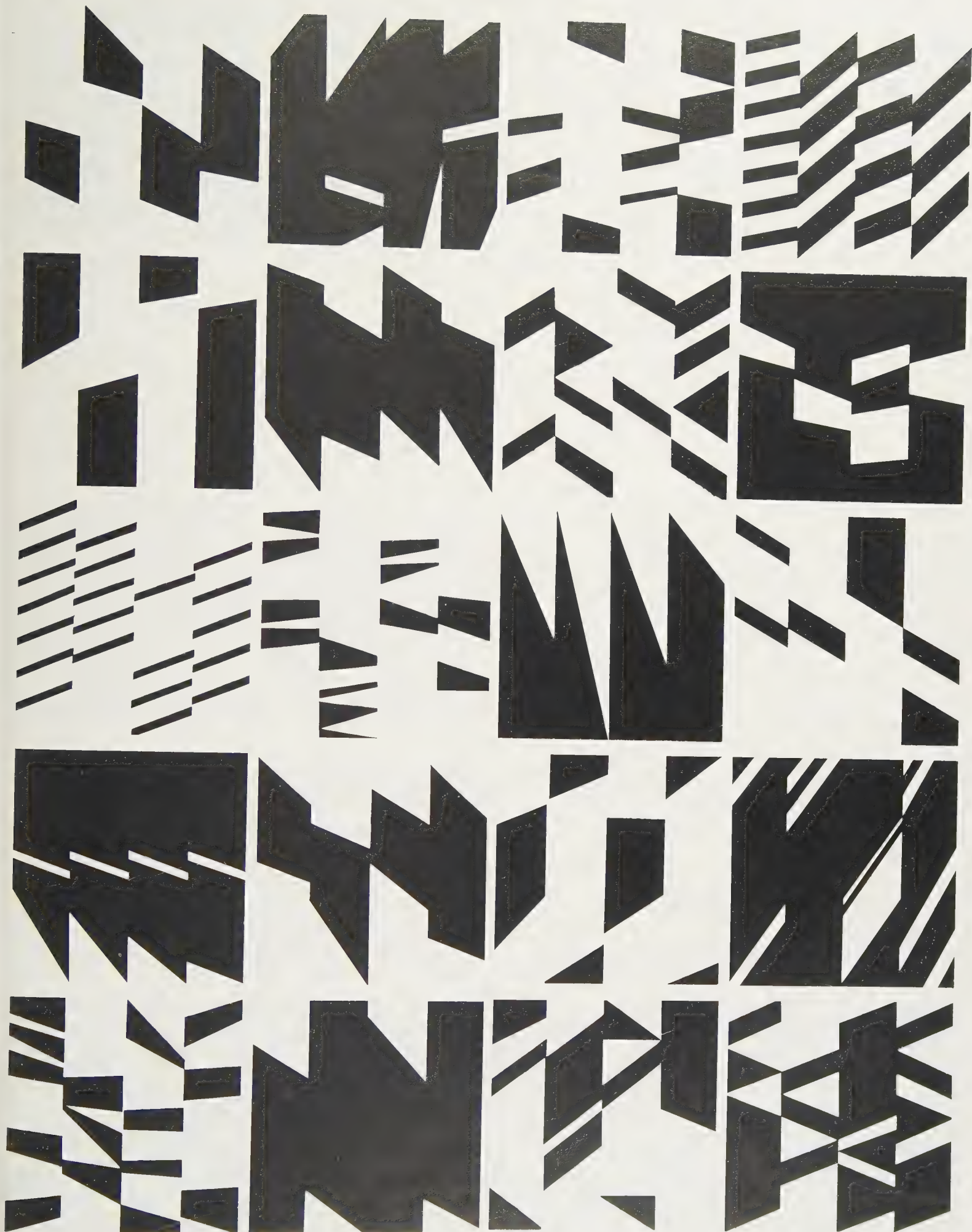
In these three photographs the working technique is obvious, as is the student's neatness of execution.



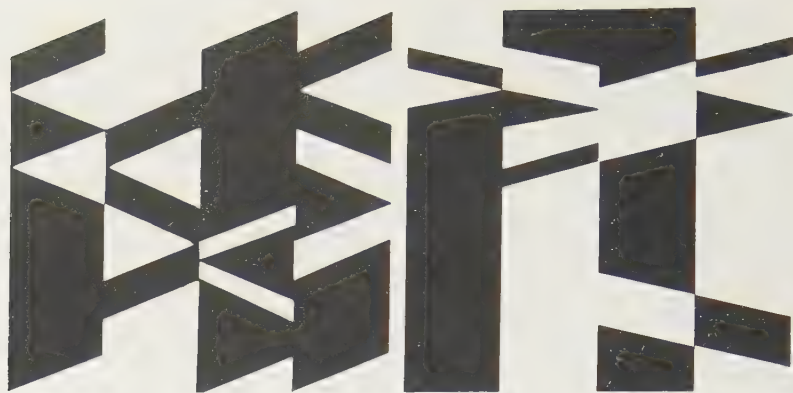


These variations contain elements that do not correspond to the exact definition of the theme: for example, the fifth example in the third row utilizes simple diagonal cuts, while all the variations as the first example in the second row utilize double oblique cuts. Both methods are possible but incompatible solutions to a larger differentiation of the first phase of the exercise. The scheme below shows the organization of these pieces and the position of the row selected for completion.

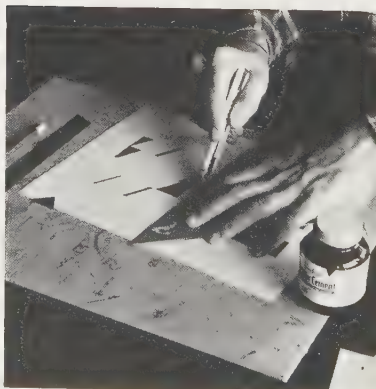
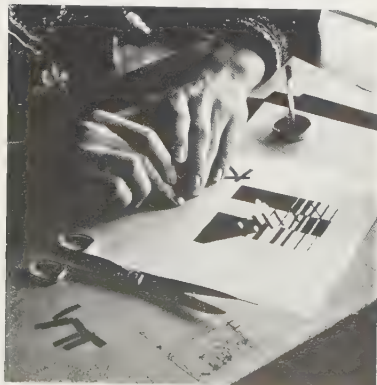


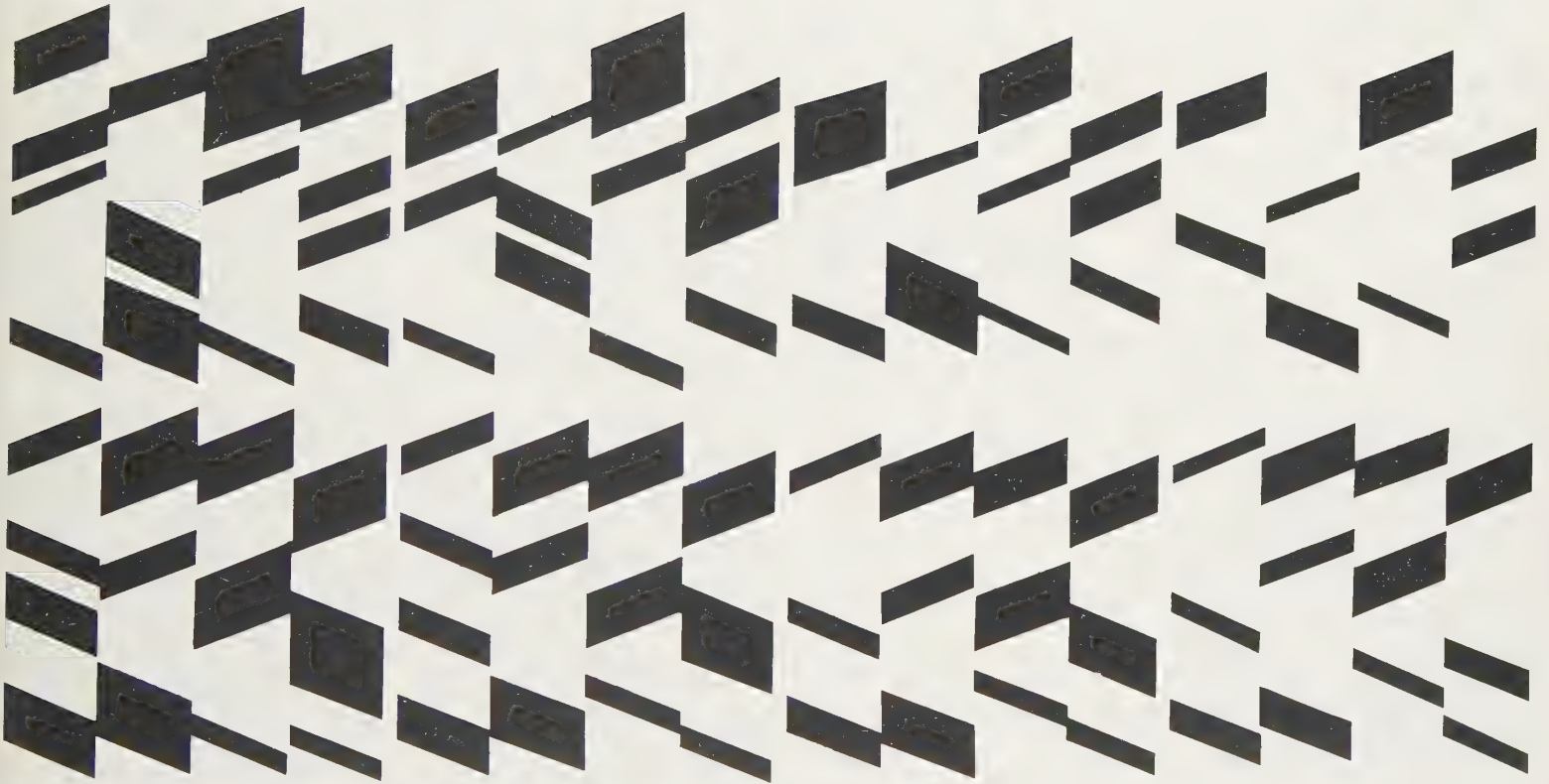


In the row shown above the interval of the light-dark progression of the parts is approximately balanced in the totality. The light-dark relationship and the number and type of single formal elements are not contextually related to one another. In this respect the middle row appears optically balanced, but the details in the individual pieces do not progress continuously. In the row below each formal element of each individual stripe in each piece is related clearly, resulting in a minimal change in the light-dark relationship between the parts of the row as a whole. The differentiation process for the fourth phase is clearer than that produced by the first student.



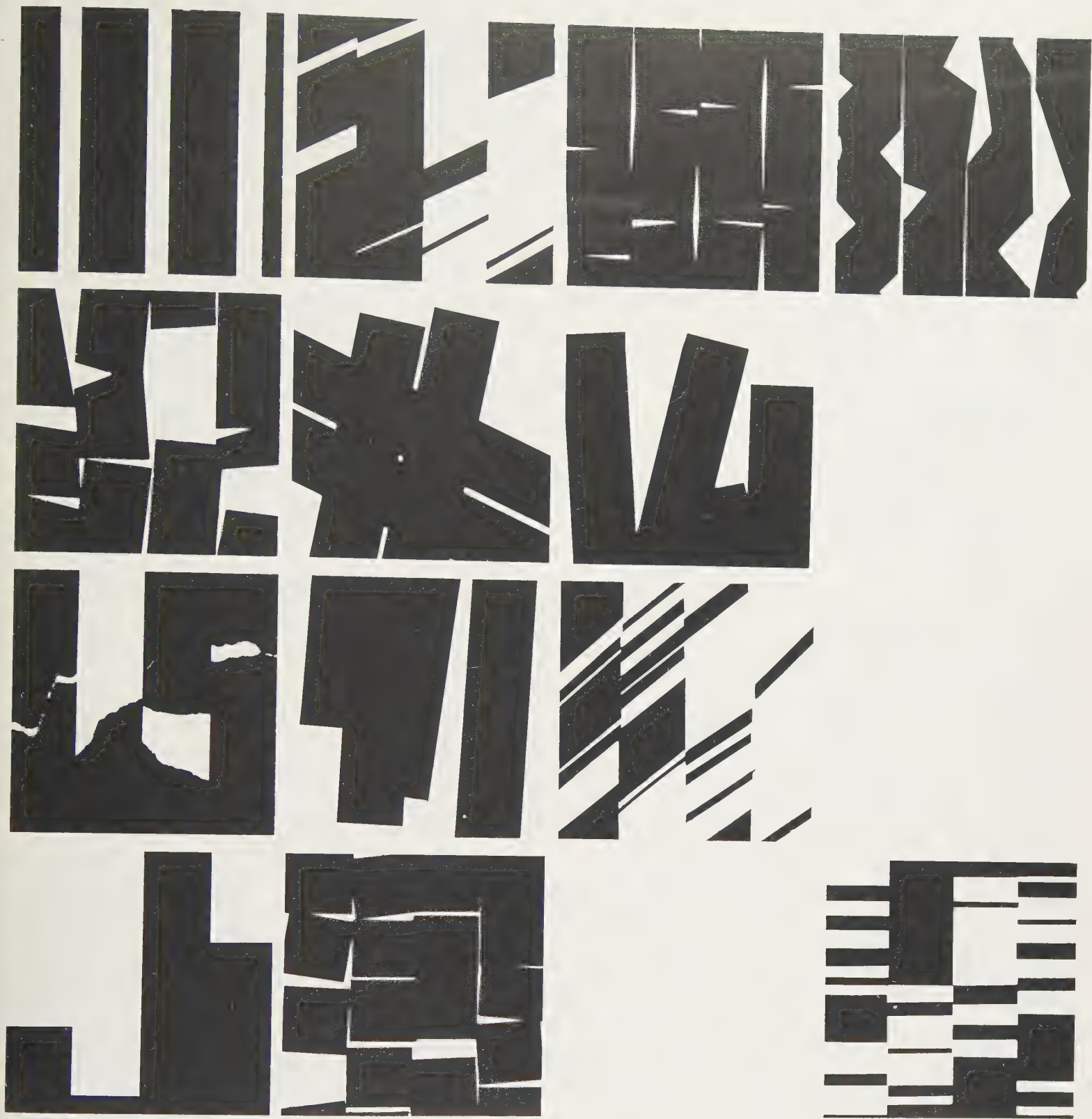
The photographs show different working areas and comparable methods of differentiating parts of rows.



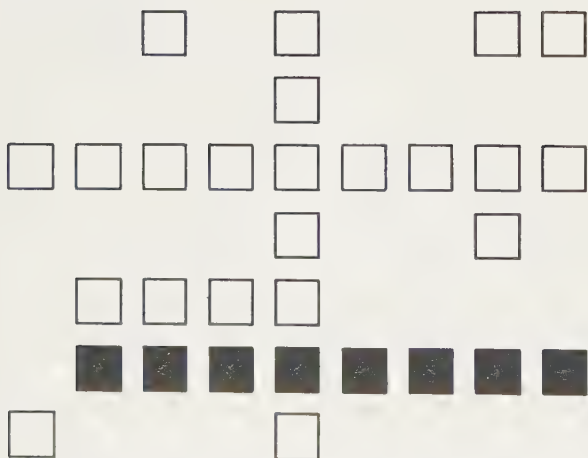


These examples show the possible solutions produced by a third student for the first phase of the exercise. The cut triangles in the sixth example in the above row and in the first in the second row are produced by folding. The creative concept of the fourth and fifth examples in the above row is varied a few times. The theme for variation, represented below right, is unequivocal. The removal of many horizontally cut parts produces the formal element.

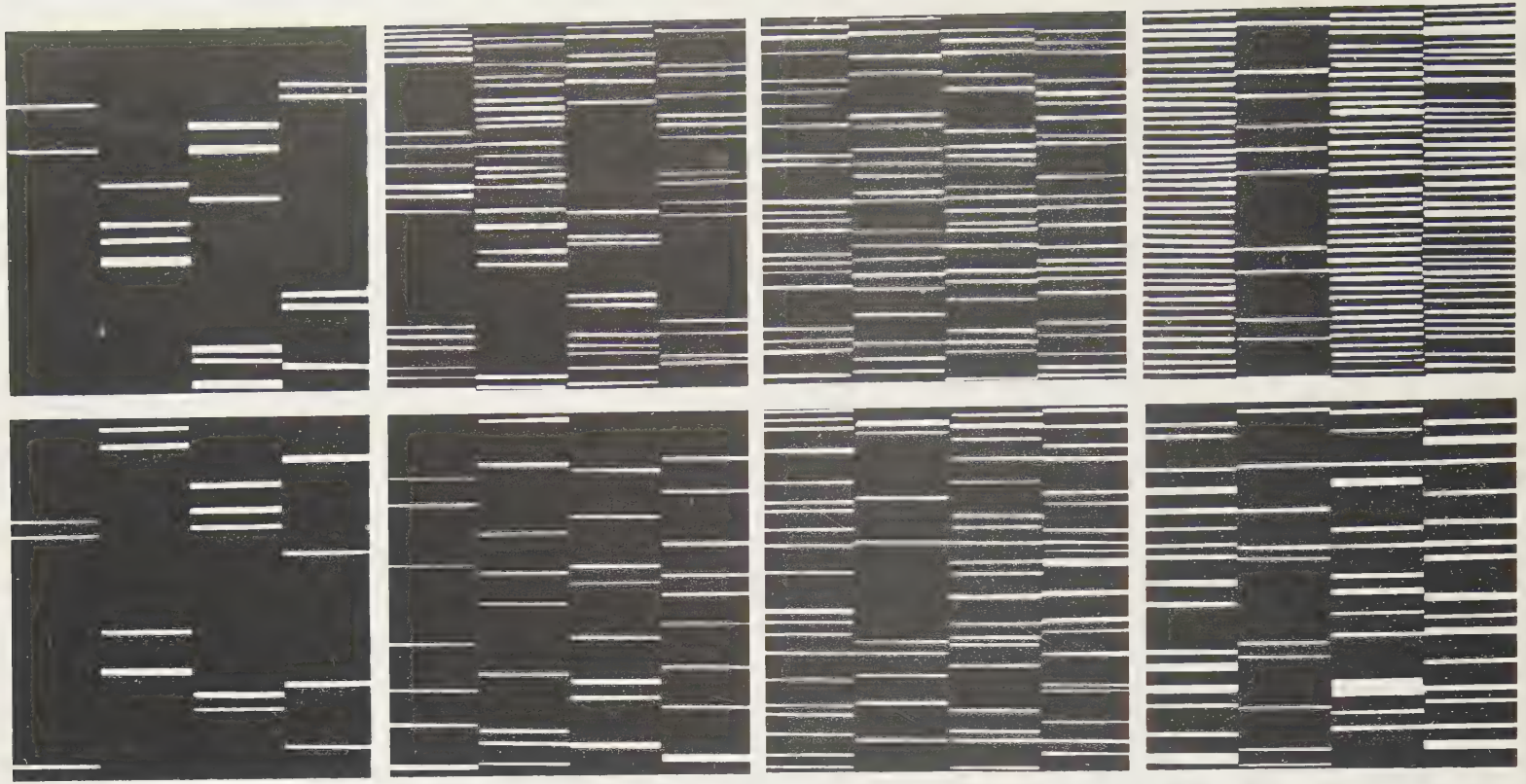




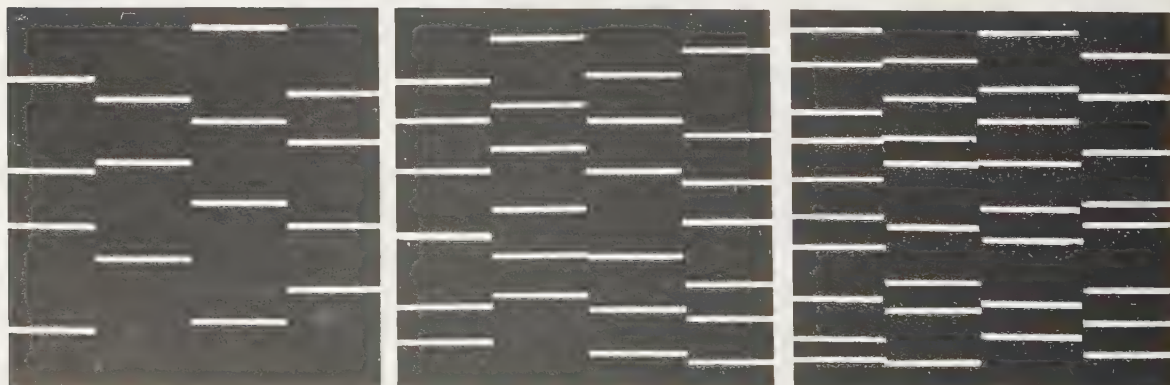
As with the second student's variations for the second phase of the exercise, some pieces of the third student's do not correspond to the selected theme: all pieces with shifted, obliquely placed formal elements are variations of another possible solution. All the examples are subtly varied rhythmically: below is shown the corresponding scheme and the position of the selected row for the fourth phase of the exercise.







