Entertainment XI

"Angles, Straight Lines and Curves" by Eric Larson

The story is told of a learned man who, being questioned by a colleague about an obvious truth, replied disgustedly: "Why, it's as plain as the nose on your face!"

To each of us the need and use of "Angles, Straight Lines and Curves" in our animation drawings should be just that - as plain as the nose on our face - because, properly used, they, the "Angles, Straight Lines, and Curves," create the change of shapes we need to bring about the illusion of life our linear drawn characters must have as they "live" on the screen. This we know. So it's very obvious, even in a simple action such as the bending and straightening of our little finger.

In moving from the straight finger to the bent (angled) finger and back to the straight, the action is very visual and alive, isn't it? There-in is a "change of shapes." It's animation.

Often in the analysis and execution of our action we're not making the best use of the change of shapes found in those "Angles, Straight Lines, and Curves," and in such cases our characters lack the weight, balance, silhouette, rhythm, and personality we desire in our drawings.

"Angles, Straight Lines, and Curves" suggest emotional or physical expression. An "angle" suggests tension. The "straight line" suggests thrust, strength, emphasis or force. A "curved line" gives movement, flow and rhythm. It's an "action" line.

Tension (the "angle") shows in various parts of the body in every move we make. It might be in the knit and furrowed brows exhibited in the expression of anger or deep thought. It might be in a bent elbow or knee in a given action.

> ***For instance:*** *As we jump from a chair onto the floor and our downward movement is suddenly stopped as our feet contact the floor, what happens? The body shape changes, doesn't it? Our knees bend as a result of our weight and the sudden jolt of the contact. Our body bends forward from the hips and the fanny moves backward giving an angular pose, the total picture being a strong statement of weight, balance and tension. We come up out of this position into another pose and attitude or we might lift to full height in anticipation to walk away.*

Never think of the "angle" as being unimportant. If an elbow or knee bends be sure it's a positive bend and that there's a <u>reason</u> for it! Too, we might just want to rest a <u>hand</u> on that bent <u>knee</u> in a given pose so the <u>shape</u> and <u>form</u> of that <u>knee</u> should be well defined.

The flexibility of the wrist allows the hand to move with fluidity and its position, relative to the forearm, can constantly change as the action might dictate and in such action we find good, visual "angles." With this flexibility the hand becomes a graceful expression of mood and movement. As an example, consider the dance routines. The use of the hands is a major contribution to the whole. Take a look at the "ballet" or the "hula," for instance, and in them, note the rhythmic grace and charm the hand movements portray. The Hawaiians recognize this when they suggest in the song that you "keep your eyes on the hands" - at least try to. Hands are so very expressive, but would they be if the wrists were not functional?

The ankle is another little usable gem and the positions it allows the foot to get into, or move through, are so much a part of the action - action like walking, running, jumping, kicking, etc. If the foot moves, the ankle is involved and an "angle" is formed. Every joint in the body is for a purpose and in the functioning of the same, "angles" of one degree or another appear - all useful and an important part of our animated action.

We've mentioned knees, elbows, ankles and wrists but the body, human or animal, has many "joints" which, when used, add life and strength to our animation. Head moves (rolls and tilts) suggest attitudes and expressions. Hips, shoulders and fingers are flexible and the possibilities they offer in action are endless. The point is, we must be aware of these "parts and joints", know what they have to say, and try to make good use of them to improve the quality of our animation.

Even inanimate "characters" (chairs, tables, musical instruments, boats, a piece of string - the list might be endless) we bring to "life" on the screen will have imaginary "joints" to use in bringing about the action our story might require.

The "curved line" is an undulating line and it says: "Movement, rhythm, flow, energy." We see it in graceful moves and body attitudes in the ballet. We see it in the swift patterned flight of the gazelle. We see it in the rise and fall of the ocean swells. We see it in the body twist as the action flows from the toes, up through the body and into the head or the outstretched arms, giving the pose life and meaning.

