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# THREE PILLARS *of* DESIGN

*Function, Construction, & Form*

**F**OR THE GENERAL WOODWORKER OR BEGINNING FURNITUREMAKER ANY THEORY OR EXPLICATION OF DESIGN IS PERHAPS BETTER UNDERSTOOD AND more readily accepted as necessary when applied directly to concrete examples. As such, I have chosen to use tables as a vehicle for the initial discussion of the design process since they constitute a class of furniture that is both extremely common and almost infinitely varied. Much of what can be said about tables applies to other furniture forms, such as chairs, chests, and cabinets, and this chapter may be taken as a method of approach for whatever you may be considering designing.

Tables designed and built primarily as art objects — expressions of emotion, inspiration, or pure whimsy — may be perfectly legitimate examples of woodwork, but depend chiefly for their success on how well they manifest their maker's intent in these regards. How well they work as tables — how appropriate is the choice of species, how strongly they are put together, how finely the joinery details work, and how well they are finished — may be of lesser importance than their esthetic impact on the senses.

Tables designed for more prosaic and utilitarian reasons than those of making an esthetic statement, on the other hand, must above all function on a practical level. So far as function goes, the choice of material, construction method, joinery details, and ergonomic success are all of prime importance. But — and this is a very big ‘but’ — for these tables to be completely successful as satisfying examples of furniture, esthetic considerations remain equally important.

Woodworkers often shy away from such esthetic considerations, believing, incorrectly, that such considerations are largely subjective, and as such dependent on the extent of the woodworker’s exposure to fine art and other sophisticated cerebral machinations, such as are usually only gained at art school. But as every successful professional designer knows, reliance on one’s own eye or intuition can be a risky proposition. Instead, he or she typically makes use of many often surprisingly simple tools that guarantee that whatever is being designed will both function and look well.

Regardless of your experience as a woodworker, if you adhere to the following three-part plan you are more likely to achieve a satisfying result than if you approach your next table, or any other project, in a more random manner. Most simply stated, the plan consists of identifying the precise function of your particular table, giving careful consideration to the material and the construction, and following some form of esthetic rationale throughout the entire design process. These three elements — function, construction, and form — constitute what may be referred to as *The Three Pillars of Design*, upon which, equally, every truly successful piece of furniture must rest.

## FUNCTION

CLOSE ATTENTION TO FUNCTION IS THE DESIGNER’S FIRST responsibility. You may, of course, regard the function of a table as being any one of a variety of things: the art object mentioned above, an excuse to make shavings or sawdust, an opportunity to spend time alone in the workshop, or a vehicle for practising your woodworking skills. In all of which cases its functionality as a usable piece of furniture is largely irrelevant. But whatever your motivation, be absolutely clear about it from the outset.

Considered solely as a utilitarian piece of furniture, the quintessential function of a table is to provide a flat surface that may be used for writing on (hence the secondary meaning of ‘table’: something that has been written, such as a ‘table of contents’). Further employed as a surface on which to play games or at which to eat or work, a table in the furniture sense suggests a flat surface supported on legs or pillars. The form of any given table may therefore be as varied as are these several uses.

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A partial list of tables drawn from *The Dictionary of English Furniture* by Percy Macquoid and Ralph Edwards (see the Select Bibliography) illustrates how many and varied these uses may be, for example: artist's table, reading and writing table, billiard table, breakfast table, coffee table, dining table, card and gaming table, massage table, end table, library table, dressing table, occasional table, shaving table, hall table, night table, sofa table, communion table, and tea table.

