Principles of Design

The **Principles** are concepts used to organize or arrange the structural elements of design. These principles include: proportion; balance; rhythm; emphasis; contrast, harmony & unity.

ACTIVITY: For each of the Principles, find a timber product design and draw and write on it to show how it uses each Principle.

Proportion

Proportion refers to the relative size and scale of the various elements in a design. The issue is the relationship between objects, or parts, of a whole.

Our most universal standard of measurement is the human body; that is, our experience of living in our own bodies. We judge the appropriateness of size of objects by that measure. For example, a sofa in the form of a hand is startling because of the distortion of expected proportion, and becomes the centre of attention in the room. Architectural spaces intended to impress are usually scaled to a size that dwarfs the human viewer. This is a device often used in public spaces, such as churches or centres of government. The same principle is often applied to corporate spaces through which the enterprise wishes to impress customers with its power.

In contrast, the proportions of a private home are usually more in scale with human measure, and as a result it appears friendlier, comfortable, less intimidating.

Balance

Balance is the concept of visual equilibrium, and relates to our physical sense of balance. It is a reconciliation of opposing forces in a composition that results in visual stability. Most successful compositions achieve balance in one of two ways: symmetrically or asymmetrically**.** Balance in a three dimensional object is easy to understand; if balance isn't achieved, the object tips over. To understand balance in a two dimensional composition, we must use our imaginations to carry this three dimensional analogy forward to the flat surface.

Symmetrical balance can be described as having equal "weight" on equal sides of a centrally placed fulcrum. It may also be referred to as formal balance. When the elements are arranged equally on either side of a central axis, the result is bilateral symmetry. This axis may be horizontal or vertical. It is also possible to build formal balance by arranging elements equally around a central point, resulting in radial symmetry.

Asymmetrical balance, also called informal balance, is more complex and difficult to envisage. It involves placement of objects in a way that will allow objects of varying visual weight to balance one another around a fulcrum point. This can be best imagined by envisioning a literal balance scale that can represent the visual "weights" that can be imagined in a two dimensional composition. For example, it is possible to balance a heavy weight with a cluster of lighter weights on equal sides of a fulcrum; in a picture, this might be a cluster of small objects balanced by a large object. It is also possible to imagine objects of equal weight but different mass (such as a large mass of feathers versus a small mass of stones) on equal sides of a fulcrum. Unequal weights can even be balanced by shifting the fulcrum point on our imaginary scale.

Whether the solution is simple or complex, some form of balance can be identified in most successful compositions.

Rhythm
Rhythm depends largely upon the elements of pattern and movement to achieve its effects.

Visual rhythm can be created in a number of ways. Linear rhythm refers to the characteristic flow of the individual line. Linear rhythm is not as dependent on pattern, but is more dependent on timed movement of the viewer's eye.

Repetition involves the use of patterning to achieve timed movement and a visual "beat". This repetition may be a clear repetition of elements in a composition, or it may be a more subtle kind of repetition that can be observed in the underlying structure of the image.

Alternation is a specific instance of patterning in which a sequence of repeating images are presented in turn; (short/long; fat/thin; round/square; dark/light).

Gradation employs a series of motifs patterned to relate to one another through a regular progression of steps. This may be a gradation of shape or colour. Some shape gradations may in fact create a sequence of events, not unlike a series of images in a comic strip.

Emphasis

Emphasis is also referred to as point of focus, or interruption. It marks the locations in a composition which most strongly draw the viewer's attention. The emphasis is usually an interruption in the fundamental pattern or movement of the viewer's eye through the composition, or a break in the rhythm.

The designer uses emphasis to call attention to something, or to vary the composition in order to hold the viewers interest by providing visual surprises, such as figured grain in timber.

Emphasis can be achieved in a number of ways. Repetition creates emphasis by calling attention to the repeated element through sheer force of numbers.

Contrast achieves emphasis by setting the point of emphasis apart from the rest of its background. Contrast of colour, texture, size or shape will call attention to a specific point.

Placement in a strategic position will call attention to a particular element of a design.

Contrast
Contrast is the juxtaposition of opposing elements e.g. opposite colours on the colour wheel - red/green, blue/orange, etc. Contrast in tone or value - light/dark. Contrast in direction - horizontal/vertical.

Harmony
Harmony in design is the visually satisfying effect of combining similar, related elements. e.g. adjacent colours on the colour wheel, similar shapes etc.

Unity

Unity is the underlying principle that summarizes all of the principles and elements of design. It refers to the coherence of the whole, the sense that all of the parts are working together to achieve a common result; a harmony of all the parts.

Unity can be achieved through the effective and consistent use of any of the elements, but pattern-- that is, underlying structure - is the most fundamental element for a strong sense of unity. Consistency of form and colour are also powerful tools that can pull a composition together.

Unity can also be a matter of concept. The elements and principles can be selected to support the intended function of the designed object; the purpose of the object unifies the design.