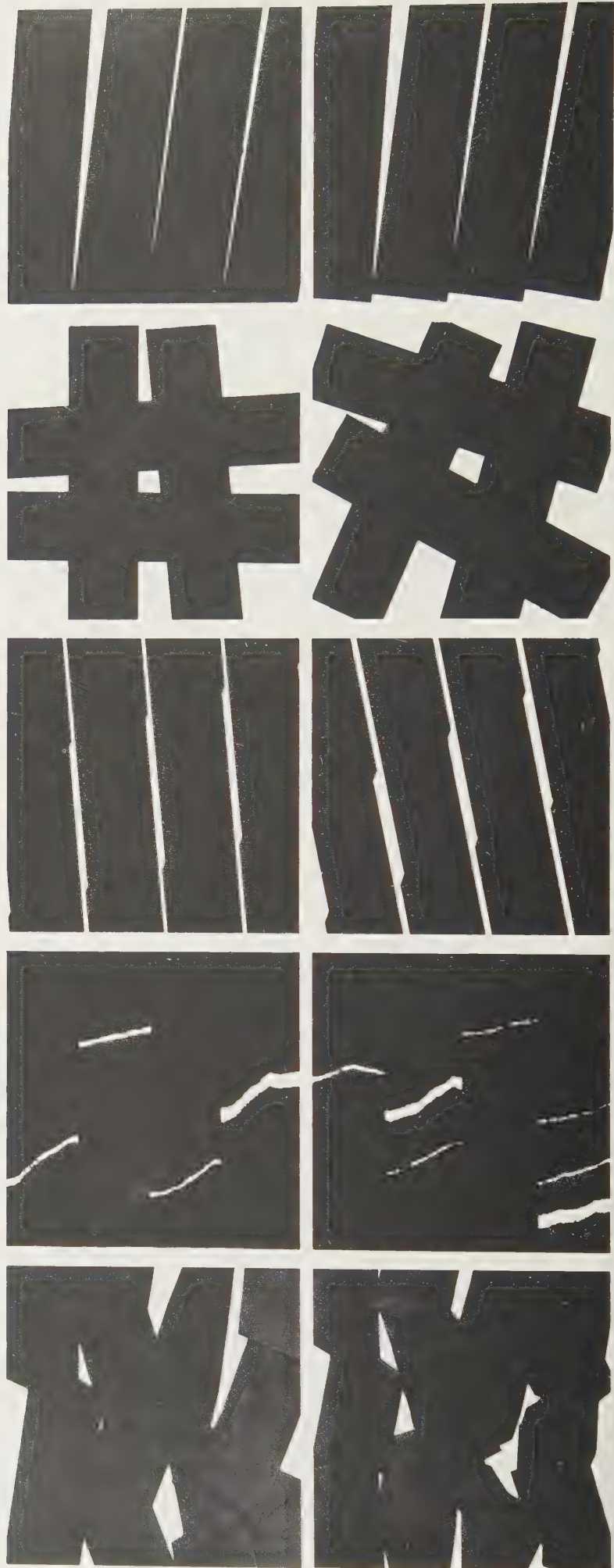
The third student's selected row for the fourth phase of the exercise is represented again above. In comparison to the initial rows selected by the other two students, it exhibits complex contrasting, rhythmical relationships within each piece, from piece to piece, and between the piece and the whole. An analysis of these complex relationships forms the starting point for a differentiation process with many possible rows. These rows relate to one another and to the original row as the model and are represented in their derived sequence. In the second row the contrast effect in the second strip is intensified by the increasing rhythmically neutral formation of the remaining strips. In the third row the contrast of the growing rhythmically equal formation is reduced by increasing the number and density of the formal element. In the fourth row the formal elements are assimilated into the rhythmically equal formation in approximately the same degree of lightness. In the fifth row the light-dark relationships are graduated throughout the formation with the same formal elements.

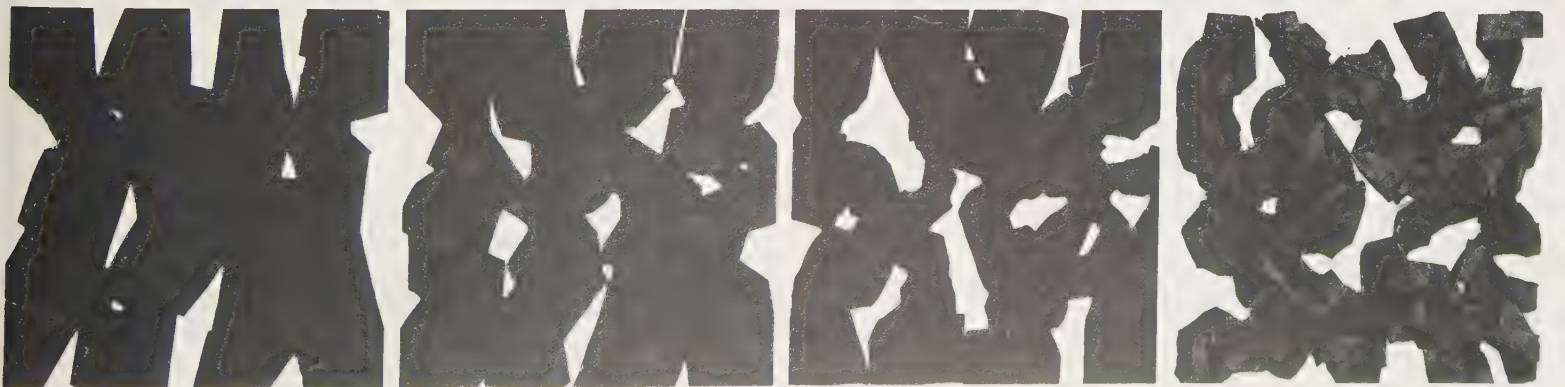
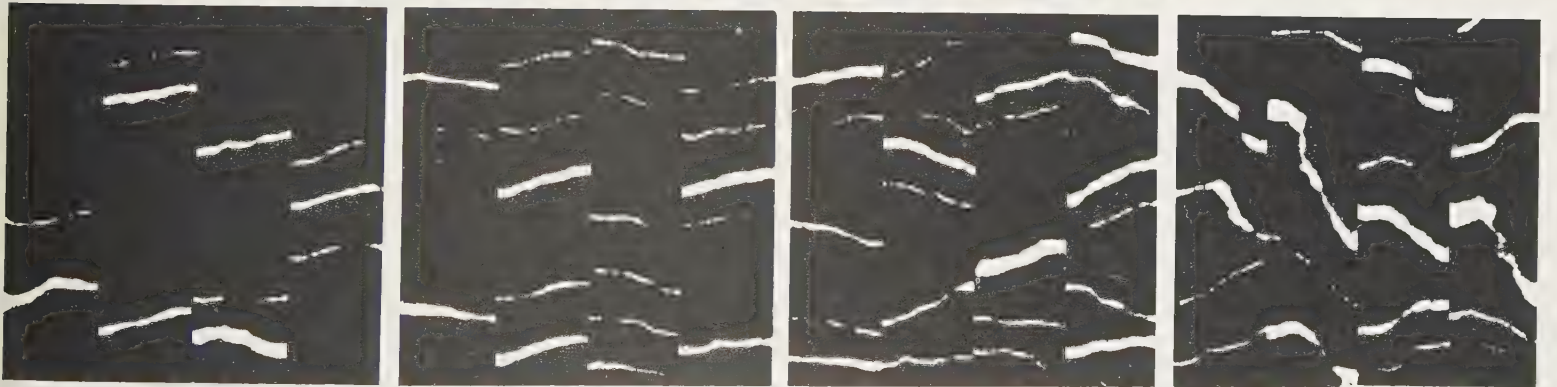
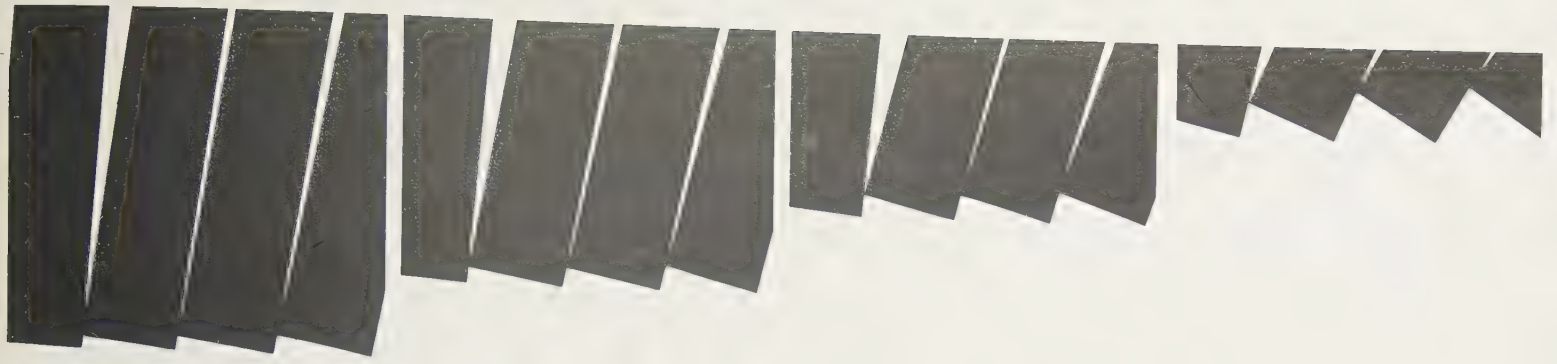


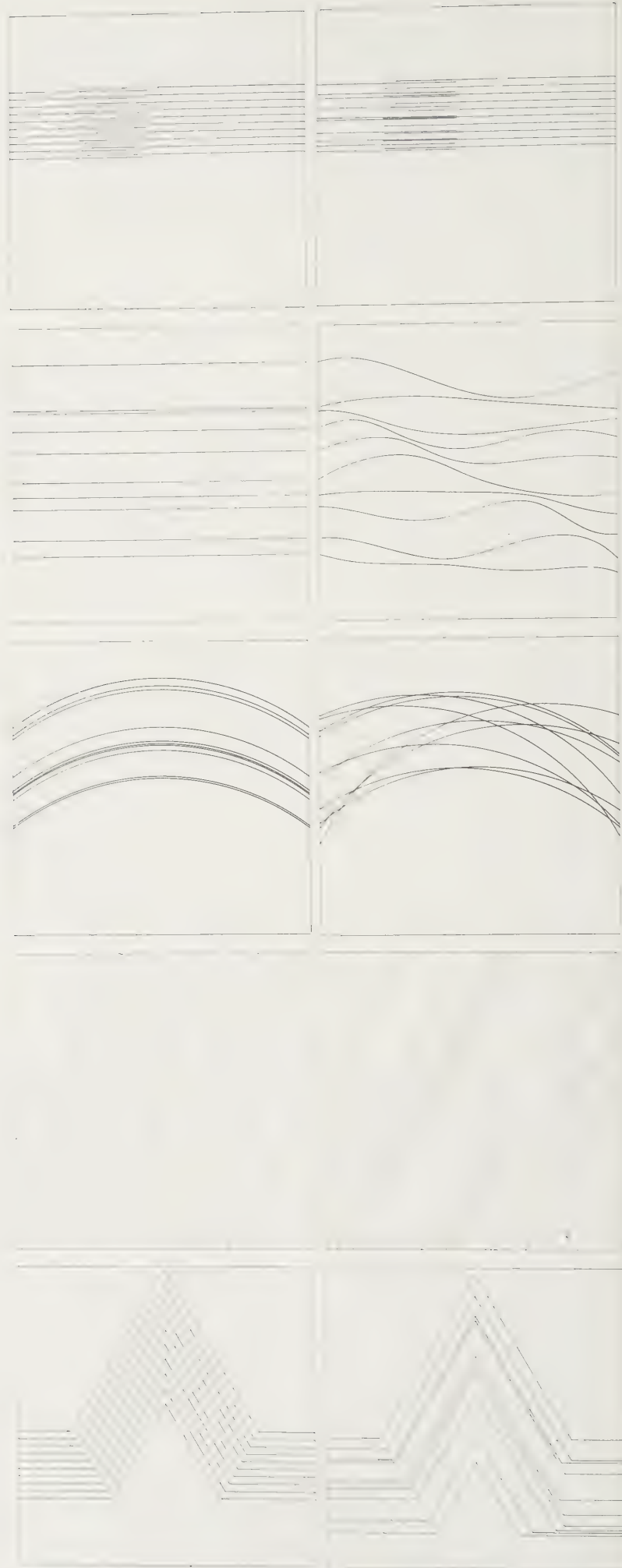


The examples and methods of the three students for the differentiation process of the fourth phase vary corresponding to their individual abilities. The rows on the right, developed through formally different processes, suggest the latitude of graphic forms that can be generated through differentiation of the exercise model. The different intensities and complexities of relationship (both of intervals among details and of the pieces as a whole) exhibited in these rows are determined by the actual creative concept, the definition of criteria, and their relationship in the organization. The consequent dependence of creative decisions in context to these factors becomes clear to the student through such examples. The unworked areas can be comprehended through analogous references.

The constant differentiation process exhibited in questioning and comparing examples, defining criteria of the manual-visual working process, recognizing relationships, and coordinating and referring to all factors within comprehensive, elementary prerequisites sensitizes the creative imagination, awareness of complex visual-conceptual design processes of communication, for fundamental thinking and planning in large relationships.





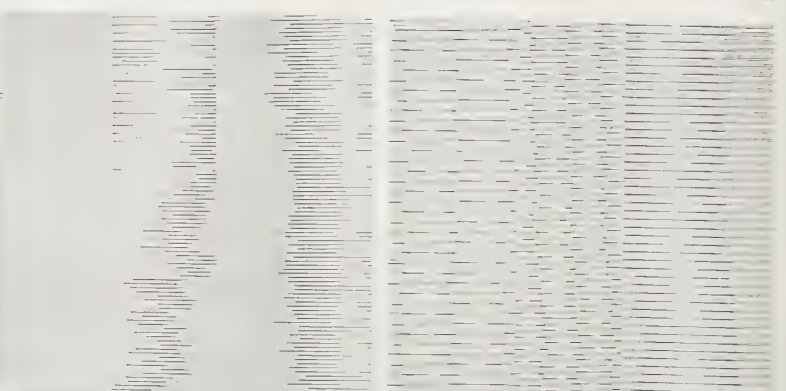
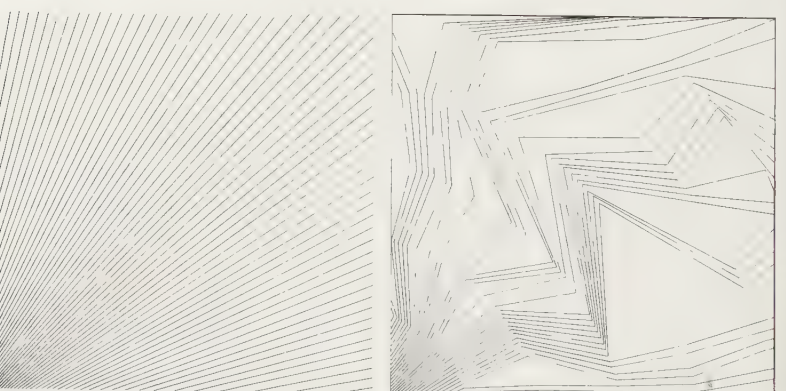
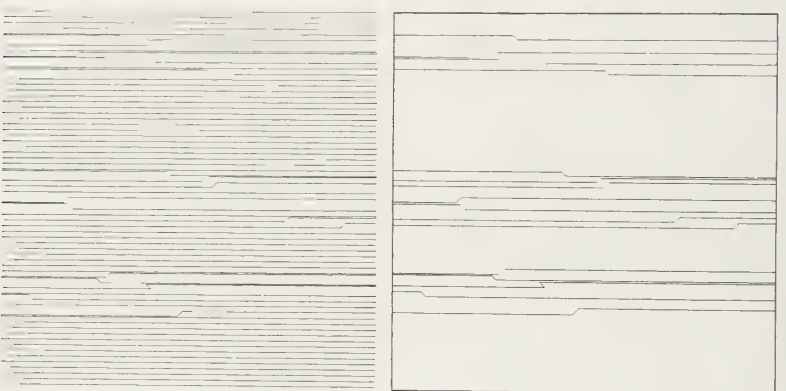
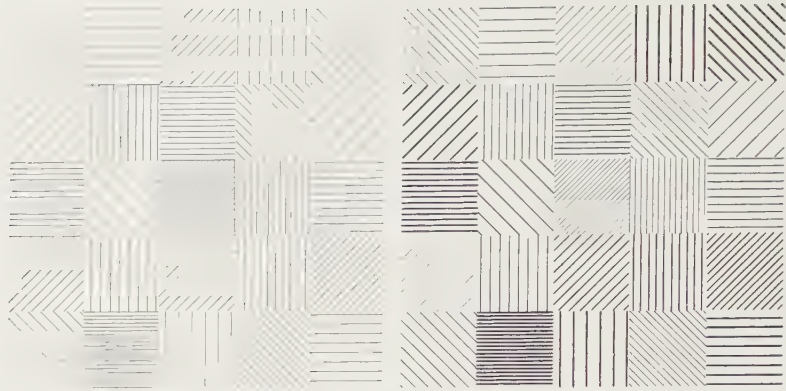


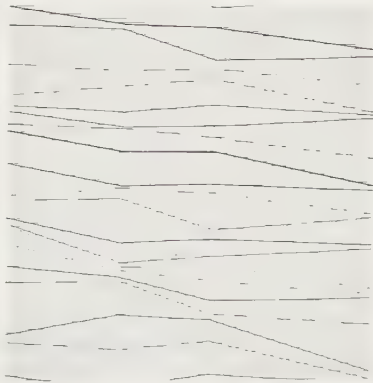
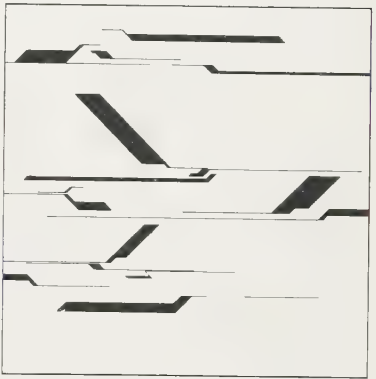
The experience and knowledge gained from the preceding model exercise is applied to the following exercise in a different medium and technique. The starting point is a square format and ten lines of the same thickness separated by predetermined regular intervals. At first the group of lines is composed horizontally to form a gray value inside the format. Beginning with this situation, rows of five or more pieces are developed in a continuous progression of creative and formal relationships. The design and differentiation processes, previously structured in single phases, now proceed in a parallel fashion: that is, in mutually simultaneous relationships. Designing with ruling pen, ink, T-square, and angles requires technical skill, discipline, and concentration in order to achieve a clear, neat representation. Any creative or manual insecurity has an immediate effect in the representation: one a line is drawn on the paper, it cannot be shifted. A change or correction can be made only by repeating the work.