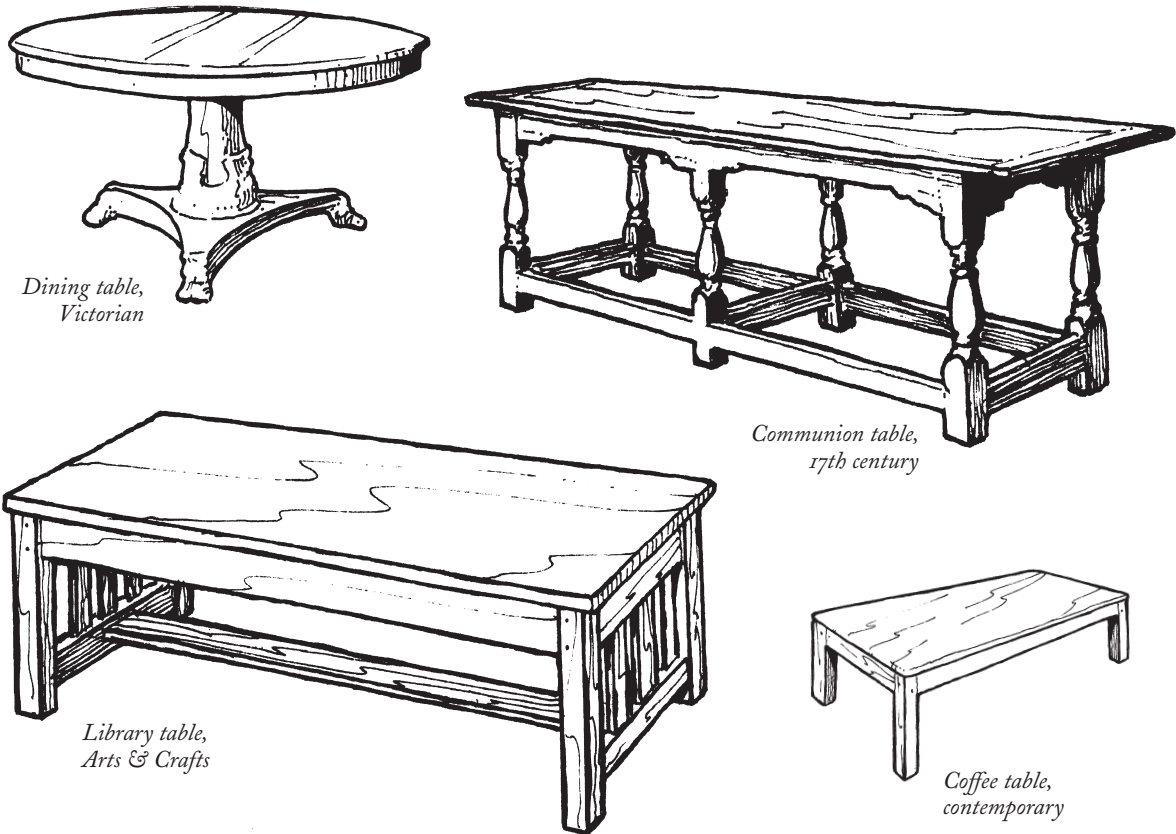


FIG. 1 TABLES FOR DIFFERENT USES

Faced with such a multiplicity of uses, it is of the utmost importance to be perfectly clear at the outset about the particular requirements of the table you intend to design. These include not only structural requirements, so that the table can do the job intended for it, but also the ergonomic requirements. The best-made library table in the world, for example, will be a failure if made with legs too weak to support a heavy load of books. The most exquisite dining table will similarly be a complete failure if it proves too small to sit at. And the most commodious drafting table will be useless if the top does not slope.

Over the centuries, with the development of newer techniques and advances in joinery, structural requirements have gradually become less intrusive. Massive 16th and 17th century tables needed heavy stretchers close to the floor to provide stability for the legs. Excessive wear on these members is evidence of their inconvenience. Few people would today design a dining table with such an obstruction. Similarly, the large feet necessary to withstand wear on stone floors are usually no longer needed.

Having ascertained your proposed table's functions, familiarize yourself with other examples of tables designed for identical functions, and note features designed for specific purposes, such as sturdy legs for heavy loads, drop- or draw-leaves for variable-size tables (occasionally called upon to accommodate greater numbers), lipped tables designed to prevent objects placed upon them from falling off, and added drawers or shelves for tables designed to include storage. A reference such as *Architectural Graphic Standards* by Charles G. Ramsey and Harold R. Sleeper (see the Select Bibliography) is a useful place to explore table types by function, and a good basic reference for the relevant standard or average dimensions.

