
Walt Stanchfield 43

Notes from Walt Stanchfield's Disney Drawing Classes




"Using the rules of perspective"

by Walt Stanchfield


“Using the rules of perspective“


USING THE RULES OF PERSPECTIVE


As artists we see through eyes that constantly search for shape, gesture, color, contrast, etc. When we draw from the model (or from life in general) we have a tendency to feature shape. A thing is either round or oblong or rectangular or some combination of each. These in turn create the two dimensional negative space that forms a relationship between one or more objects or parts of one object. It requires an extra nudge of observation to see things as third dimensional and two extra nudges to translate that third dimension onto a two dimensional surface.

The rules of perspective such as: (diminishing size) 
(overlap) 
(surface texture) 
are invaluable for this purpose.

Also, since we do see things as basic shapes, we must think of the shapes as being third dimensional.

For instance a rectangle  is as flat as
the paper is as flat as the paper it is drawn on.

But add the rule diminishing size and we get a somewhat 3D shape. 

Add some bulk to that shape and the 3D feeling (or illusion) is augmented. 

Add a slight angle or give it a twist and the illusion is even more apparent.



It is more difficult to achieve three dimensions with an orb or spherical shape, but can be done with the aid of the rules of perspective. For instance when drawing a head, the nose, forehead, cheeks, ears and chin may be thought of as shapes that overlap other shapes.



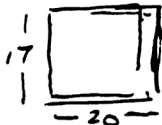
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
If the model strikes a pose that forms a rectangle viewed straight on, that rectangle from a three quarter angle would look like this:



The degree of diminishing size (perspective wise) would depend on how close to the model (or object) we are and at what angle we are seeing it.

If our eye is 1 foot from a rectangle measuring 17' by 20'



at a 7/8 degree angle  the far side will appear to be about 7 inches high.

meaning that within 20 inches the upright line has diminished by more than one half. At 6 feet it is only 4 inches shorter, and at 12 feet it is only 2 inches shorter. So the ratio of diminishing perspective lessens as the distance increases.

So the factors that concern us are - how far from the object are we and what is the angle of perspective, that is:

one quarter, or



three quarters.



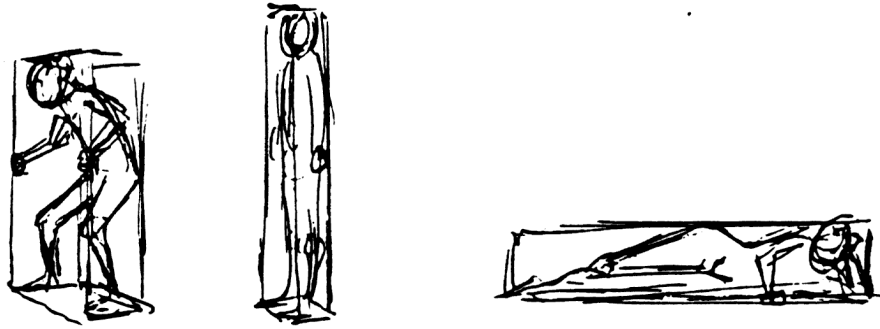
We have gotten a little technical here but it is only to stress the importance of thinking of and seeing things in third dimensional space. If we carried the premise of the diminishing rectangles further we could divide all space into cubes.



Layout and Background artists are more apt to think in these terms for they deal with scenery that involves space and objects in that space.