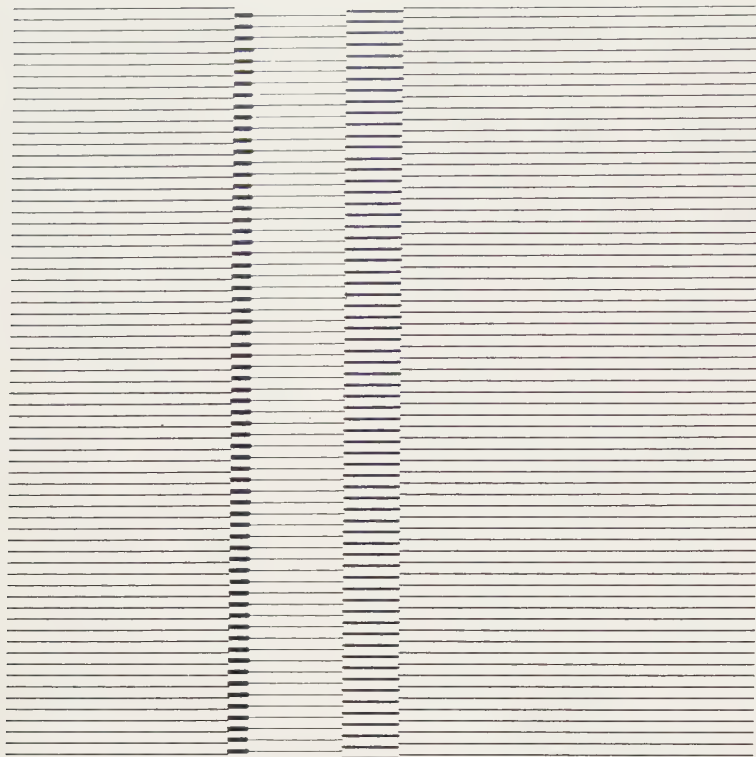
The rows on the right show many-leveled designs and working processes of five students. The group of lines organized in the square, above, is the beginning point for the second row.



Further differentiation of experiences and knowledge results from applying the preceding design techniques and media to different conditions. In the following rows the results of alternative exercises by different students, suggest the abundant range of possibilities. The examples on the last page suggest graphic translations of these creative processes into other media: typography, dimensionality, and materials.







...re Buch über eine der tiefsten, oer Entw
n Religionsströmungen der antiken W
Interesse eines begrenzten Leserkreises re
e über die bisherigen Darstellungen des
: weiter. In seiner jetzigen, auch im Ab
it es an Aktualität noch gewonnen. Sei
des Urchristentums und der prophetisch
atenreligion näherstanden, als es ihr trag
lichen Jahrhundert vermuten läßt, verdr
Neubelebung von heute ernsthafte Best
Mithras-Claubens Erkenntnisse der Geg
sterien heranzieht, rührt sie wirklich an
ählt eine zum Teil überraschend neue
in umfassenden Studien, die wiederum
gleitet sind, weiß der Autor Veranlagun
reichen Entwicklung, besonders in de
Er weist damit überzeugend nach, daß hi
lie späterhin bis in die Gestaltung kult
sich fruchtbar erwies für das Kommende
zeugen es, daß eine apollinische Auffassu
nachwirkte . . . In einer Zusammenfassun
wie alle griechischen Götter in dem erw
durch Paulus dann in Athen verkündet w
der Weg gezeigt von einer autochthonen
die aus der vorchristlichen Sonnenreligio
treter hervorging und ihren Einfluß nah
Weg angebahnt, auf dem ein johanneisc
Ephesus ausgehend, im Mittelalter hinbi
von reichem, teils seltenem Bildmaterial
gen zu schildern, die in einer lang zur
ir Mysterienstätte von Eleusis, sich ergab
er die Stimmung einer Vorbereitung wall
ischer Verhältnisse hinein weiterwirkte .
. . . Die Bildnisse frühchristlicher Kunst
lung der Darstellung der Christusgestalt
ig seines Werkes weist der Autor darauf
arten, „Unbekannten Gott“ aufgingen
urde . . . In den letzten beiden Kapiteln
christlichen Kirche im Nordwesten Eur
i des Keltentums und seiner druidischen
m in West- und Mitteleuropa. Damit ist
es Christentum sich entfalten wird, das
ckte auf die Göttin Natura, die man st
Dieses vorzüglich ausgestattete Buch fülle
werk von Wilpert aus dem Jahre 1903 ist
Weise als frühere Generationen fühlte
Untergründen seines Seelenlebens bei d
hier geht es um mehr als um kunstges
so ist die Katakombenmalerei von jene
Menschen in seiner qualenden Unruhe
hiesem schlichten Farben, bei denen rötl
aus das Antlitz des frühen Christentum
n den Seelen der ersten Christen lebte.

...eistige, das Kapazität in seinem Leben und in seinem Werk aus
an, indem er Raphael einen sterblichen Gott nannte; auch Zuc
„neuen Engel auf Erden, als Mensch nur ein Engel“. Diesem V
Welt verehrten Meisters versucht Wilhelm Kelber in seiner
Das besondere Gewicht von Richters Buch liegt in den Hinwi
heilsche Kräfte und Zusammenhänge. Er will an dem gut g
geschichtliche — mehr noch übergeschichtliche Gegebenheiten
will zeigen, wie der Macht- und Gestaltungswille im großen wi
druck einer tiefen Betroffenheit war, aus der heraus Mensch
Erde — über Stammesgrenzen hinweg — einer höheren Welt ab
Erbauer dieser Kirchen hatten sich einmal mit einer weitgehend
ungefügten Umwelt auseinanderzusetzen — zum anderen mit d
Welt. Gerade durch diese erhält das spezifisch Abendländische
Welt war hochorganisiert, überfeinert in der Lebensart, techn
schaftlich weit überlegen. Bei dieser west-östlichen Begegnung
kaum etwas von den angewandten Wissenschaften, das Mitteli
nahmen anzufangen. Was es jedoch vom Islam übernahm, wurde
so der Spitzbogen, so die philosophischen Erkenntnisse. Wenn
chen Burgunds von Portal und Kapitell herab der persönliche
ceenen wir hier ungeteilt dem Unsrinen. denn der Islam ker
es sind zwar viele Bücher und Alben über Chartres erschienen, a
nicht, bis zum Ausgangspunkt der Chartres-Idee und der Schule
angreifen . . . Denn Chartres war ein Heiligtum, und heute n
allen Ländern her nach Chartres hin, wo der Ausgangspunkt der
Gotfried Richter läßt uns erleben, wie im Jahre 1194 die Fuß
und man sofort beschloß, die neue, heutige Kathedrale in neue
wurde der gotische Stil. Unser Verfasser geht nicht nur auf frü
erstandene Kirchen, d. h. bis 350, sondern er geht zu dem vor
rück, das in Chartres bestand und in der Schule von Char
Mysterienschule behielt. Mit Gotfried Richter erleben wir der
wir nicht kennen, auch nicht den Meister der prächtigen Statu
„chartres“, der auch den Engelpfeiler im Straßburger Münster sch
von Bildern, sondern an Hand der viel tieferen Betrachtung d
der Architektur wird der Leser durch den Raum, die Zeit und d
hindurchbegleitet. Er schließt leise das Buch, und die Idee aus f
den Fenster klingen weiter, und die Steingestalten sprechen
Die elementare künstlerische Ausdruckskraft der romanischen
allein der unerschöpflich reichen Bildplastik, ruft unwillkürlich
Katakombenmalerei der ersten Christen hervor. Hier wie dort
in vielfach geradezu archaischer Einfachheit, aber erfüllt von e
udischen Welt abgewandt, dramatisch und verhalten zugleich, e
außersinnlich-jenseitigen Welt künden. Wo liegen die Wurzeln
eines deutlich urchristlichen Erscheinungsbildes im Kunstschaffe
Die entscheidenden Züge der so spezifischen romanischen Kun
Felix Kayser nachweist, in der jahrhundertelangen Auseinand
unverbrauchten Kräfte des Germanentums mit den Strömunge
Südens auf italienischem Boden. Dort trafen sie auf die ausklin
einer Zeit, da deren Gebärdensprache bereits vom jugendlich
seiner neuen Geisterfahrung heraus mit kraftvollem Leben ne
einem allerdings vielfältigen Prozeß, denn zu dem, was zum
der urchristlichen Sarkophag-Reliefs zu wunderbarer Harmonie
Mosaikkunst die syrisch-byzantinische Tendenz zum Feierlich
die bildlose, aber formenreich spielende Ornamentik des Isla
„Biblion schildern Felix Kayser das vielstichrige Rinnen- und er s



Consciousness of three-dimensionality is weakened by daily confrontation with the environment. The goals of this course are to perceive, discover and experience dimensional objects, forms, structures, and abstractions.

The working process used to execute a dimensional object is complex and requires manual skill. The abundance of materials, means, and working procedures demands a clear direction for creative manipulation. Through objective conditions dimensional, creative possibilities and criteria are discovered, analyzed, and differentiated. Given themes and materials are tested by extensive experimentation with forms and technical procedures. Creative ideas and statement possibilities are defined and clarified by comparing the results. Depictions of objects are developed through many trials. The interrelationship between the correct investment of skillful technique, and creative ordering of volumes, forms, and rhythms must be worked into an interesting unity. Arbitrary decisions are avoided.

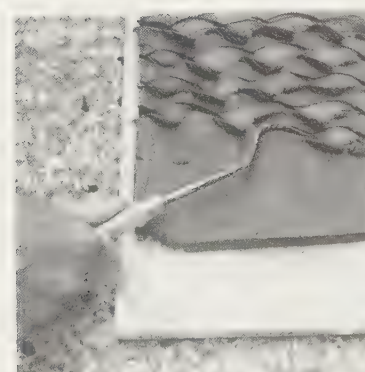
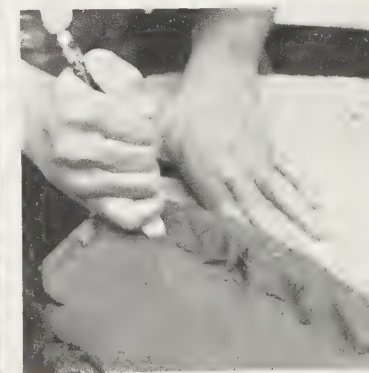
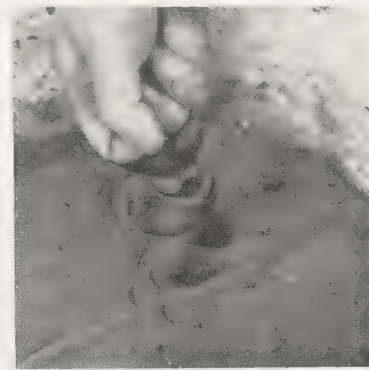
The transformation—the effect of the worked form into different materials and techniques (i.e., recasting the same form)—requires new creative aspects and experiences.

Applying the appropriate criteria to these processes enables the students to draw conclusions concerning the entire working process and renews and refines their involvement. They are integrated into new goals.

Besides ordinary materials (clay, plaster, and wood) modern materials such as silicon, polyester, and plexiglass are utilized in the exercises.

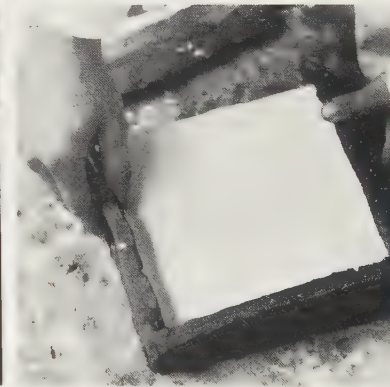
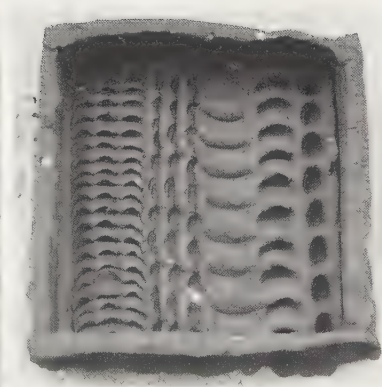
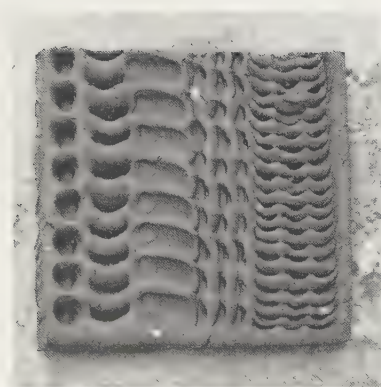
In the first three-dimensional investigation hand and fingers as well as energy are utilized with the elastic material clay. Many hand-finger positions are discovered through playful observation. They are used instead of tools to imprint the form. Tension, pressure, and torsion movements make visible many possibilities of shifting or deforming the raw material. A clearly organized, rhythmic surface structure of concave and convex forms is achieved from one of these spontaneous possibilities with organic formal elements. The contrasting dimensional effect of the counterform becomes visible by casting the object in plaster, lead, or some other material. Creative possibilities of expression in the selection of raw materials are experienced through the extreme change of material.

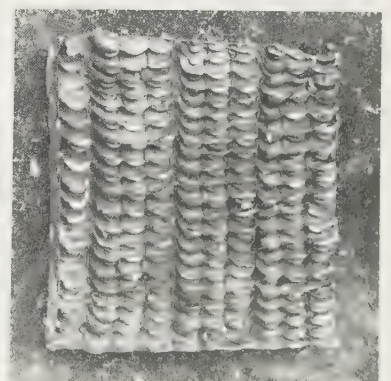
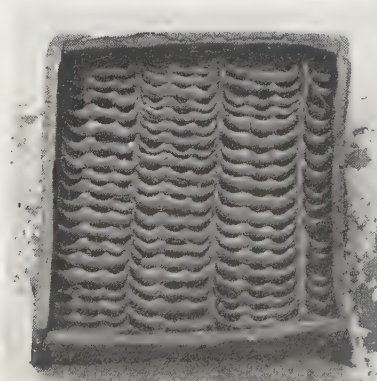
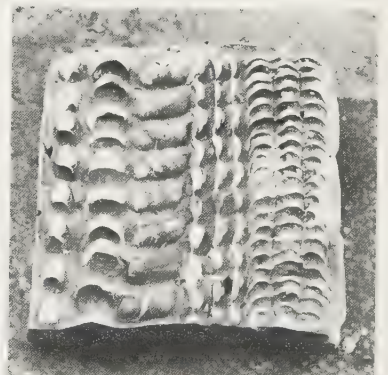
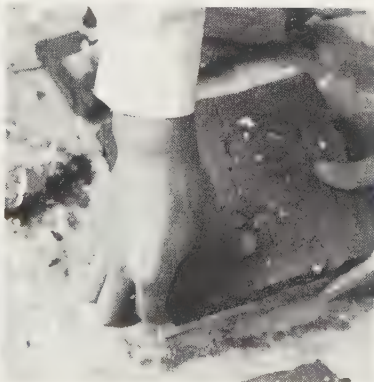
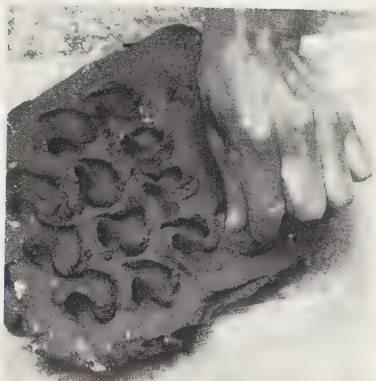
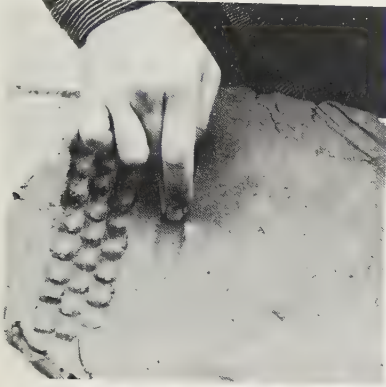
In a further part of the exercise appropriate objects (tools as opposed to manual manipulation) are chosen and used as stamps; contrasting geometric elements with organic relationships result from the rhythmic deformation process.



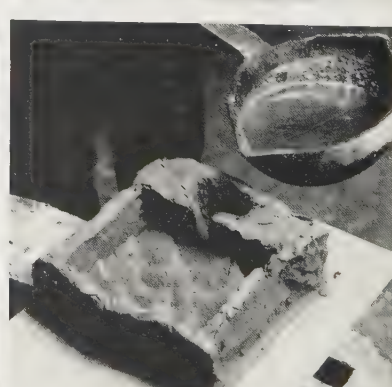
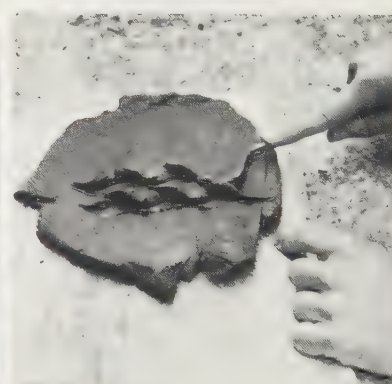
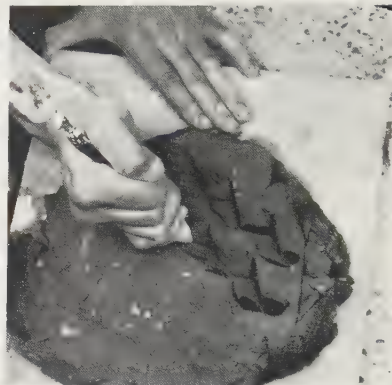
The following photographs show the first deformation investigations, the formal elements resulting from different hand-finger positions, and the use of tools as stamps.

