

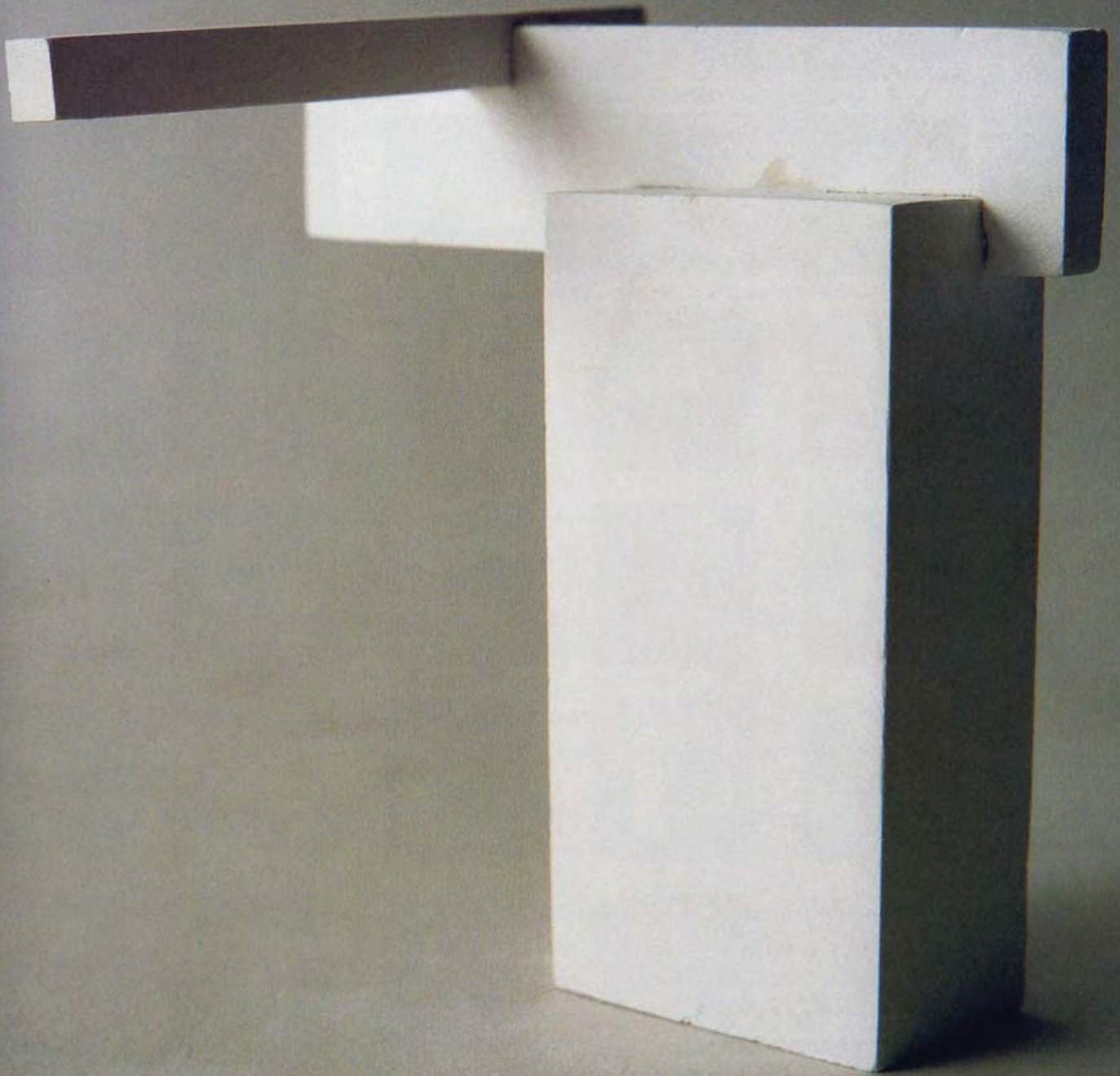
# PROBLEM ONE: RECTILINEAR VOLUMES

“At first, working with three-dimensional forms in this way is difficult, but soon you will begin to speak this language.

You really have to make these beautiful.

That sounds pretentious. How can you make three blocks beautiful?