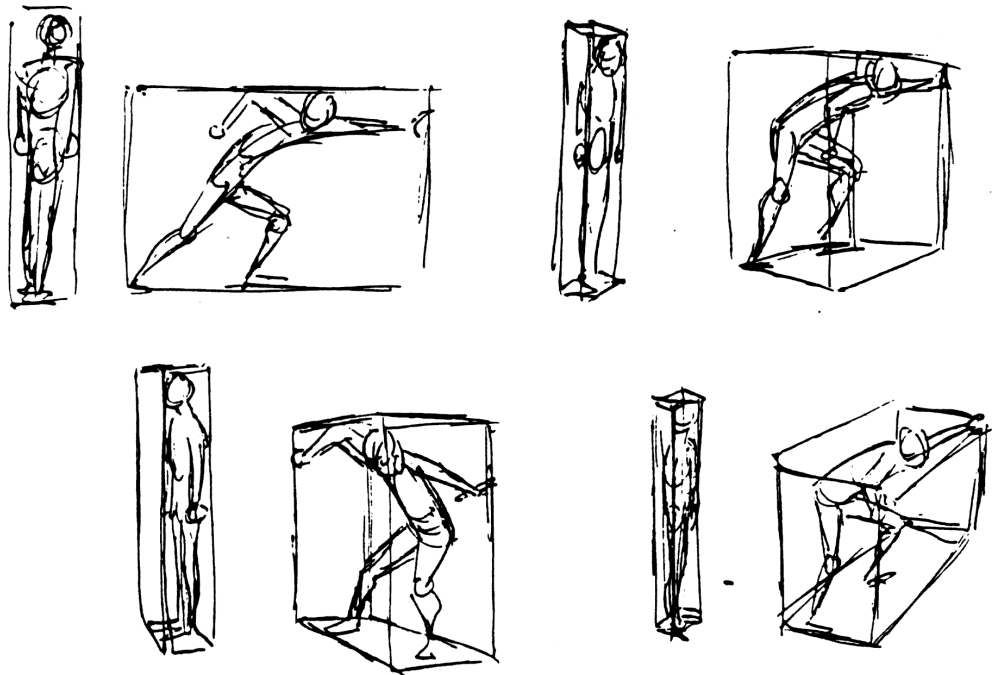
For the artist drawing or animating a figure, whether human or cartoon we are dealing with only one cube of that space at a time. A variable cube that encompasses the perimeters of the figure and its gestures.

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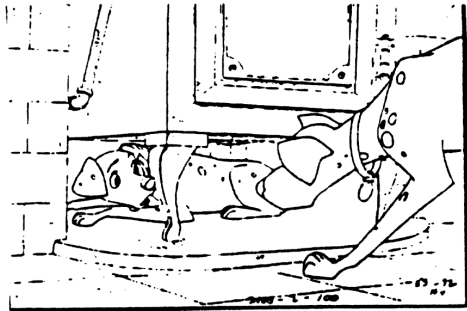


The imaginary cube reveals the third dimensional negative space so important in capturing a third dimensional drawing on a two dimensional surface. If all the rules of perspective aren't considered while making a drawing or animating a scene, the character could end up looking as though it were confined between two panes of glass, forcing it to do its thing on a two dimensional stage. Extending that plane into the third dimension gives the character depth as well as lateral space to move in.

Feeling that third dimensional negative space can also be helpful in creating tension in a pose or action.



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Purdy- forced to work in tight rectangle.

Dwarfs form a circular area:



Props such as this ironing board aid in creating depth.

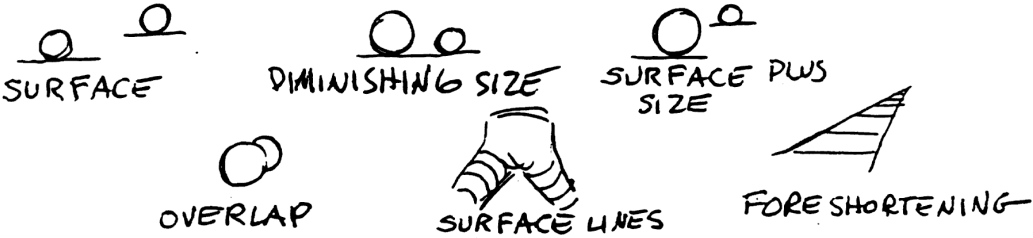


Excellent three-dimensional drawing of Mickey.