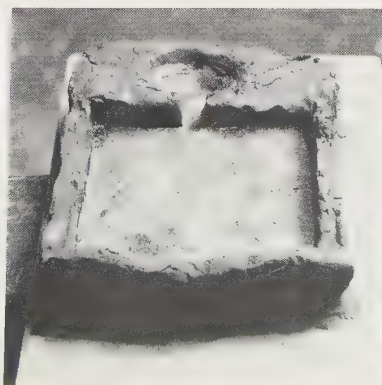
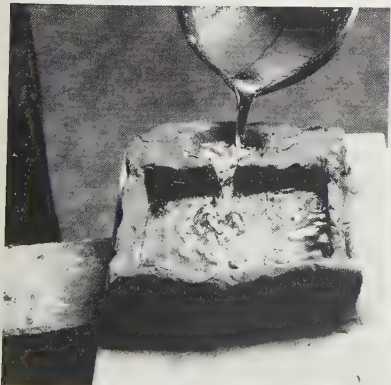
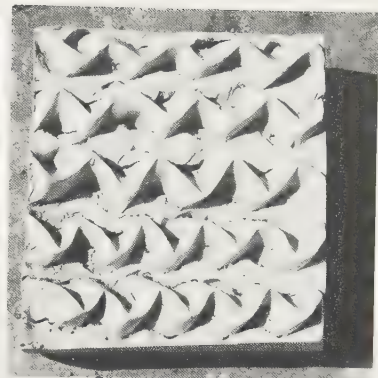
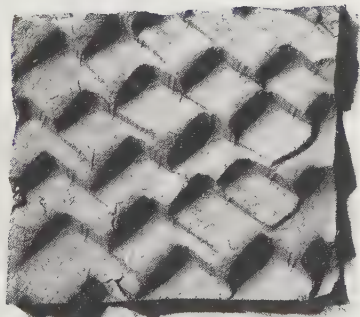
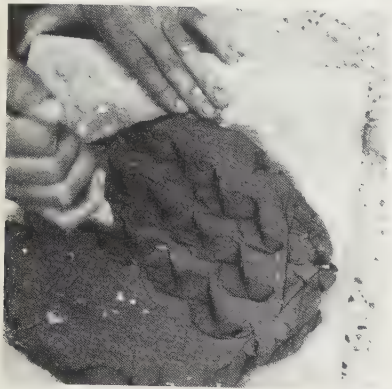
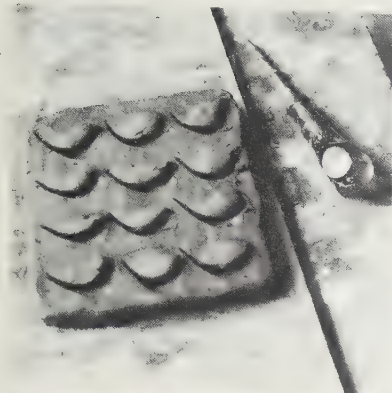
In the three rows above, from left to right, the photographs show the construction of a clearly organized surface structure. Enclosing the result in clay, casting in plaster, separating the counter-form, and comparing the different materials are visible in the two bottom rows.

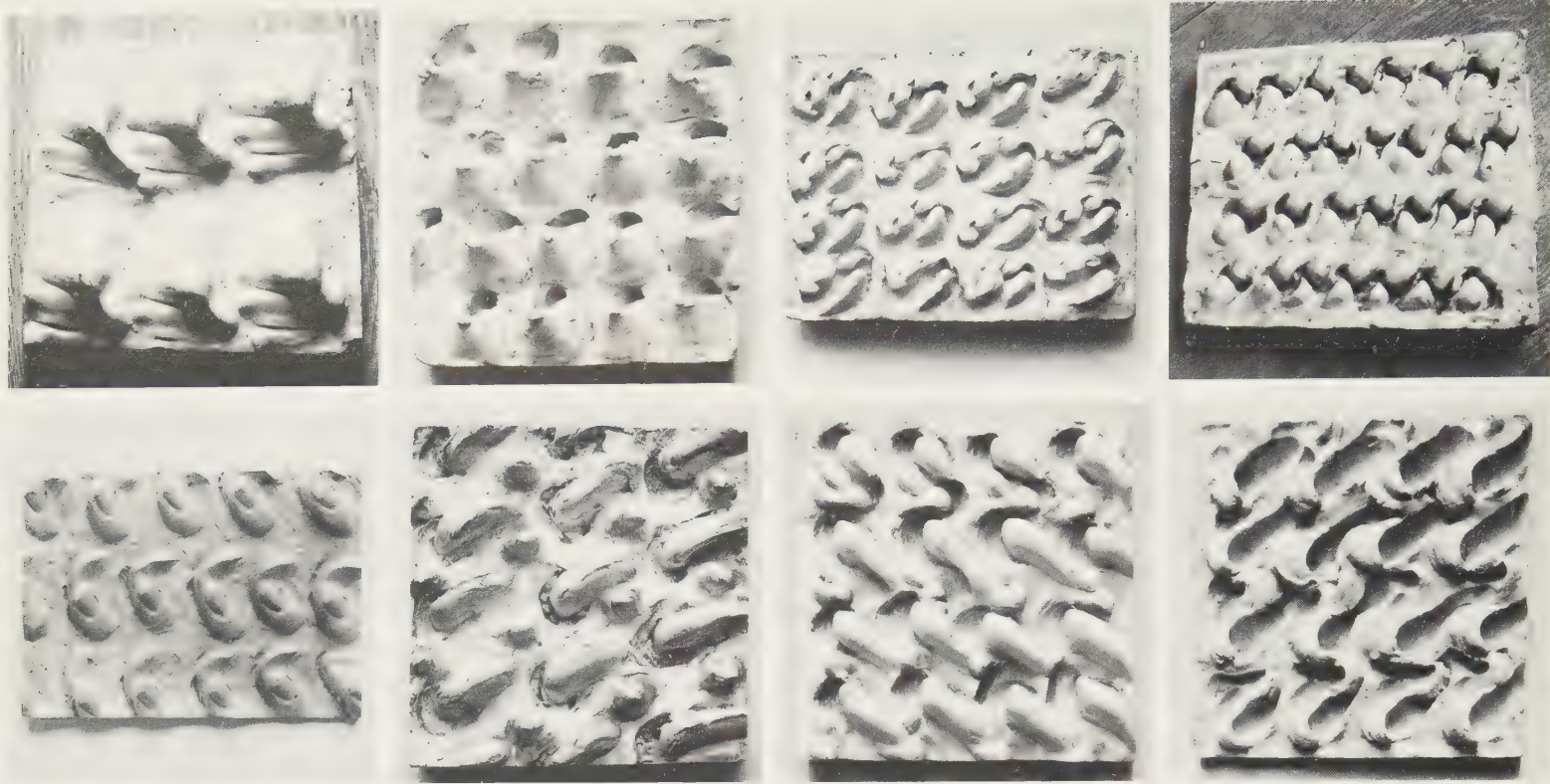




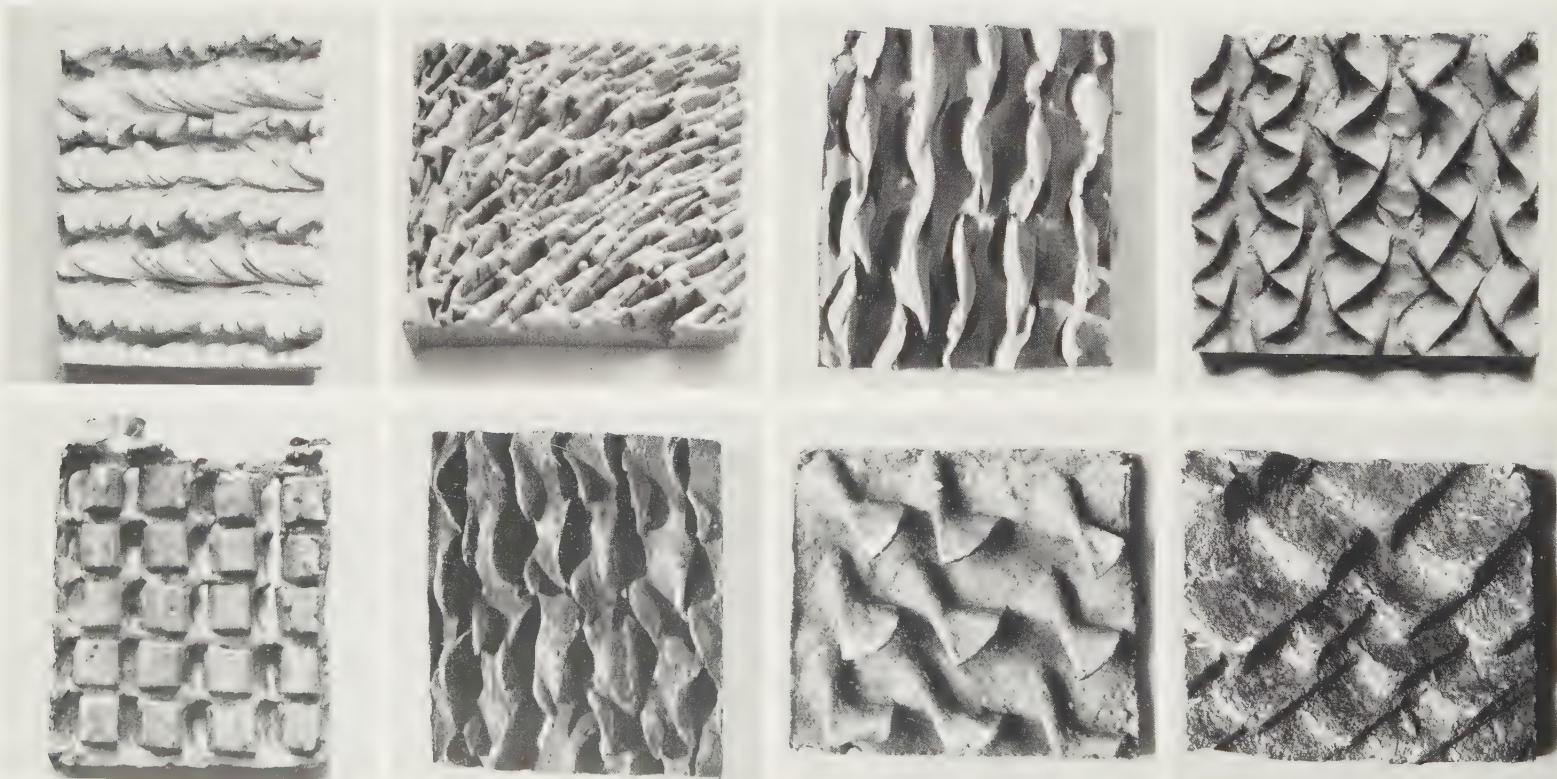
The photographs show, from left to right, four different tools used as stamps. On the extreme right of the second and fourth rows the actual counterforms appear in plaster. The bottom row documents lead casting.



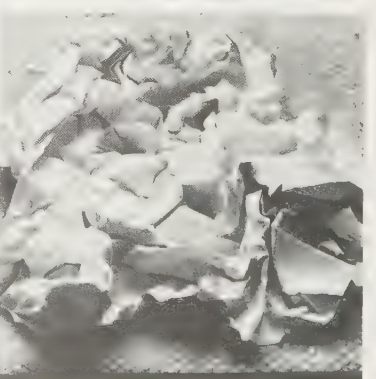
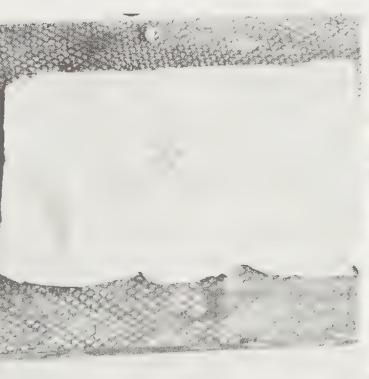
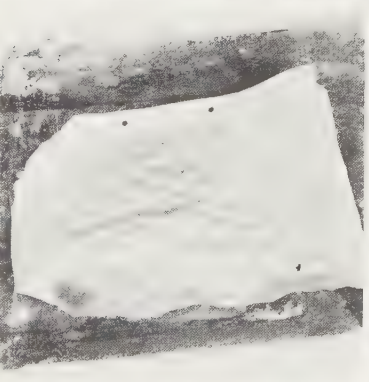
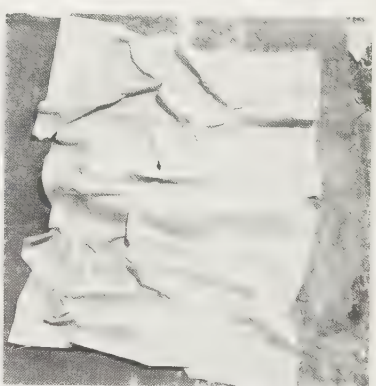
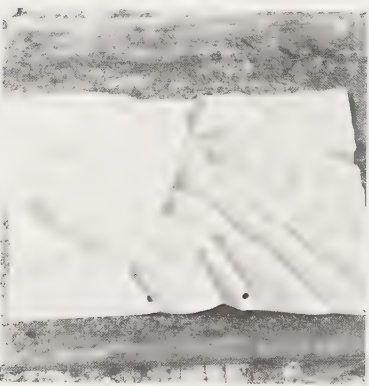
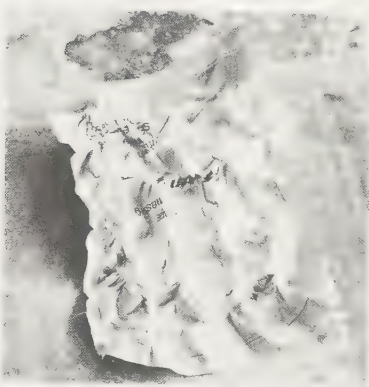
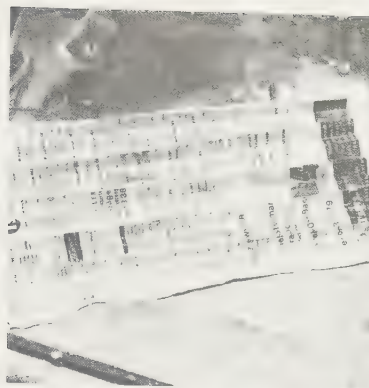




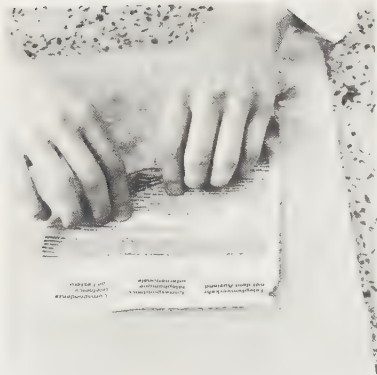
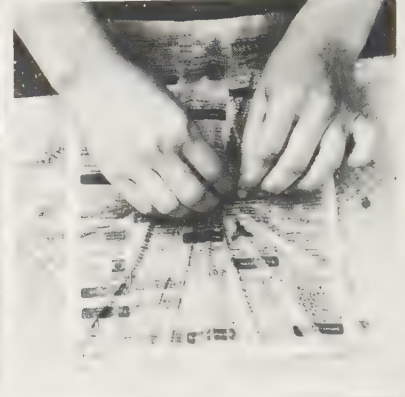
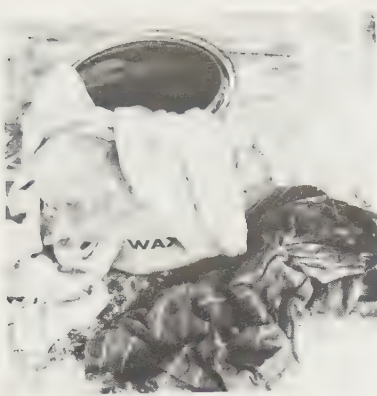
The examples show, above, manually worked plaster with clearly organized formal elements; below, as a comparison, casted-plaster and lead-surface structures formed with various tools.



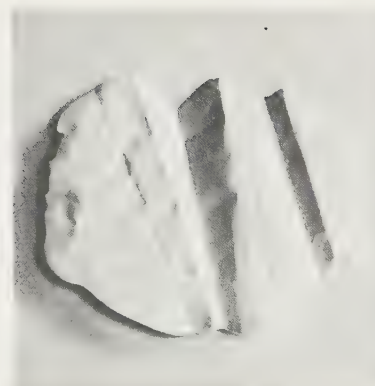
Unlike the preceding exercise with clay, a volumeless, flat piece of paper is used here as a mold and deformed manually. Countless dimensional appearances are produced through playful, chance folding and wrinkling. Plaster is applied to this paper mold; the deformation is fixed; and the paper is removed. One of the deformation elements is intensified dimensionally into a composition with clear progressive-regressive gradations. Achievement of the appropriate forms demands subtle, concentrated observation and a clear conception with many trials. In forming a graded structure the individual pieces and the format are determined with masks. Missing or unclear elements are completed or replaced with revised or new forms. The cut pieces are joined into a definite structure and reinforced with plaster. The plaster model is cast with a synthetic material, producing a wide range of applications and a different material appearance. Using an elastic negative with a silicone-rubber base allows extensive undercutting of the plaster model and does not present problems in removing the cast. Polyester can be colored differently and is used for the positive cast.