A pose becomes very brittle and lifeless if the whole body is in one perspective - with head, chest, waist, arms and legs, all facing in the same direction. It will have even less appeal than the famous "cigar store" indian of years ago. Twists through the body - perspective changes if you will - are necessary to keep a pose interesting. Even the most quiet pose will have an interesting action line - just look for it.

As we check around and make note of how people sit, how they stand, how they walk - we'll not find static poses. Movement is a definite part of every attitude, regardless of how gentile or strong that attitude is. And in all that "curved line" is most evident and so very important.

The reverses that take place in the "curved line" as body changes and poses change present dramatic "changes of shapes." The old cartoon gag of the guy being chased by a dog is a simple, graphic illustration of this. The first panel of the action shows the man running at top speed, body bent way forward, arms extended, in an effort to out run the dog. But, the dog gains on the guy and snaps at him. The second panel shows the man frantically running, his fanny "tucked in" and his body bent way backward, legs lifting high, clearly reversing the "curved" line of the body action in the first pose. In panel one the man's fanny is a good, clear target - in the second panel the man tries to pull his fanny out of the dog's reach. In the latter his running speed appears more frantic because his high stepping action gives a driving piston-like movement in his legs and his body is bent way backward in a <u>reverse</u> curve in his effort to keep out of the dog's reach. The tempo of the man's run in the dog and the man situation might be the same in both poses, but as the action progresses the body attitude dramatically changes and the man's emotions are visually simplified - simply because of the strong <u>reversal</u> of the action line in the body attitude. The man's action and attitude in the beginning suggests extreme anxiety which, in the second panel, suddenly bursts into terror!

Have you ever observed a beginner on ice skates? If so, you saw a wonderful exhibition of the "change of shapes" we talk about, and in that change the "curved line" was most evident in defining those shapes. The frightening job of trying for balance found the skater's body in many and varied rhythmical shapes - almost as a contortionist - often ending in a pratfall. If we were to study those positions as extreme drawings we would find exceptionally strong action lines through each pose - action in which one part of the body would be frantically trying to balance another, but going too far and having to adjust or fall. Action that never could be expressed without "curved lines."

In animation, the "curved line" is always visible - always expressive - always powerful in what it says. It is always changing giving a pleasant, fluid relationship of various body forms, one to another. In all areas of art there is no greater opportunity to use the "curved line" than in the animated picture where movement and rhythm must make strong, positive statements.

We have noted that the "straight line" gives strength, emphasis, force and direction to our poses. If we fail to use them to get the desired accents in our drawings and the visual strength so needed in all our action, our work will show only insincerity and mushiness. We can't afford that!

The "straight line" is present in almost everything. Imagine, if you will, a building in the grand style with stately columns being a little less than stately because they zigzag up from the base to the top in an undulating pattern. Would you feel that the building was well supported? Could it come tumbling down? Whatever it might do or however it might look, it, the building, would lose its awesomeness because the visual strength of the straight line, accepted and needed in such architectural pillars, would be missing.

The "Taj Mahal," probably one of the most impressive man-made structures in the world is magnificently replete with a combination of "straight lines, curved lines, and angles." So well is it designed with shapes and areas in constant harmony that, viewed from any and every angle, it is most inspiring.

The "straight line" is everywhere in the creations of man and nature but, like the "angle" and the "curved line," it has to be related to another shape if it's going to be expressive. The "straight line," obvious in the drawing of the arm as we <u>reach</u> for an object on a table, will have a relationship to a body shaped by "curved lines" and "angles."

In a walk, the <u>straight</u> leg needed to show the reach into a step and the contact of the foot touching the ground is preceded and followed by the varied angles the bent knee forms as the leg is pulled through into the step and following the foot contact, showing the body weight on the leg.

To feel the tension in a rope pulled taut we would have to see a relationship of the pull (a "straight line") to the sag in the rope (a "curved line") prior to the pull. Again, as with the leg action, the strength of that straight line in the action is shown through the "change of shapes."

The considerate use of "Angles, Straight Lines and Curves" in our drawings will make them more crisp, appealing and communicative. To repeat: We must understand their value, use and relationship, one to another, and that understanding comes only through our constant awareness and application of them in all that we do.

Eric Larson