...But I know that you can.”



Make up to fifty rectilinear volumes in clay in a wide variety of shapes. Clay is the best medium because you can both add to and take away with relative ease. The edges should read as clearly as possible. Organize the rectangles in groups of three, keeping these principles in mind:

**Appreciate the qualities of contrasting shapes.** The volumes you choose should vary in character as much as possible, and no two should have the same measurements. Learn to assess the volume of an element by eye, without measuring.

**Establish relationships between the volumes by choosing dominant, subdominant, and subordinate forms.** The *dominant* volume is the largest element, the most interesting and dramatic in character. It occupies the dominant position in the group.

The *subdominant* complements the dominant in character. Unless there is a twenty percent improvement in the character of the dominant when the subdominant is added, more experimentation is needed. The dominant/subdominant relationship can be very exciting, due not only to contrasts in character but to position as well. More often than not, the relationship is enhanced if the axes are not parallel.

**“The dominant/subdominant is a very important relationship. The first obligation of these forms is to be complementary. They have to be very good for each other—like ham and eggs.”**

The *subordinate* makes the design still more interesting by introducing a third visual element and axis. The subordinate should make the design more three-dimensional, complement the existing forms, and complete the unity of the design. It is not as independent as the dominant or subdominant. It should be contrasting but sensitive to the other forms. It must be designed to fill what is missing in the other two.

**Be aware of proportions: overall, inherent, and comparative.** The *inherent* proportion refers to the proportions within a form: length to width to thickness.

The *comparative* proportions are the proportions of one form in relation to another. Think of a tall, thin person compared with a short, stocky one.

The *overall* proportion refers to the character or overall configuration of a group of forms. (If you squint and look at the silhouetted proportions of a group of forms, you're seeing its overall proportions.) No view should be uninteresting in character. In general, in these experiences, you should exaggerate the vertical in some and the horizontal in others. Most students make a horizontal overall proportion—perhaps because it seems more stable. Never emphasize the cube.



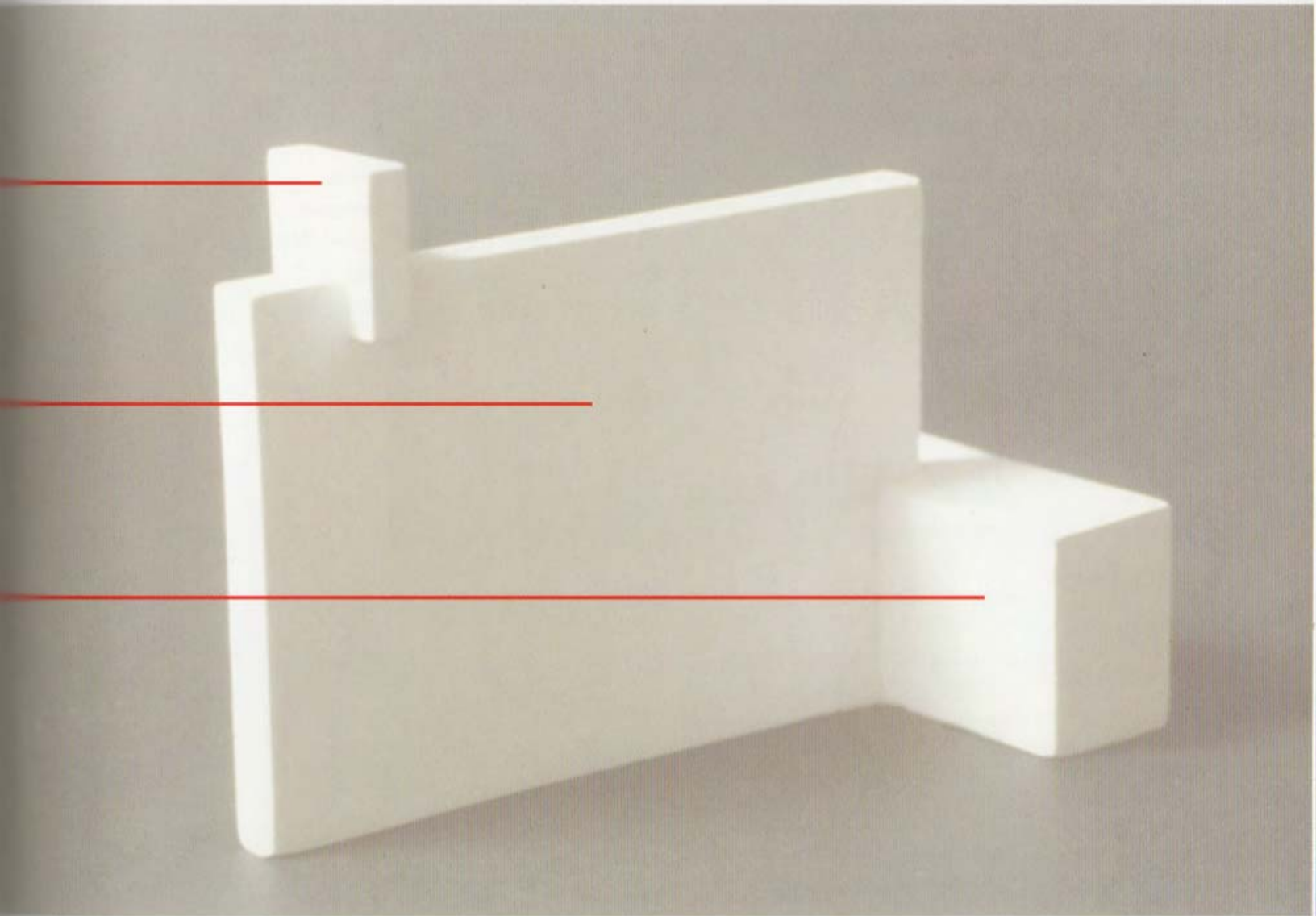
“Like a piano teacher, she made you do the exercises over and over so many times that you lost all your tricks.”