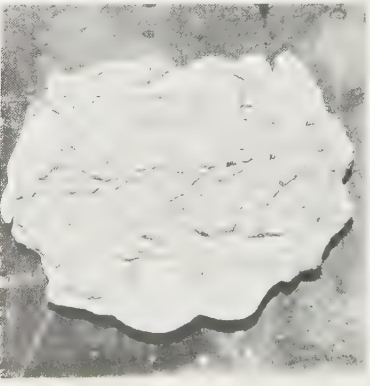
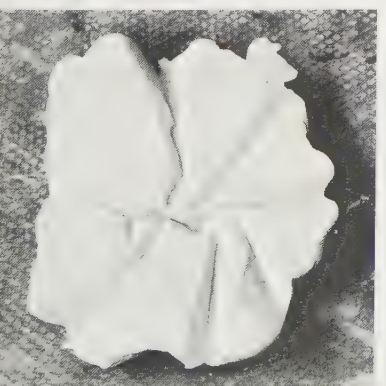
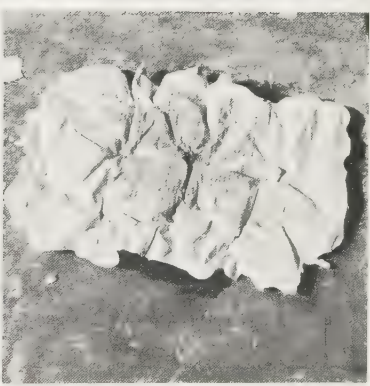
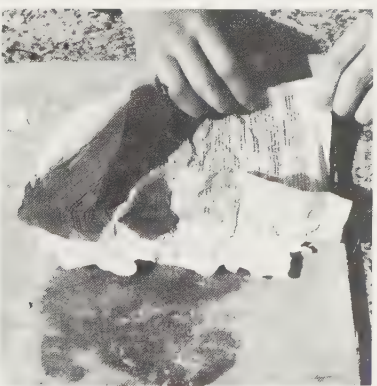
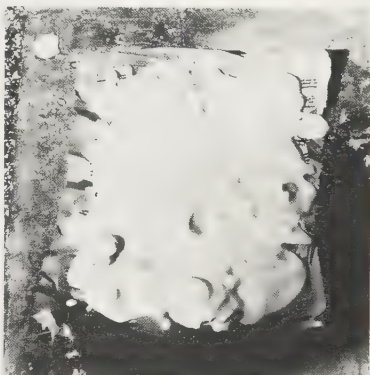
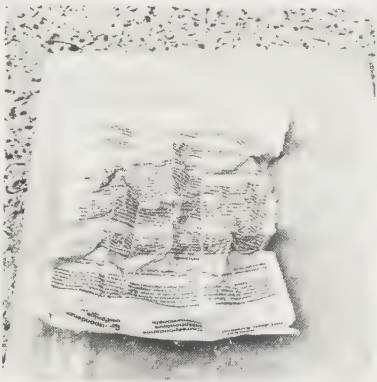
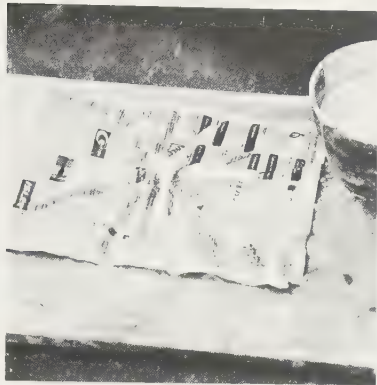
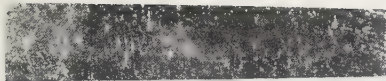


The following photographs show different deformations created by chance folding and wrinkling of the originally volumeless paper.

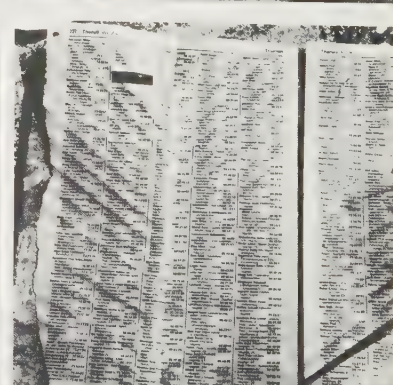
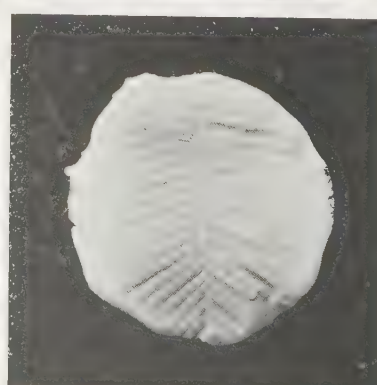
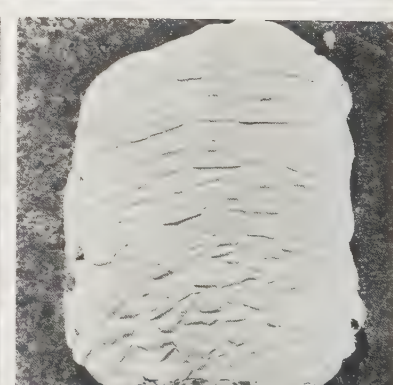
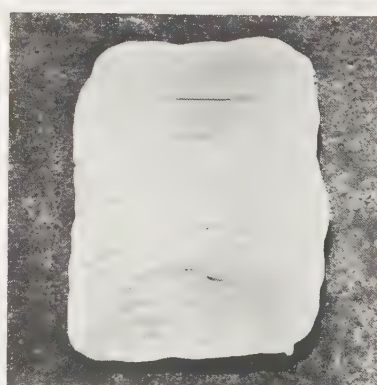
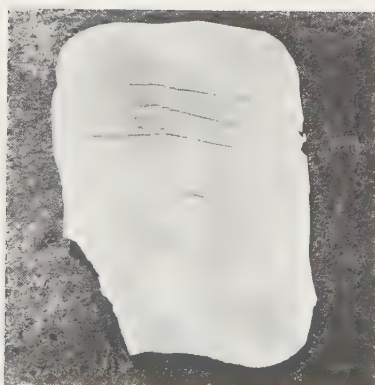
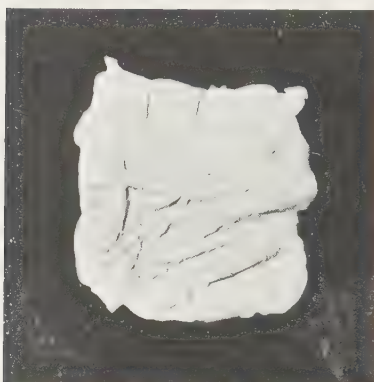
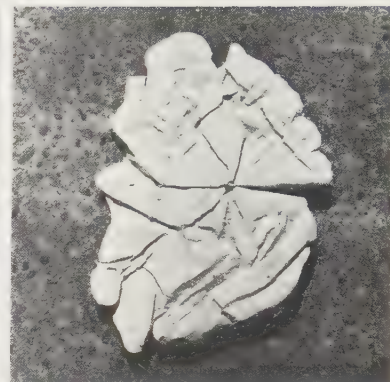
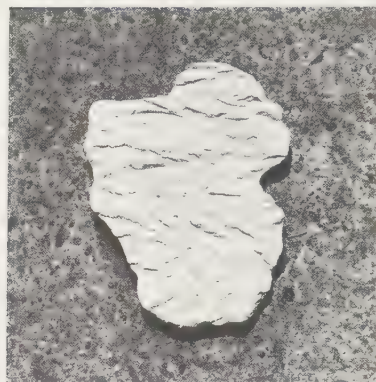
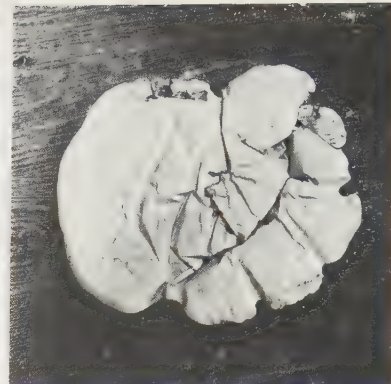


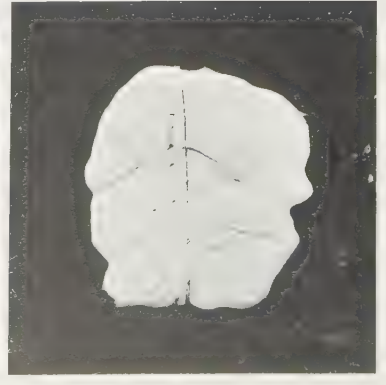
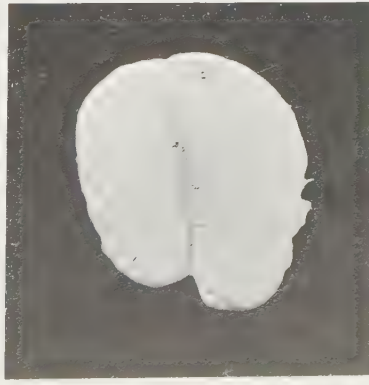
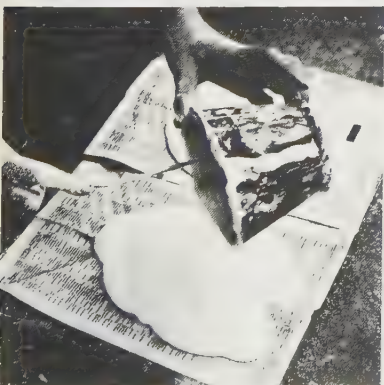
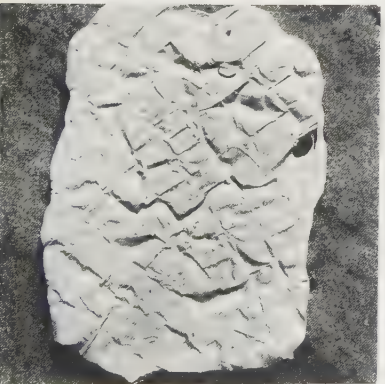
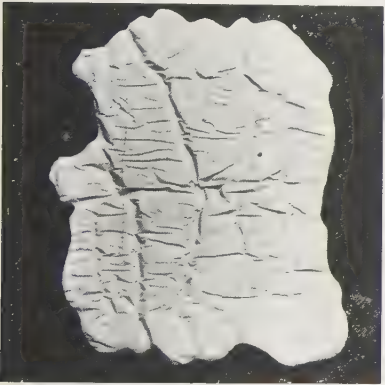
In the three rows above, from left to right, the paper mold is deformed and fixed with plaster. The careful removal of the now useless paper from the deformation element is shown in the fourth row. In order to easily remove the paper from the plaster form, it is pretreated with floor wax (top left). In the bottom row the forms that serve as the starting point for the progressive-regressive gradations are photographed.

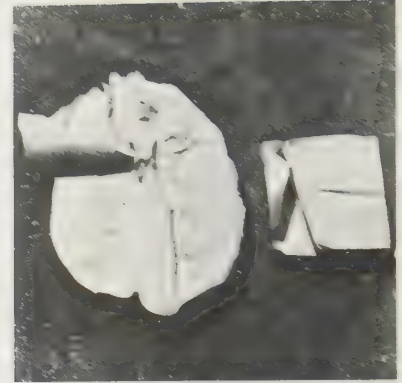
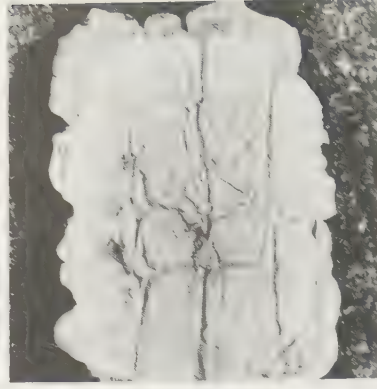
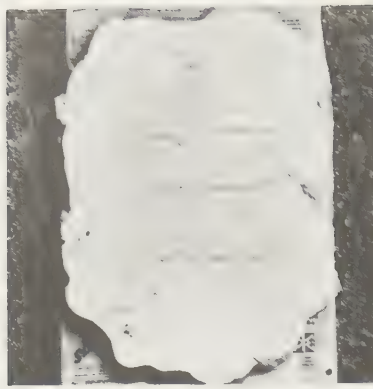




Differentiated, gradated, formal elements are achieved independently by the students. With the exception of the last row, the examples on this double-page spread are represented horizontally and vertically in a gradual dimensional relationship of formal elements. In the bottom row additional variations of different formal elements are shown in progress.

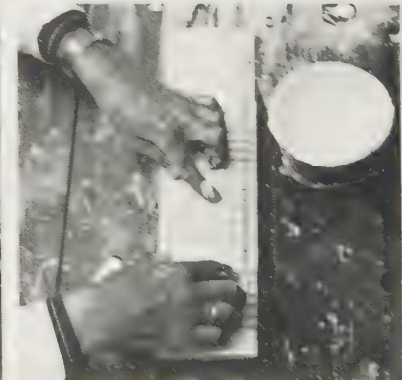
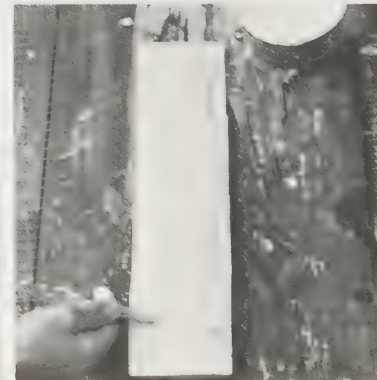
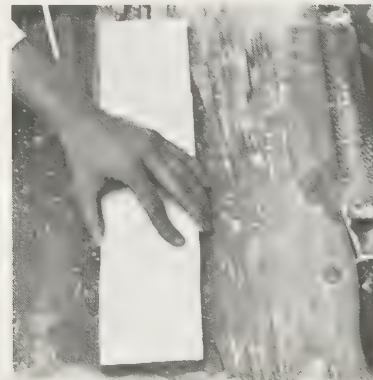
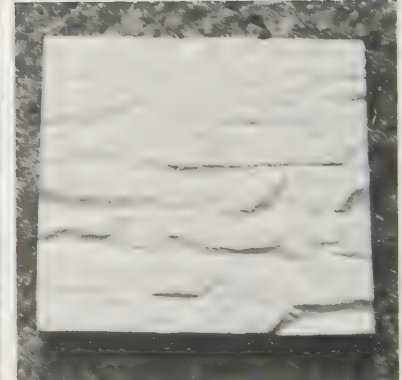
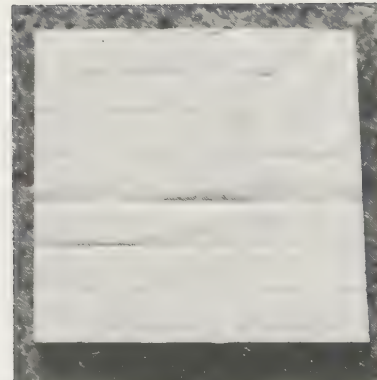




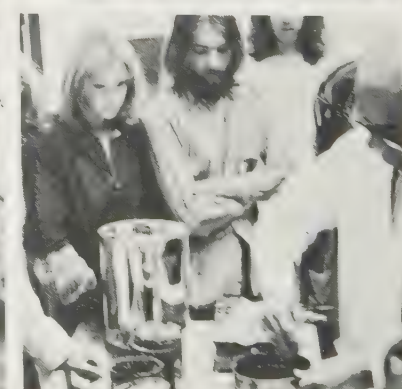


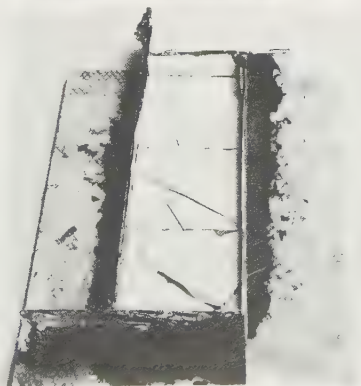
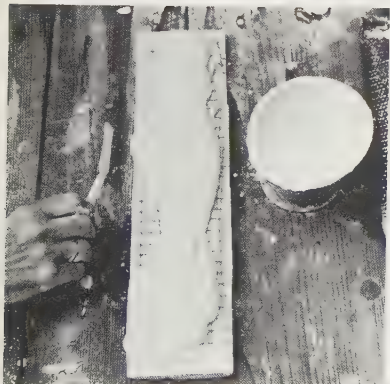
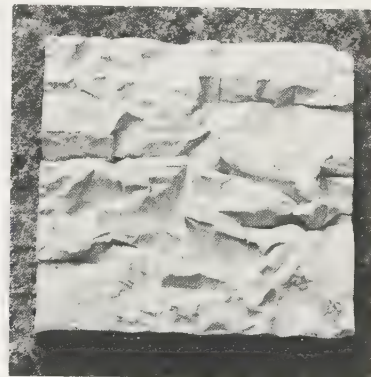
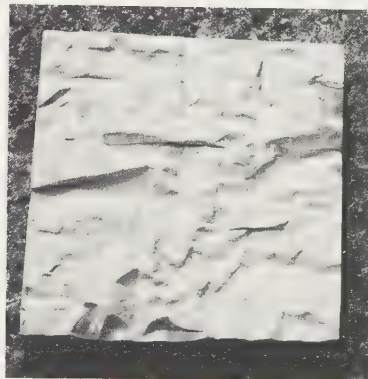
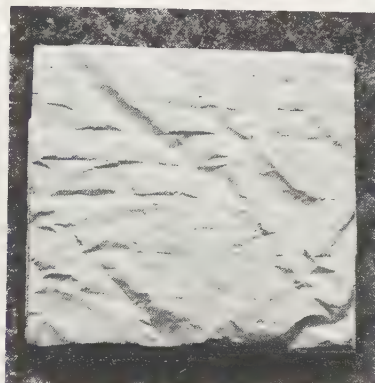
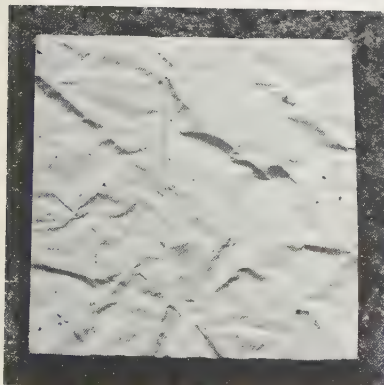
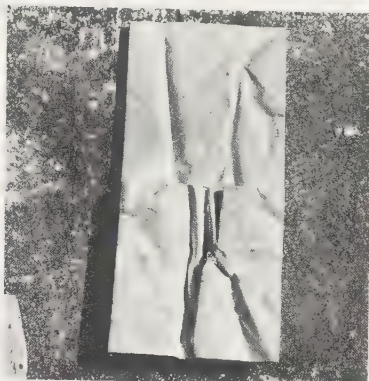
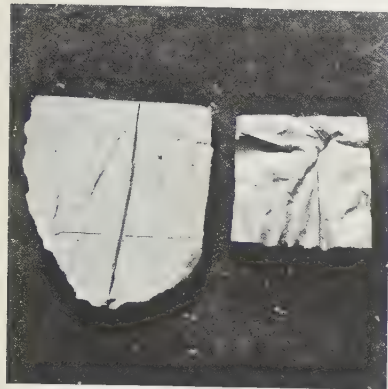
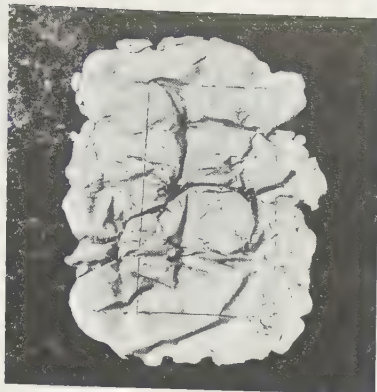
From top to bottom, left to right, the photographs show:

Three clearly gradated rough forms before cutting; the determination of the final forms (deformation field), using a cardboard mask to achieve the desired composition; cutting the pieces; a comparison of cut and raw forms; a comparative sequence of cut forms, with the two middle steps eliminated from the final structure because of their similarities and diagonal elements;