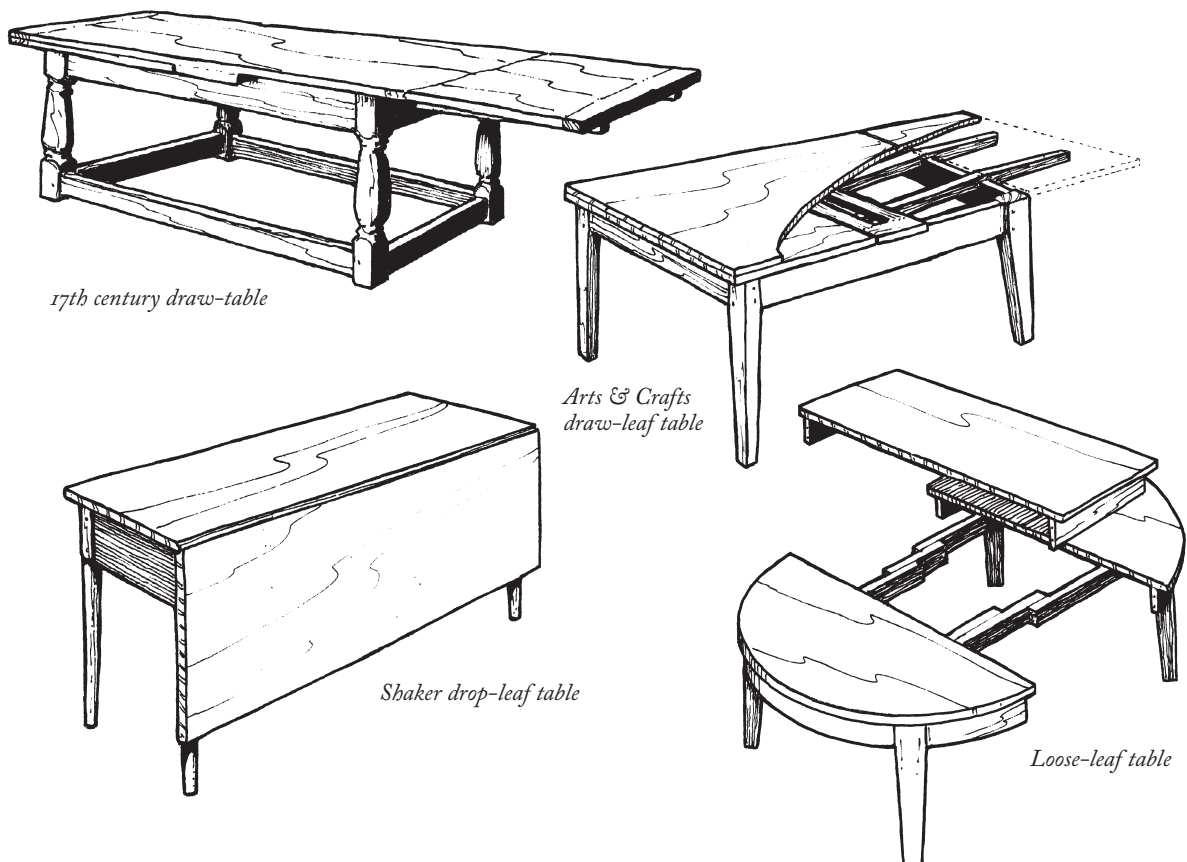


FIG. 2 VARIABLE-SIZE TABLES

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Even though they can be a useful place to start, beware of slavishly following so-called standard dimensions. While most people might find a table designed for writing, for example, to be more convenient if made somewhat higher than a table designed for eating, few people are exactly standard. Unless you are involved in the production of many examples of a particular table, your client will be better served if the dimensions are uniquely suited to him or her. Nevertheless, certain aspects of many tables are relatively unalterable, such as the amount of leg room required beneath an apron or the size of the area required before a diner for greatest convenience. Furthermore, a table rarely exists *in vacuo*; other factors, such as pre-existing furniture or the seating to be used with the table, can influence the choice of dimensions.