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APPLYING THE RULES OF PERSPECTIVE

Whenever I think of drawing, my thoughts go back to those principles of perspective I mentioned a while back. The more I think about them, the more I come to believe they ought to be called the "All encompassing principles of drawing". I never make a drawing without being conscious of them, and when I am having trouble with a drawing, I delve into those rules and they are a sure help. For those of you who were not privy to those simple but very valuable rules (which I "borrowed" from Bruce McIntyre), here they are:



Take the one about diminishing size. That has to do with establishing a vanishing point on the horizon and having all things diminish in size from an established height in the foreground to that vanishing point. In animation we work with a layout that has that kind of perspective built in, so we have to draw our characters with a somewhat matching perspective. Let's consider how these rules may be used to accomplish a desired third dimensional effect. This may seem like an unlikely approach, but let's take 5 dimes (minus the detail). Knowing they are all the same size, if we drew them all the same size, they would all appear to be the same distance from us.



If we varied the sizes they would appear to be at different distances from us. (rule: "diminishing size")



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If we put two of them side by side, we create, and are aware of the space between them. (2 dimensional space.)



Now if we place one behind the other, (rule: overlap) plus making one of them diminished in size, (one of the rules of perspective) we create a 3rd dimensional negative space:



If we take just one portion of our dime drawing, we would have what I once saw in a book on drawing, the "T" principle.



There will be numerous occasions where we can use the whole dime thing, for instance in foreshortening the figure at some acute angle, the head (one dime) in front of the chest (second dime), the chest in front of the hips, (third dime), and etc.

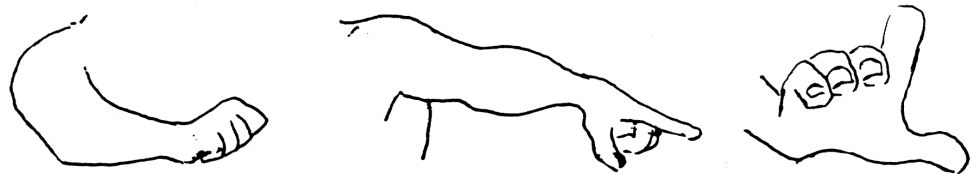


Those areas are easy to relate to a circle (whole dime) but when we are faced with longer and straighter shapes: an arm or leg or fingers foreshortened, then is when we can use just a small portion of the dime, or the "T" section:



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Using the dime bit or the "T" section principle creates depth (one thing in front of another) whereas if it were absent, all those lines would run together and depth would be destroyed by what is called a tangent. A tangent being: when two or more lines meet or merge into one another so there is no differentiation between the parts which they describe:



Here is a good illustration of a tangent problem and its solution:



Along these lines (slight pun intended) we might introduce the "L" rule. In cases where one thing meets another but is neither in front of nor behind it, (changes direction but does not overlap) but where differentiation is needed or desirable -- use the "L" rule.



Actually the "T" principle also coincides with the surface direction rule, for to show surface direction on a foreshortened object - we just think of the stem of the T as the vertical angle and the cross as the horizontal angle. Thus:



We may be tempted to think of surface lines as belonging only to striped blouses or trousers, but actually everything has surface lines, though not always visible.

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Take the mouth for instance. It is situated on the head (a modified sphere) and changes its "surface line" as the head is tilted up or down. Likewise the eyes and the ears:



Even the line of the nostrils does the same thing:



Likewise the brows, cheeks, etc. Anything on a curved surface will do it. Surface lines on a flat surface work differently. When they are tilted they simply get closer together:



But back to the problem of making a third dimensional drawing with the limiting, restrictive, two dimensional lines we are forced to use--those ever helpful elements of perspective are present in every area of every drawing we will ever make. Being conscious of them will be a great help, plus a great comfort, in our quest for good draftsmanship. Not that draftsmanship is the ultimate goal, but it does take draftsmanship to express oneself in animation. Knowing and using these principles when needed is like having a good road map when traveling in unfamiliar places.

Walt