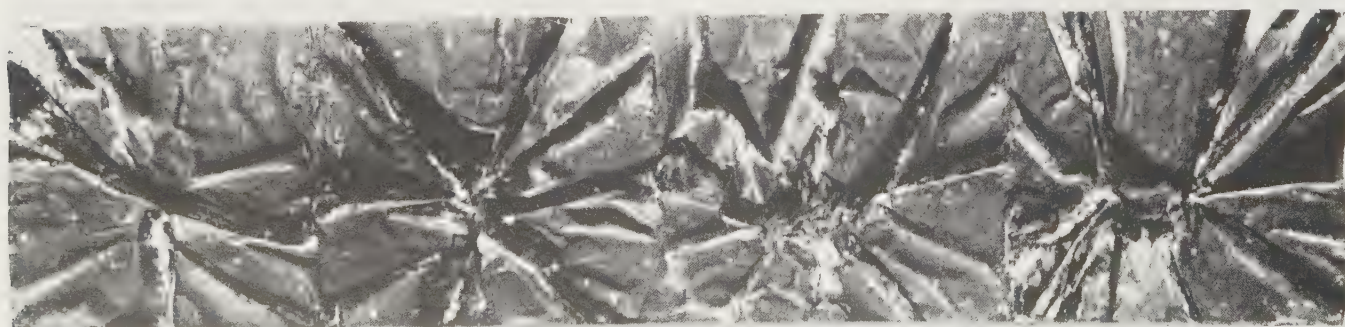
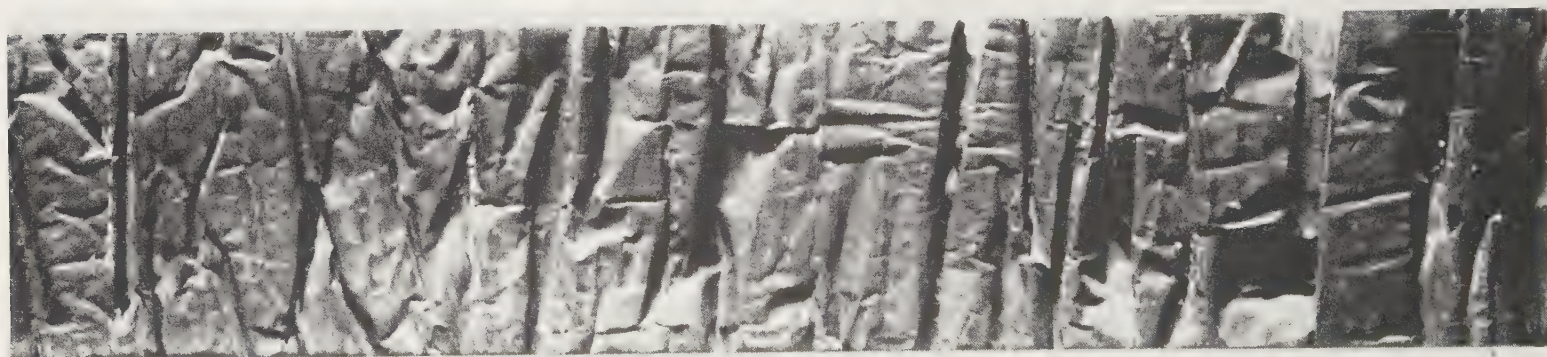
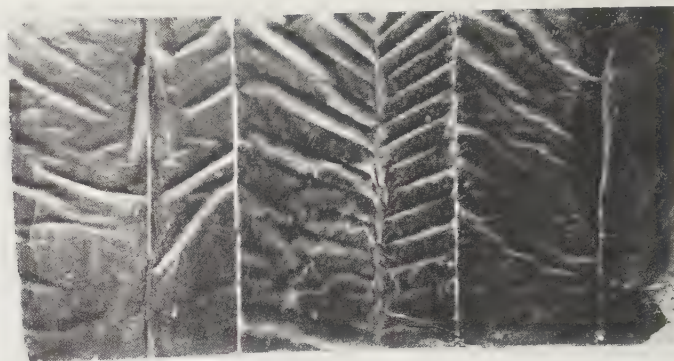
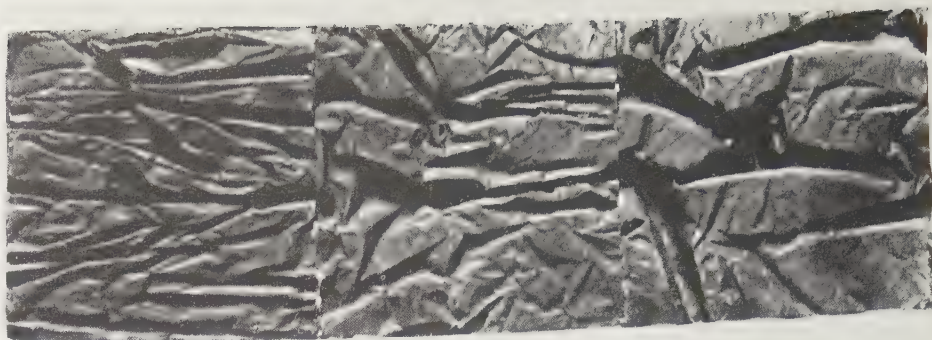


reinforcing and stabilizing the joined elements with plaster and leveling the sides with a rasp; teacher's explanation of the ingredients and characteristics of the synthetic material and enclosing the plaster-form model in order to cast an elastic silicone negative.





The work of five students documents differences in deformation, dimensional progressive-regressive intensification, and different expressions of structure through the change of material.

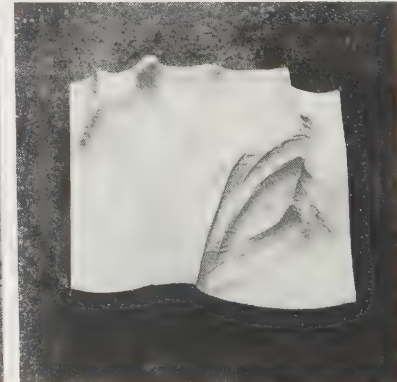
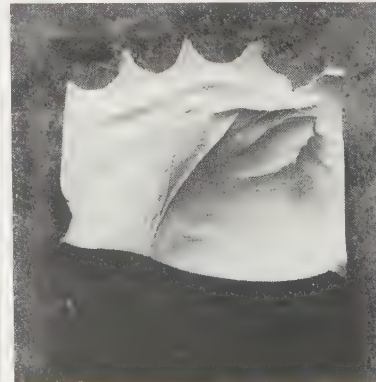


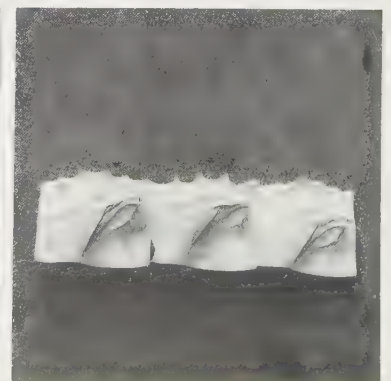
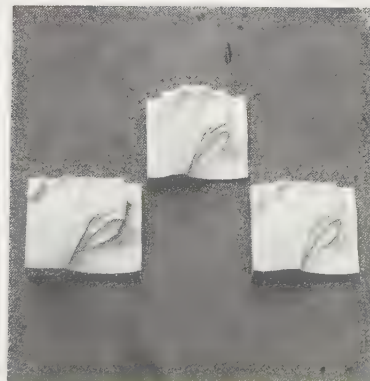
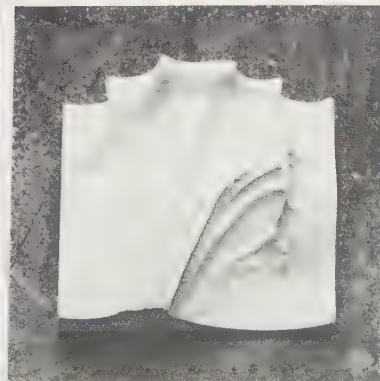
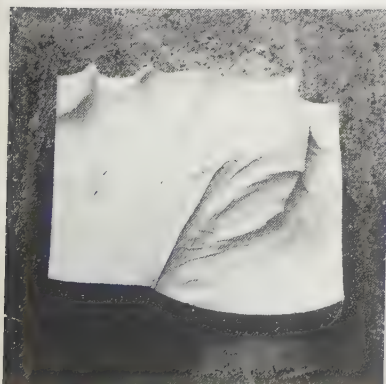
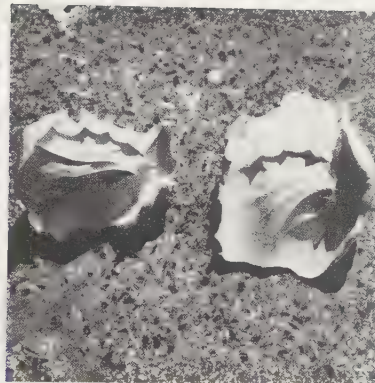
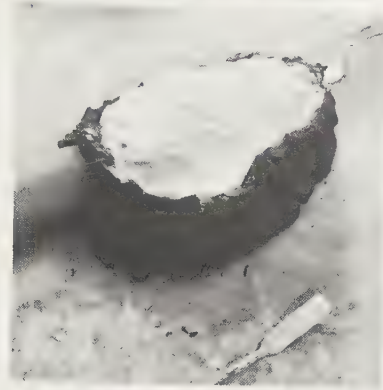
The hand, used in the preceding exercises as an elementary tool, here serves directly as a mold. By opening and closing the hand volume changes are created. Corresponding to the movement, they can be formed differently and gradually differentiated. By observing playful hand movements various volumetric forms are discovered, fixed, and made dimensionally visible by means of plaster casts. These movement phases are dimensionally visible: the inherent physical change of plaster, such as fluid-hard or cool-warm, is directly felt. Bizarre appearing forms are achieved, from one of which a defined deformation field (form element) is established. A progressive-regressive addition of forms is structured to correspond to this form element and to retain a constant deformation character. Producing the pieces requires concentrated observation and constant comparison. The parts corresponding to the deformation field are cut, compared, and joined into the desired formation, reinforced, and cast with plaster from behind at different heights. As in the preceding exercise, a polyester positive is made of the plaster model by means of a silicone negative.



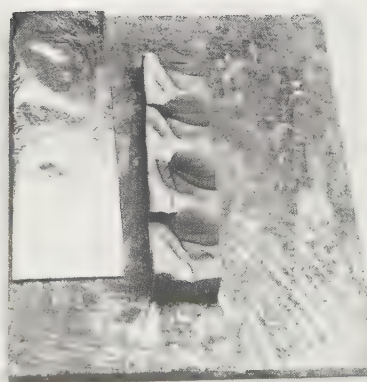
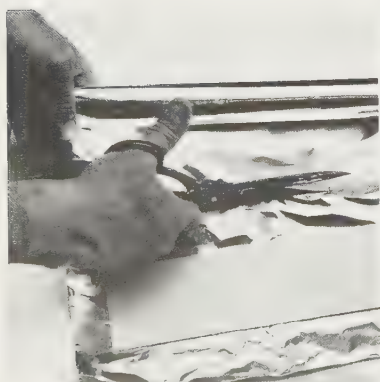
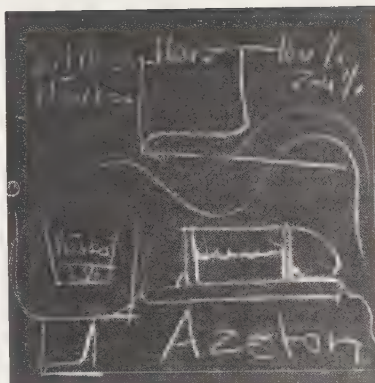
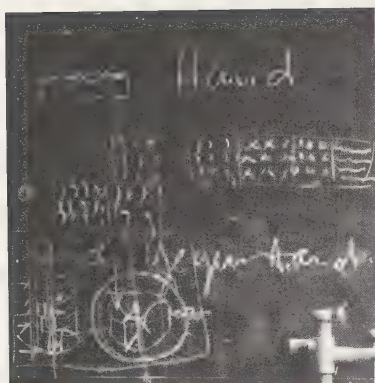
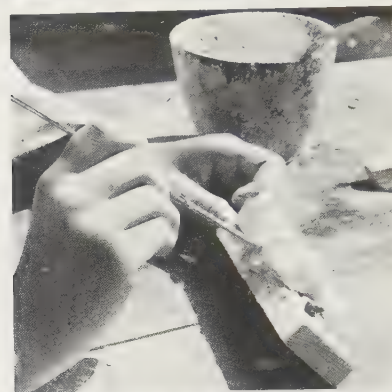
The following photographs show gradual, differentiated, volumetric changes created by closing the hand.

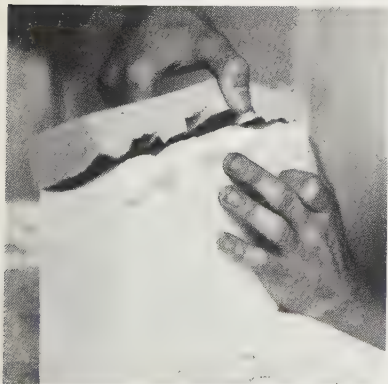
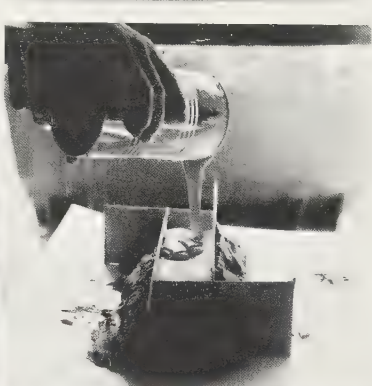
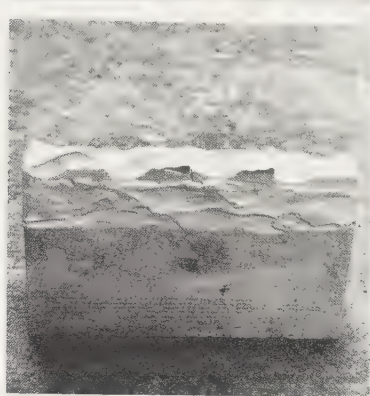
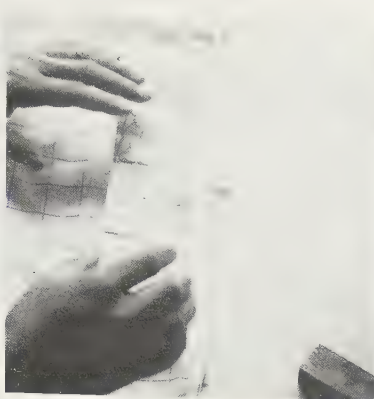
The photographs here and on the following page show, from left to right and top to bottom: different positions dimensionally fixed by means of plaster casting; various raw forms possible use in a differentiated, gradated structure; fixing and cutting the deformation field and comparing it to further form elements; and the desired rhythmically gradated structure, produced by comparing and exchanging form elements.



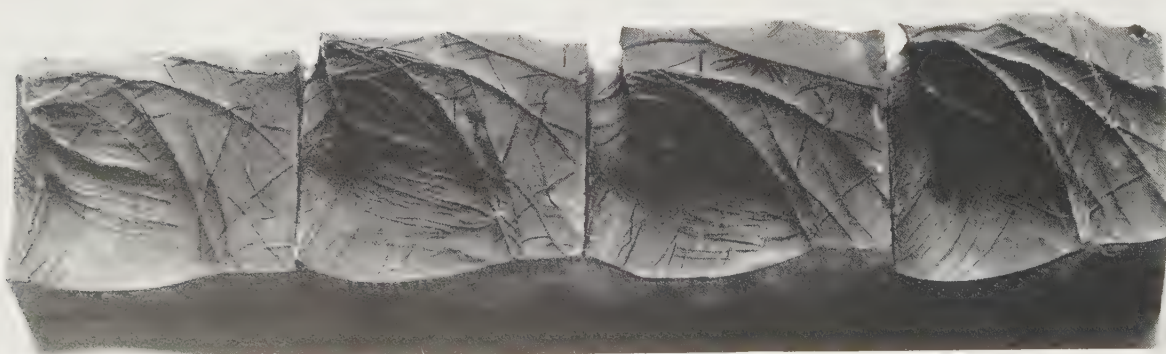
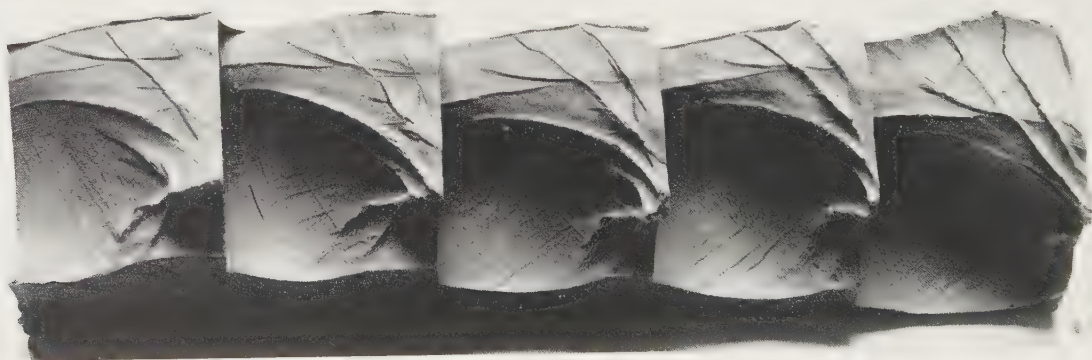
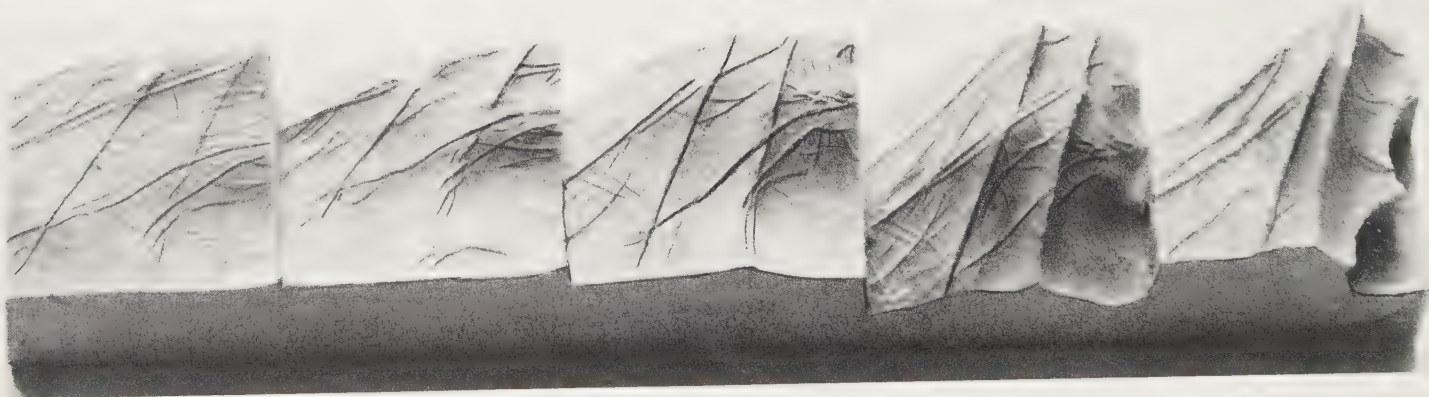
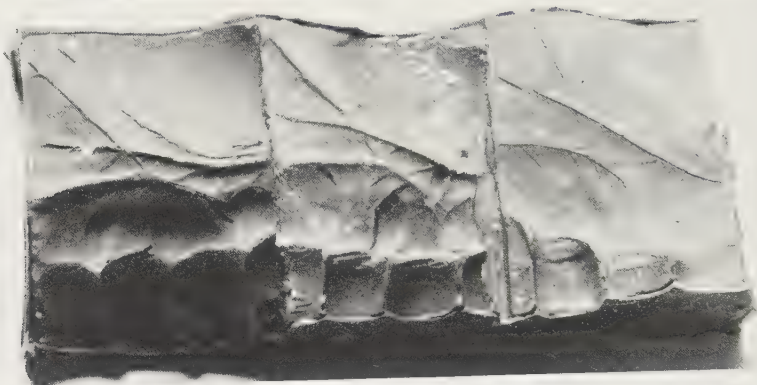
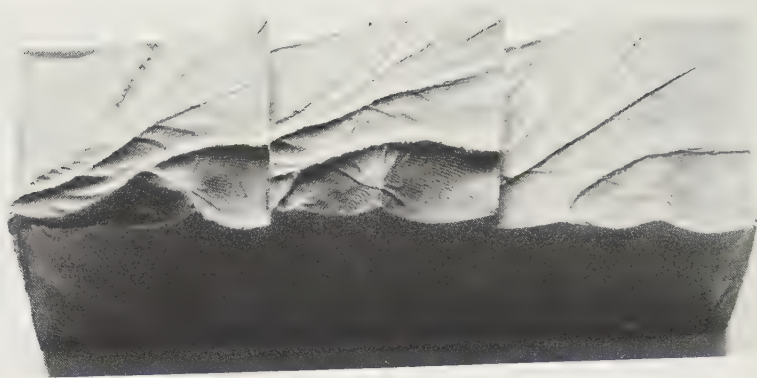


The parts of the structure are mounted, reinforced on the back with plaster at different heights, and cleaned. The three rows below show how to transform plaster forms in polyester by means of a silicone negative.