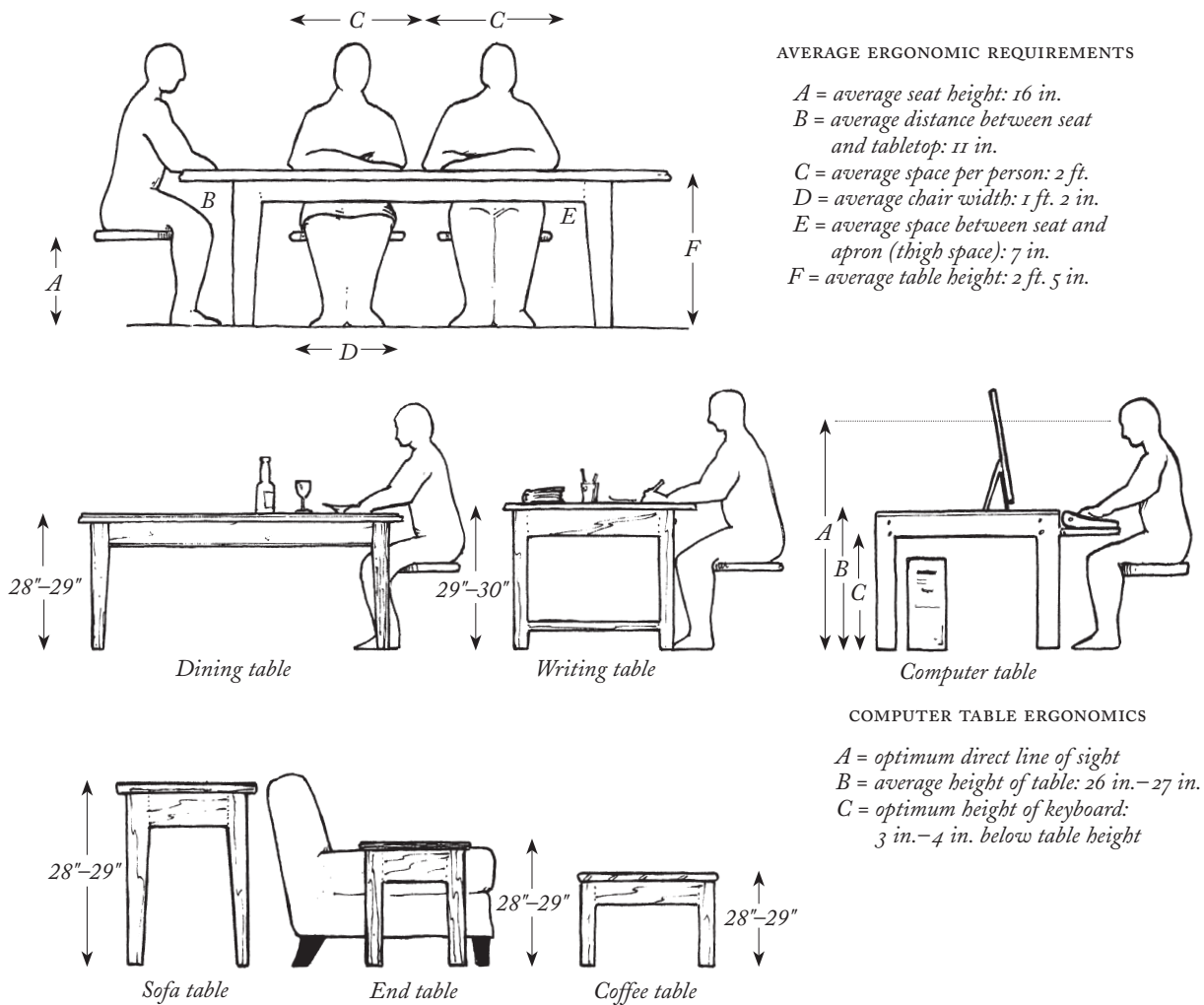


FIG. 3 STANDARD DIMENSIONS

CONSTRUCTION

A TABLE MAY ALSO BE DEFINED BY VARIOUS STRUCTURAL features and construction methods, such as clap table, console table, demi-lune table, draw table, gate-leg table, trestle table, nesting (or quartetto) table, pier table, Pembroke table, or refectory table.