— Tucker Viemeister

S u b o r d i n a t e

D o m i n a n t

S u b d o m i n a n t



"The first problem of three rectangular solids contains elements of what the student would do for the entire four years. We relied on consecutive experiences and comparisons. When students were working on the last project in the year, they were still drawing on the first of their consecutive experiences. Students looking at their earlier work could see what they had done."

— Richard Welch

It's important to vary the proportions in your design. Make it interesting. The last thing you want is a predictable sequence of forms that looks like "going-going-gone."

The difference between beautiful and ordinary form is the sensitivity of these proportions. It is an intangible but very real quality. Understanding it is one of the most valuable assets of a visual artist. Too much time cannot be spent in developing this sensitivity in oneself and becoming intuitively aware of beautiful relationships.

**Carefully position the axes of the volumes.** The *axis* refers to an imaginary line through the center of the longest dimension of the form and indicates the strongest movement of the form. The axis gives a form its position in space. In all of the problems, we try to give each volume its own position in space.

**In this exercise, keep the axes of the volumes static (perpendicular to each other).** The *static axis* is the simplest and will help you get away from flat compositions. Later, in more advanced exercises, you will try to achieve a variety of movements of the axes. In fact, to make your designs more three-dimensional, you should use as many movements of the axes as possible. But for now, we start with a simpler challenge.

**Always conceive a design from all positions.** Work on a sturdy turntable, and continually rotate the sketch to make sure it "reads" from all directions.

**Consider how the volumes are joined.** There are three ways to join the volumes: *piercing*, *wedging*, and *cradling*.

**Ask yourself the following questions as you look at your design:**

Is there contrast between the dominant and subdominant forms?

Are they complementary? Are they too similar in size and shape? Students sometimes have a tendency to repeat the same dimensions.