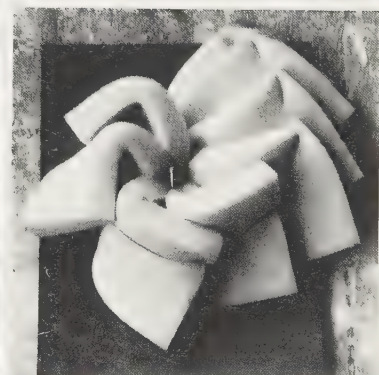
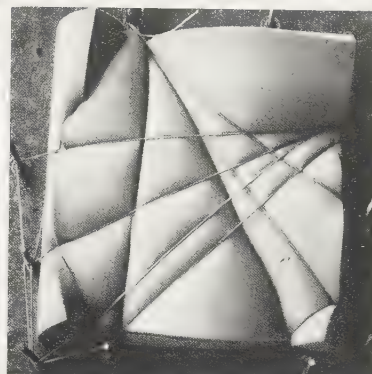




The diversity of dimensional intensities is evident in the distinctive gradations of these clearly formed polyester casts.

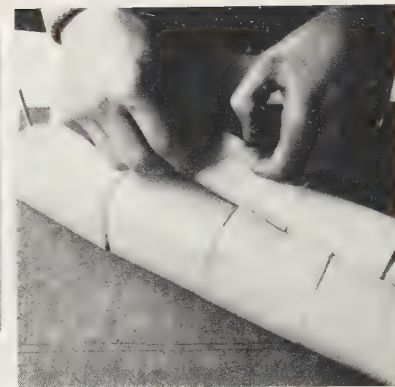


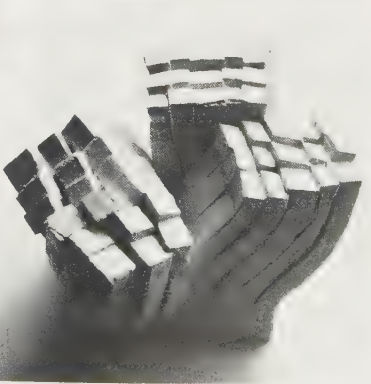
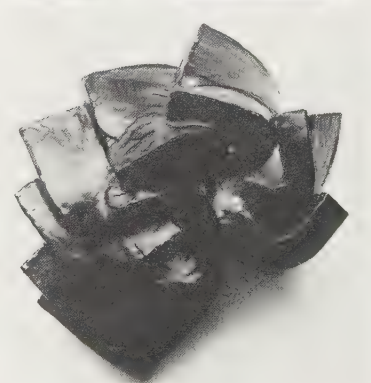
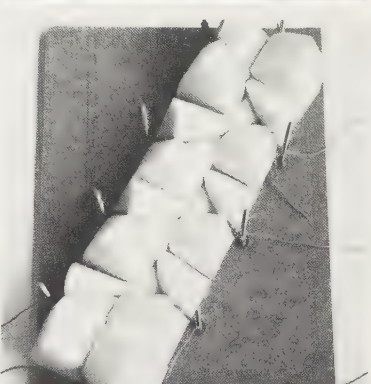
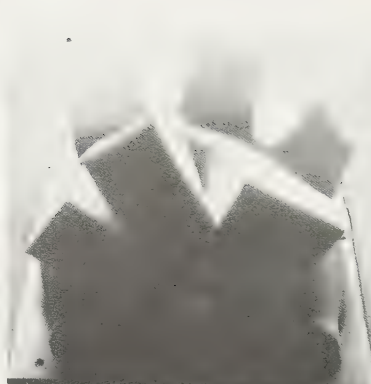
Conscious awareness of plowing a field or forming furrows is the inspiration for this exercise with foam rubber. Perception sensitizes the ability to develop abstract processes with this elastic, compressible material. Suitable, playfully discovered, volumetric elements are worked into a clearly organized, rhythmic composition. A block of foam rubber or cut pieces are manipulated with various string-binding techniques. The string is fastened to bolts, which are screwed into a suitable ground for the desired structure. To stabilize the foam-rubber elements under tension, its surface is covered with plaster to neutralize its elasticity and stabilize the volume. Covering the surface of the form with plaster requires subtle, skillful work, and the volumes are simultaneously tactilely experienced. After removing the inserted supporting material the object can be additionally strengthened with a colored polyester covering.



The following examples show various spontaneous deformations of foam-rubber elements.

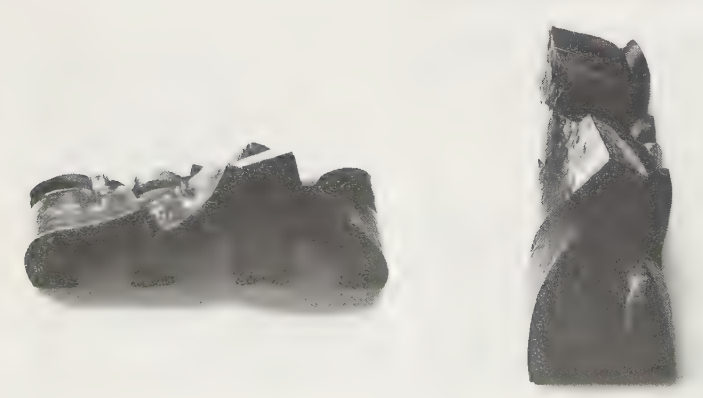
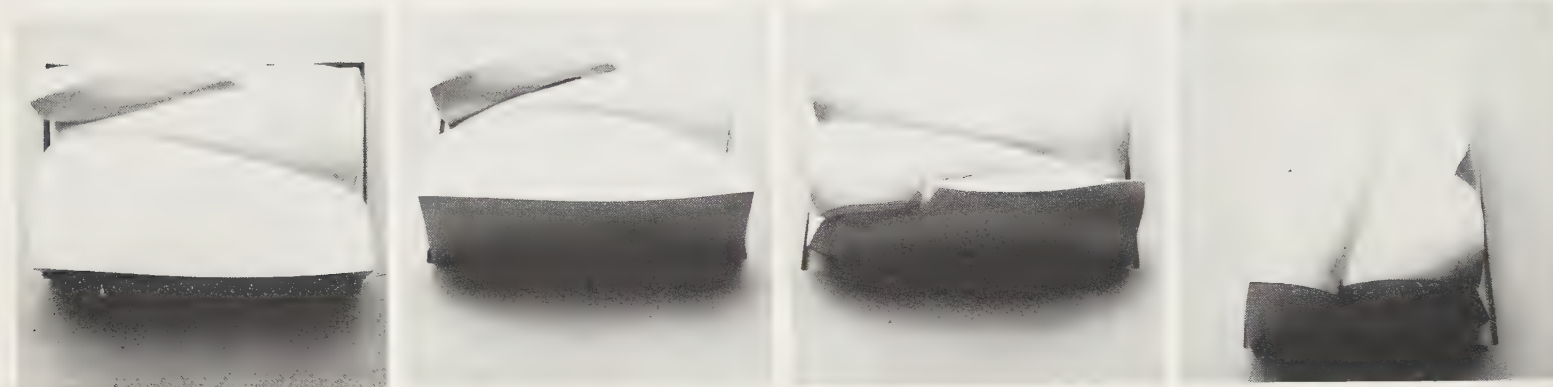
From left to right, the three top rows show the organization of foam-rubber blocks and the different binding techniques with string and bolts. Covering the foam-rubber surface to stabilize the form, cleaning the edges, and strengthening it with a polyester covering are shown in the two rows below.



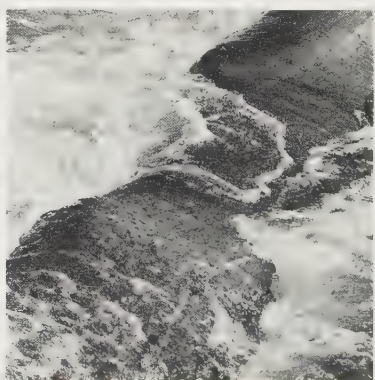
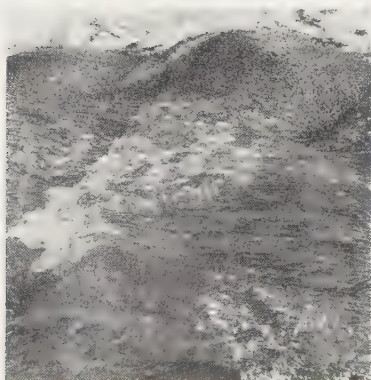
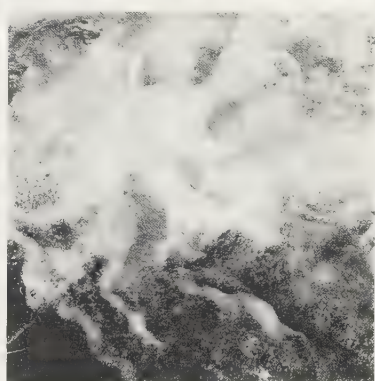
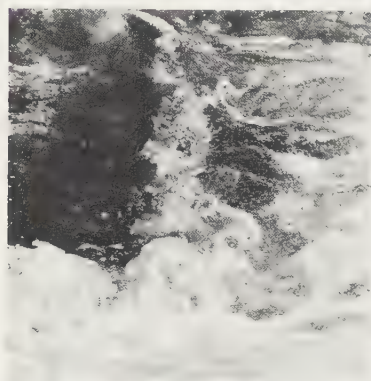
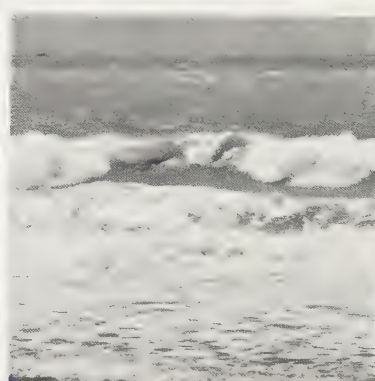
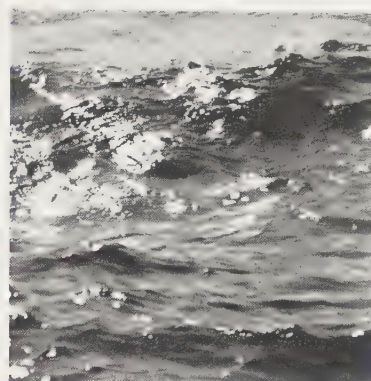
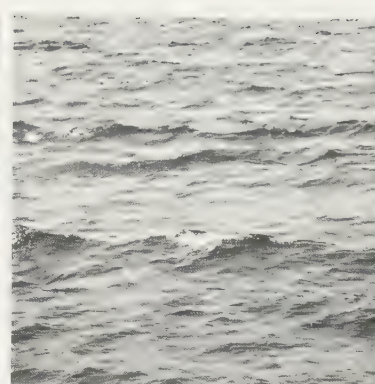
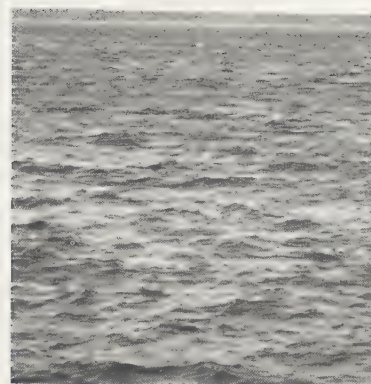




In these examples the original character of the foam rubber is completely neutralized. The dimensional, rhythmic organization of the volumes dominates. The different abstracted translations vary in surface structure. The light produces various effects on the colored polyester coverings.

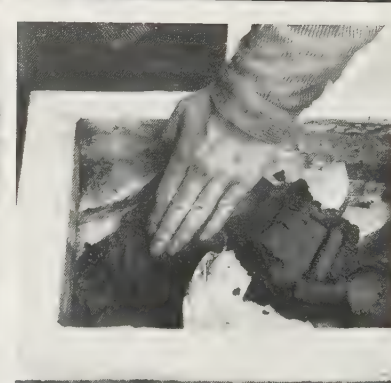
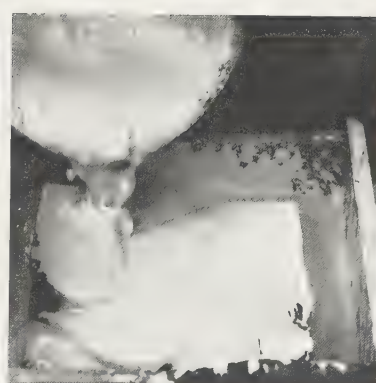
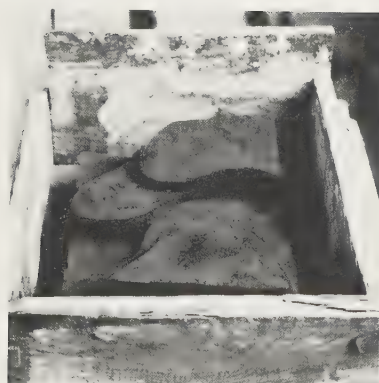
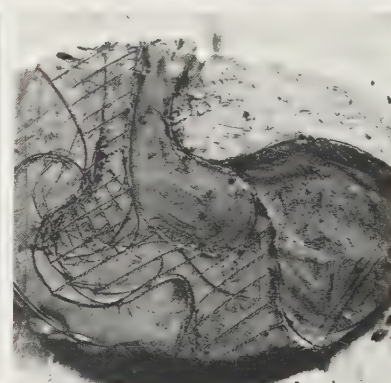
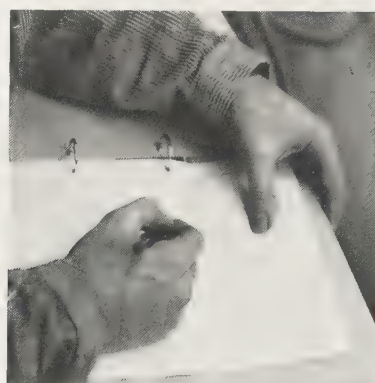
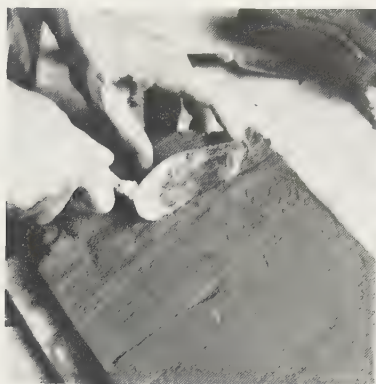
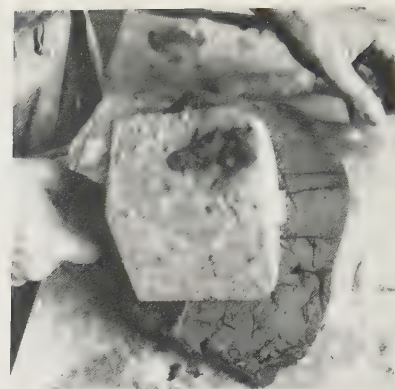


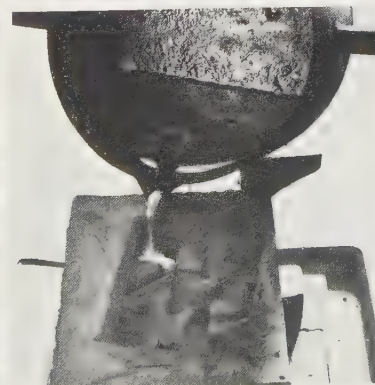
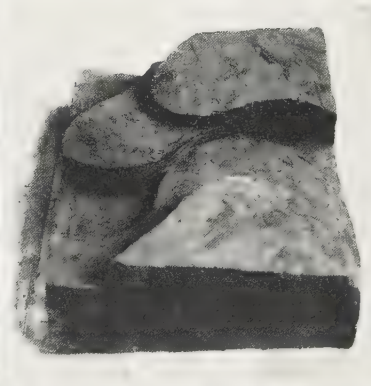
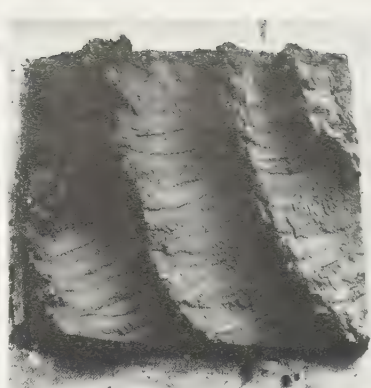
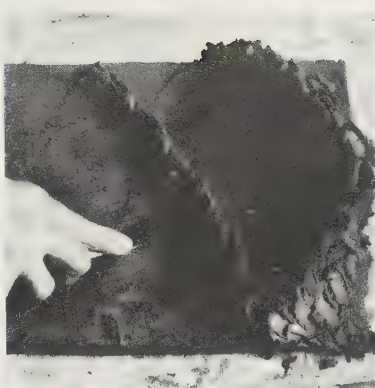
As creative motivation, the behavior of water masses under the effects of forces such as wind pressure, impact, and displacement is analyzed in the following observation and perception studies. The discovered volumetric appearance is abstracted into clay through modeling. The formal elements are developed in many trials and arranged into a composition that expresses the rhythmic, energetic play of water. The actual forms should not lose their character in the composition. The elasticity of clay and the use of the application technique allow interesting differentiated modulations of volumes and surfaces. The definite structure produced can be fired or translated into other materials such as cement, artificial stone, or by casting metal. The construction of the negative, the casting process, the releasing of the form, and the suitable techniques and materials reveal new creative possibilities and experiences. Producing the plaster negative for cement or artificial stone is simple, but constructing a heatproof negative for casting with metal requires considerable skill.