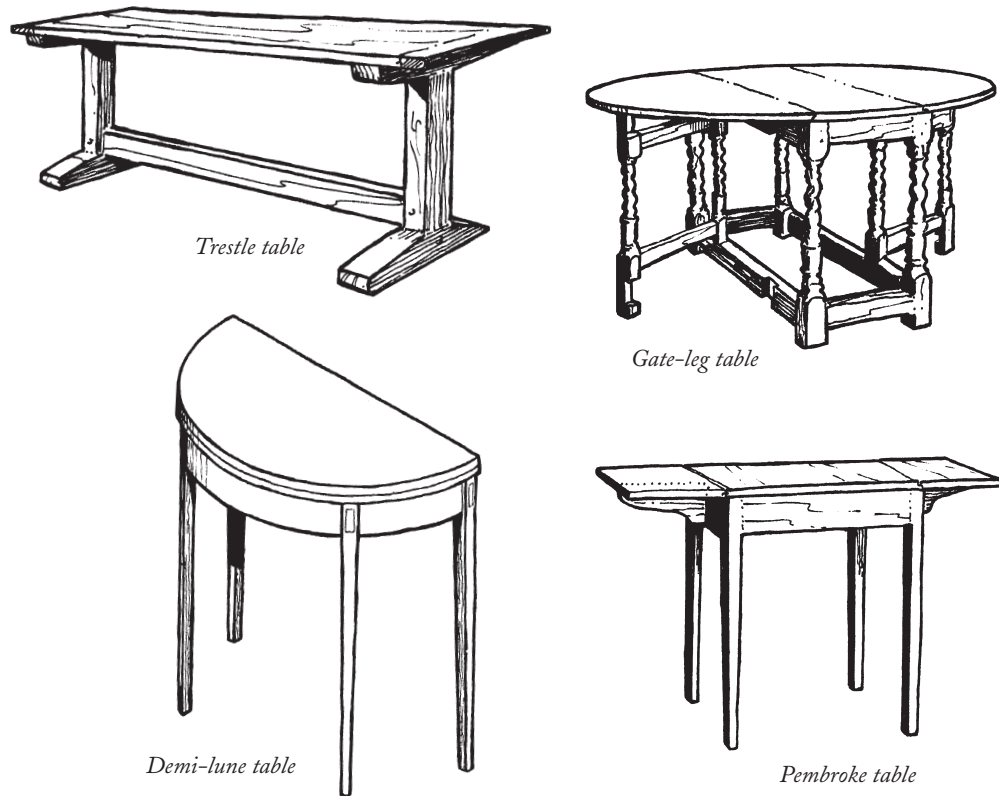


FIG. 4 CLASSIFICATION OF TABLES BY CONSTRUCTION

The construction should, of course, be consistent with the intended use: a knock-down trestle table for portability, a drawer-leaf table for occasional enlargement, or a sectional table for alternative disposition of its various parts.

While your own experience and available tools will dictate to a large extent how any given table is constructed, it is a good design principle to resist the impulse to build only what you know. No one person can be expert in everything, but be assured that many things are possible; it is worth the effort to research a new technique or a new joint for the sake of better function or more pleasing shape. One of the most innovative early 20th century designers, Jacques-Émile Ruhlman, achieved greatness

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by pushing the construction envelope. He was fortunate, however, in having gifted cabinetmakers in his employ, and so was able to increase the structural vocabulary of the craft by refusing to be limited by what had been done before.