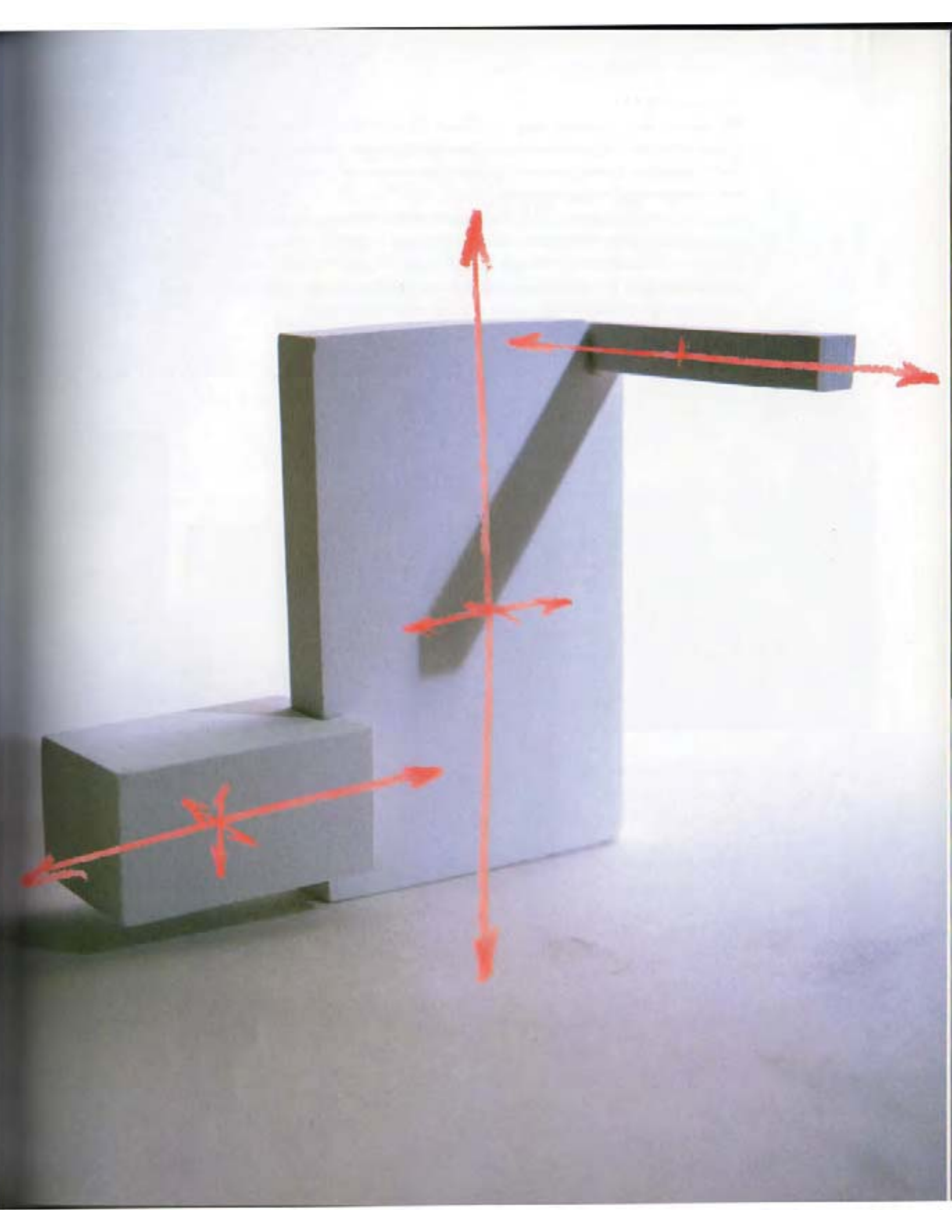
Is the dominant form in the most prominent position? Students like to put the dominant form on the bottom because that seems to hold things up, but it's not necessarily the dominant position.

Does the subordinate form add something to the three-dimensional quality and unity of the whole? Sometimes there's a tendency to treat the subordinate as an orphan.

Does the design look good from all sides, at eye level, and from the top?

"Once you've had the experience, you can destroy the exercise, and you haven't lost anything."

— Gerald Gulotta





## IN SUMMARY...

The challenge here is to create a unity from forms as essentially different in character as possible. Start by designing the dominant, then the subdominant. Spend a little time on this relationship. Quickly complete the subordinate element, and arrange in as three-dimensional a grouping as possible. This will give you a sense of the overall configuration. Then you can begin to refine. Emphasize either the vertical or horizontal proportion in each sketch. All joinings should appear structural. A balance of directional forces should be established. The design should look interesting and three-dimensional from every position. It should achieve an effect of unity in which every part relates to every other part, and every design relationship contributes to the whole.