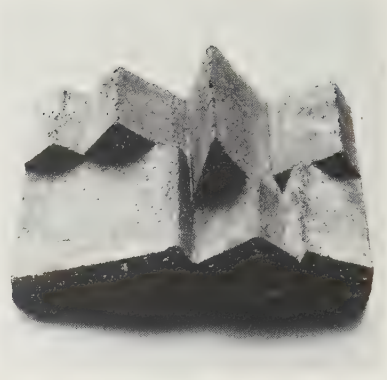


The following photographs show examples of different volumetric appearances achieved from water studies.

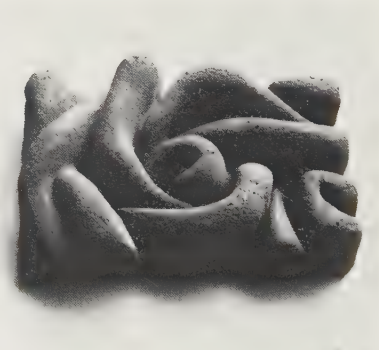
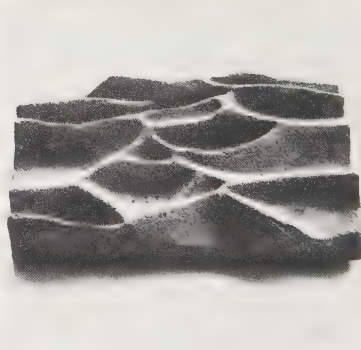
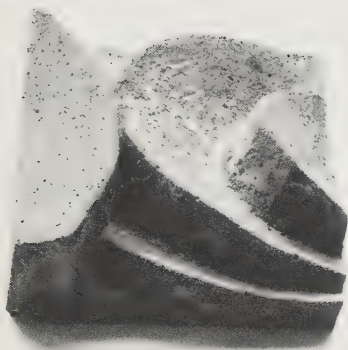
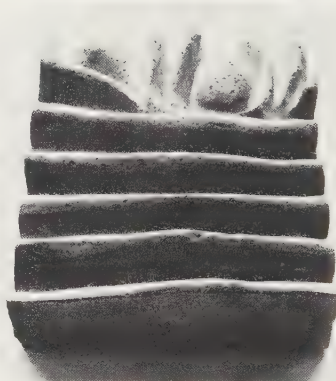
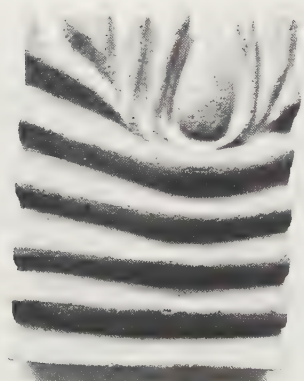
The photographs in the three rows above show, from left to right, the development of modeled elements into a dimensional composition and the possible differentiation of the surfaces. The construction of a negative for casting into cement, artificial stone, or metal; the casting process; and the release of the form are represented in the two lower rows. The illustration below left shows how negative duplicates can be produced with a silicone positive.

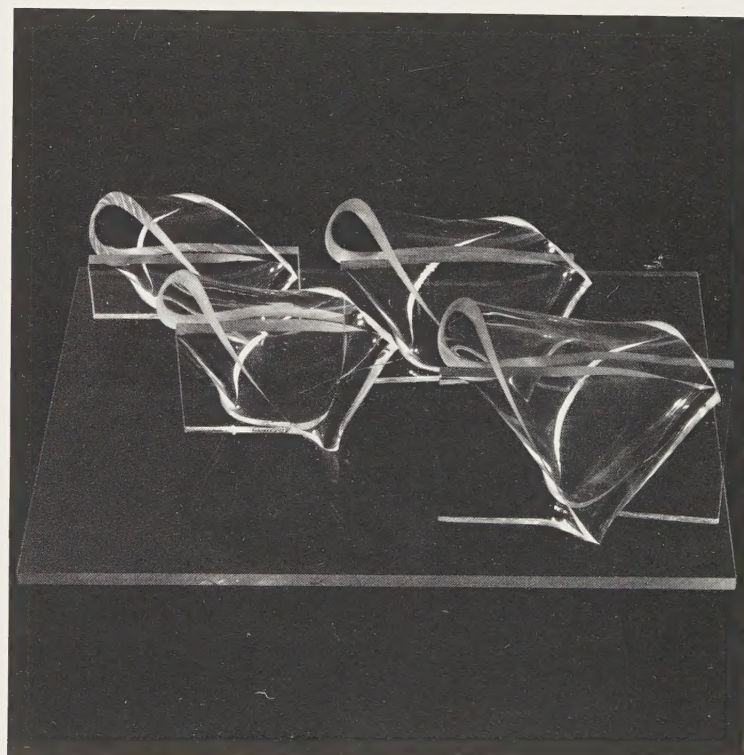
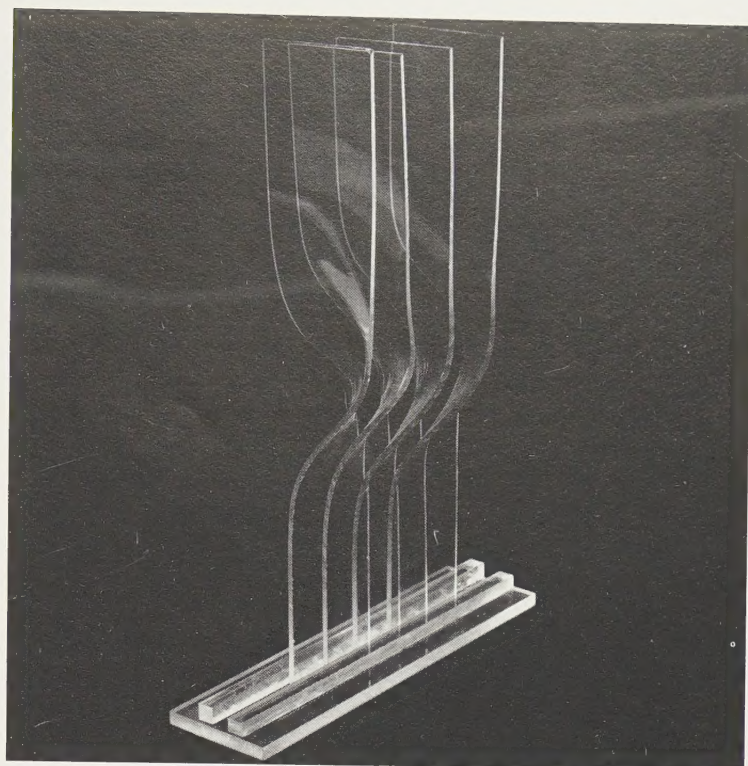
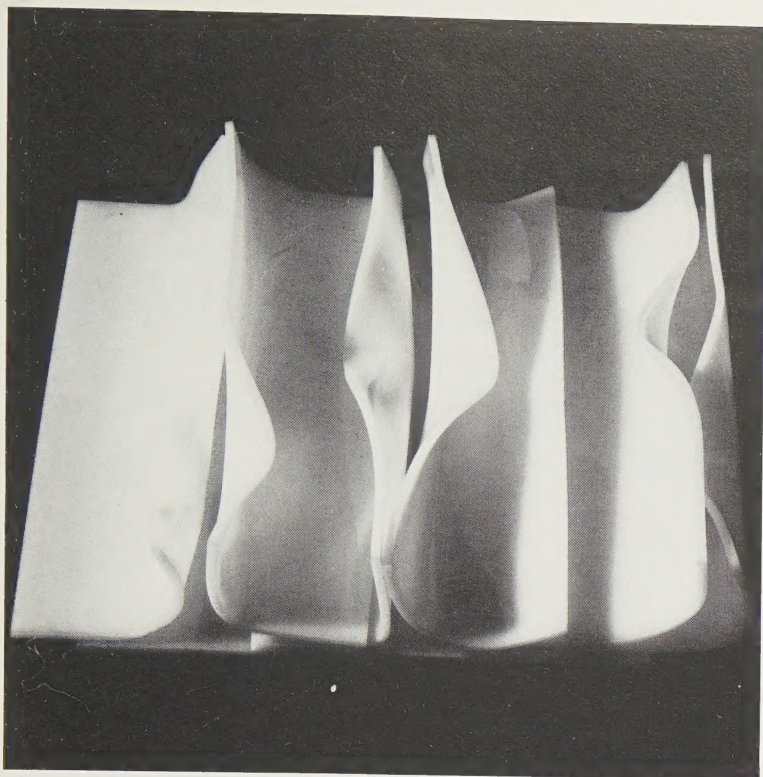




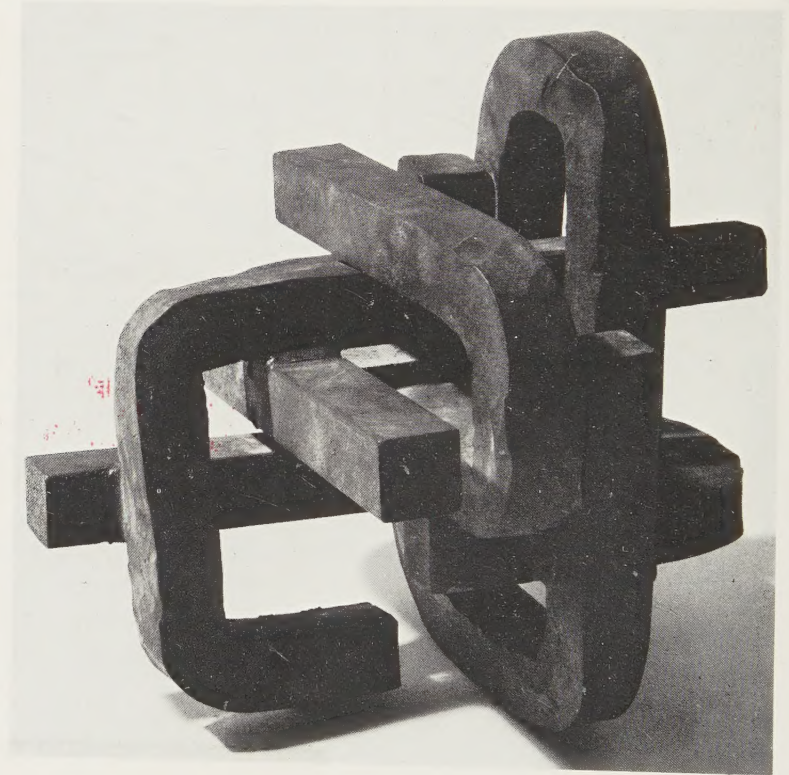
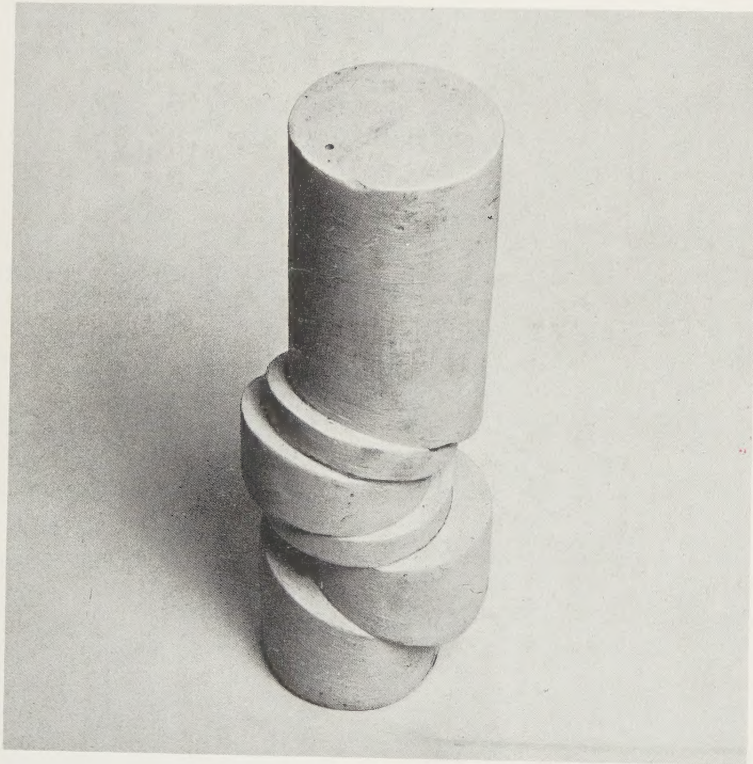
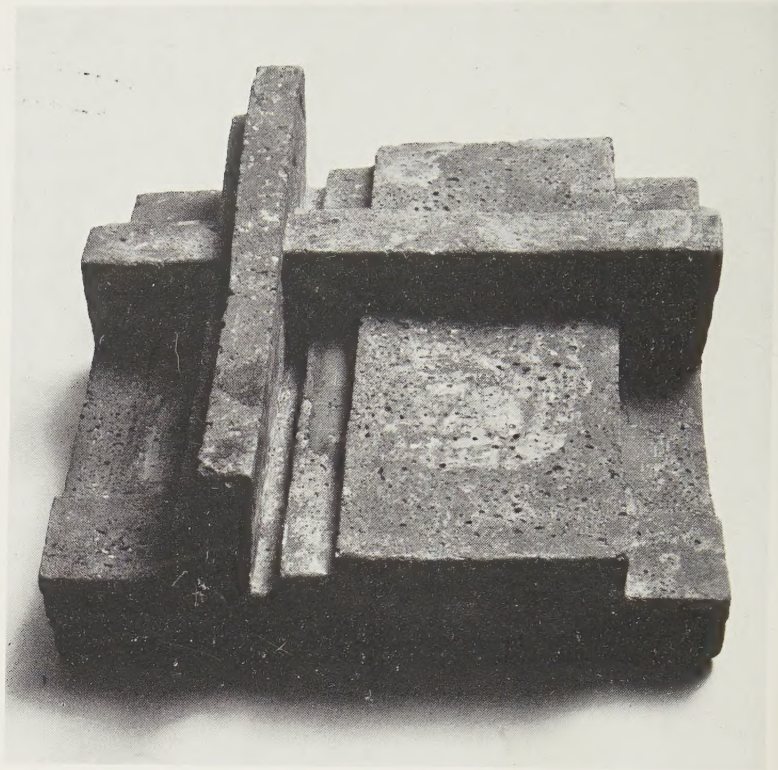
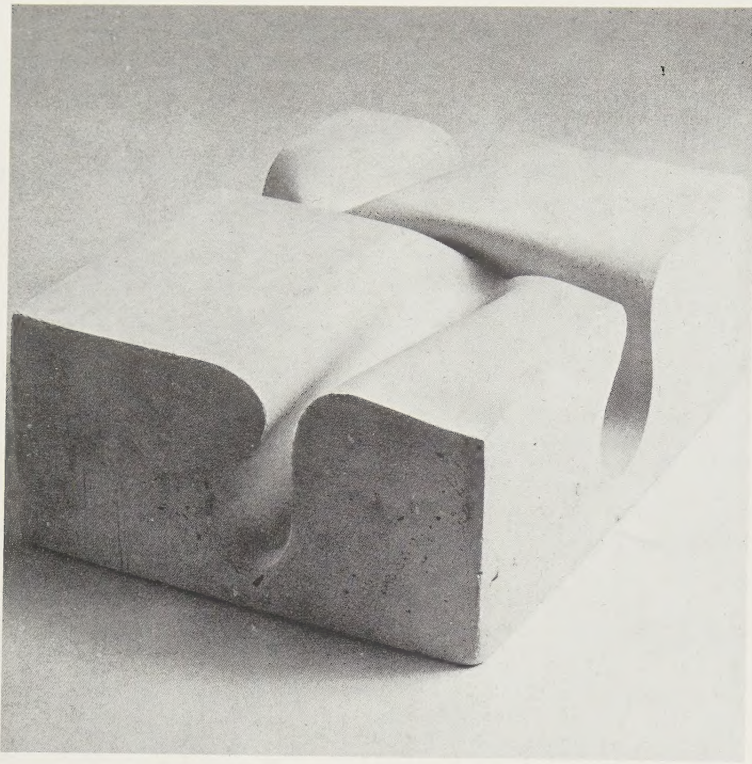


These rhythmic examples of different form elements document many creative possibilities of interpretation, abstraction, and expression. The three photographs below show the same piece translated into artificial stone, cement, and metal.

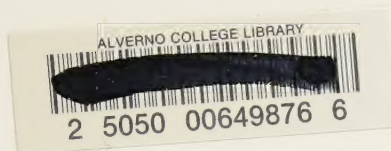




These four examples are from an exercise in which opaque or transparent plexiglass elements are deformed through heating and tension, pressure, or torsion. They are organized rhythmically into simple compositions.



In the four photographs the results of different exercises clarify the relationship between elementary dimensional appearances and creative organization of volumes: above left, plaster cast of a deformed rubber mat; below left, a rhythmic plaster cylinder formed by sawing and shifting the pieces; above right, cement casting of a clay model with a horizontal-vertical composition; below right, dimensionally intersecting elements of hammered iron.



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DEMCO

The Foundation Program at the School of Design in Basel, Switzerland is a fundamental education in art and design. It offers a number of interrelated, equally important courses. Subjects include drawing, color, three-dimensional studies, materials and tools, and exercises in form, aesthetics, and concepts, all of which are designed to promote optical and tactical sensitivity, formal perception, manual dexterity, and a clear understanding of creative processes and to clarify the students' individual talents. The program enables them to choose future professional training in graphic design, photography, typography, display design, goldsmithery, pottery, fine art, sculpture, and other related fields.

To be admitted into the program, students must be at least 15 years old, pass an entrance examination, and attend all the classes. The one-year program includes 42 classroom hours per week. All classes are conducted at the school and are limited to a maximum of 24 students.

Most of the faculty members are also professionals in their field, certified specialists who are active in visual, creative areas. Throughout the entire program, the teachers are available for individual or group consultation, which ensures that every student has an equal opportunity for a successful training. The teaching-learning process varies with each course. It can progress in several directions: linear, from simple to difficult principles; punctual, a collection of experiences derived from individual assignments; or complex, an analysis of variation sequences as an insight into the creative process.

The current standards of the program are outlined in this series, and the working procedure is explained clearly and understandably in chronological sequence. In order to clarify the interrelationships among the courses, they are categorized according to the teaching-learning process involved. The entire visual-creative program is presented in four volumes, each of which is a complete unit in itself and provides an introduction, course descriptions, and detailed illustrations.