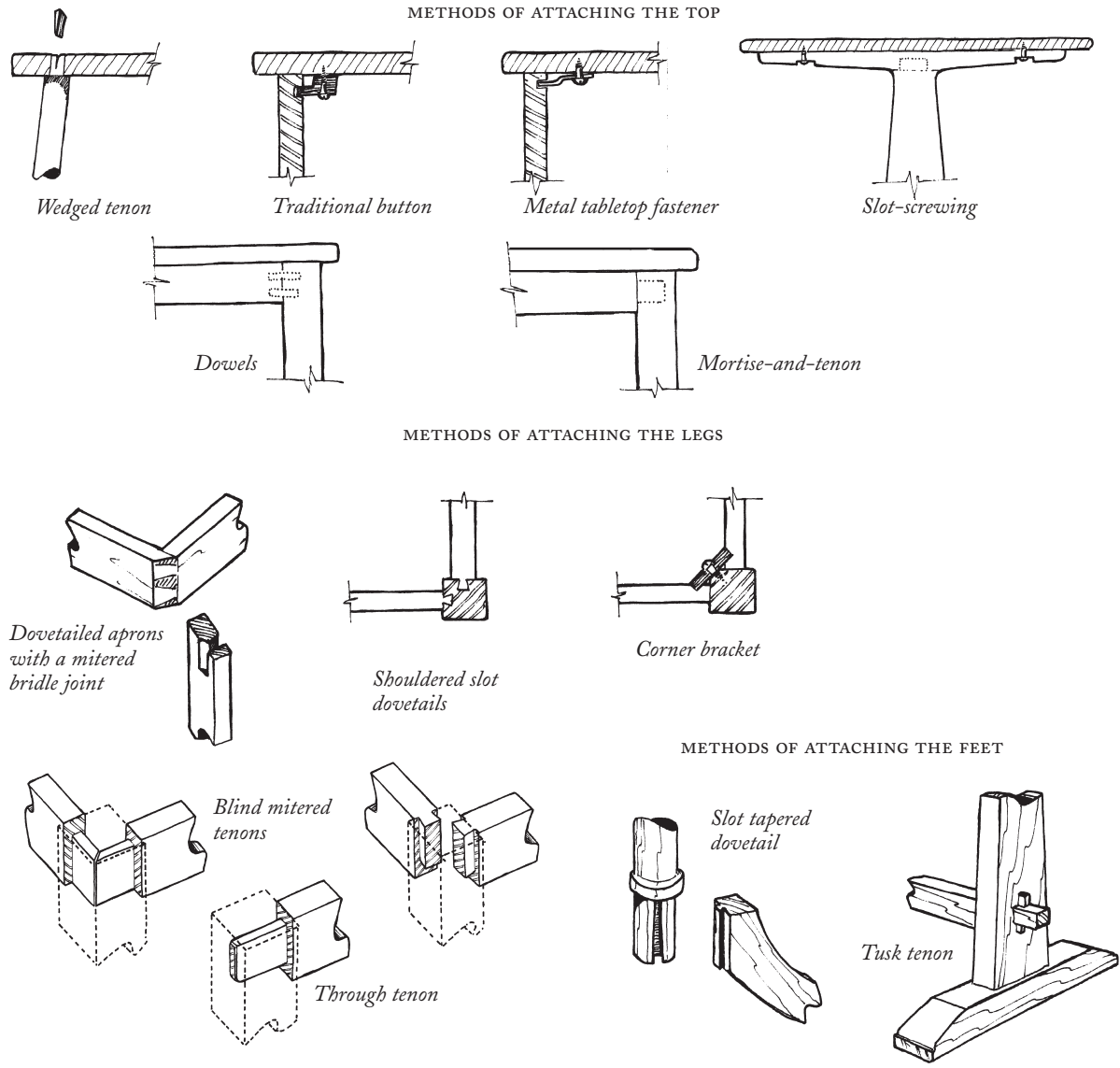


FIG. 5 JOINERY DETAILS

At the same time, do not get carried away by the urge for novelty. Successful construction entails the use of appropriate species, such as scrubbable pine for kitchen tables, hard-wearing maple for butcher-block



chopping tables, expensive but figured veneer for elegant dining tables, or a stable species for use in climatically extreme locations. Successful construction also entails relevant construction methods, such as stack lamination for sculptural shapes, veneered surfaces for large conference tables, or gatelegs for storable tables, as well as the right joint for the job: dovetail, mortise-and-tenon, dowels, biscuits, or splines, for example, and, last but not least, a finish consistent with the intended use.

Chapters 5 through 16, while each exemplifying a particular aspect of the overall design process, may at the same time be read as in-depth practical illustrations of various construction methods. Increasing your construction expertise is a never-ending part of the craft.

## FORM

THE THIRD INGREDIENT FOR SUCCESSFUL TABLE DESIGN requires that every detail be considered from the point of view of how well the table will look. Such details include color, figure, ornament, decoration, carving, stylistic consistency, and proportion.

Given that the functional requirements have been satisfied, and that the construction is sufficiently workmanlike, the most striking feature of any table is how well it fits in with its surroundings. For any given piece to work well in a particular environment may require that you design in an established style, Queen Anne or Arts & Crafts, for example, or — perhaps more simply — design so that the general proportions, shapes, and even colors that you choose are compatible with those of the neighboring pieces. Compatibility, of course, can result both from similarity or contrast. A severely modern design might fit very well with the relatively simple lines of a room full of Shaker furniture, whereas it might look uncomfortably out-of-place in a room furnished in a ponderously Gothic, or an ornate 18th century style.

Designing in the style of a particular period can be difficult if the underlying design sensibility of the particular period is not completely understood. It is not enough to employ superficial features of a particular period to achieve the right feeling. Slapping some mis-proportioned cabriole legs onto a table does not guarantee that it will look Chippendale. Incorrect details can produce ludicrous and unhappy results similar to applying a distinctive Rolls-Royce hood to a Volkswagen Beetle. Arts & Crafts furniture is nowhere as square and rectilinear as it may initially appear. And Shaker furniture, for all its apparent simplicity and lack of ornament, is often surprisingly sophisticated in its proportions. Before attempting to design a table in a period style, therefore, ensure that you are familiar not only with the typical construction techniques and the usual materials of the period, but also that you understand the forms that governed the proportions.