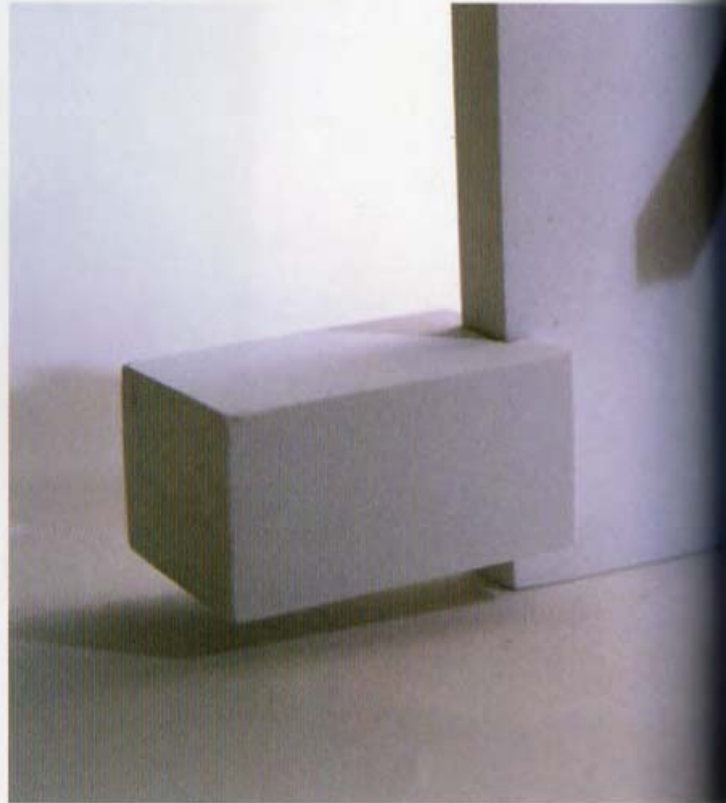
**“Think of the balance of your design as if you were a dancer. If the the axes of your arms and legs don’t support the axes of your neck and torso, you’ll fall over.”**

Unity is the visual glue that holds everything together. You know that you have achieved it when all the visual relationships within the design are organized in such an exquisite dependent relationship that every element supports and strengthens every other and any minor change would upset the perfect balance and tension.

**Take your best sketch and develop it in plaster.** You may want to make your plaster sketch larger than your clay piece—perhaps one and a half or two times larger. Differences in proportion will become more apparent as you enlarge the design.

Enlarging isn’t simply a matter of copying. It requires you to pay attention to subtle changes in order to achieve a harmonious whole.

Be sure to use Hydrocal. The mixture is harder and comes out cleaner than standard plaster.

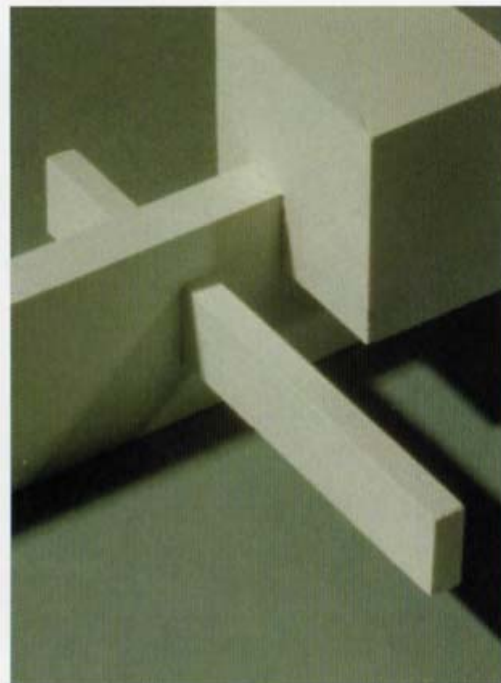


"It's important not to mix apples and oranges. Every one of the problems is meant to develop and clarify a very particular visual issue. If you overlap, then you mix them up. Miss Reed was very specific about that. If the only thing a student learns from the first problem is that one thing can make another look good by being near it, they've learned something very valuable."

— Gina Caspi



C r a d l i n g



P i e r c i n g