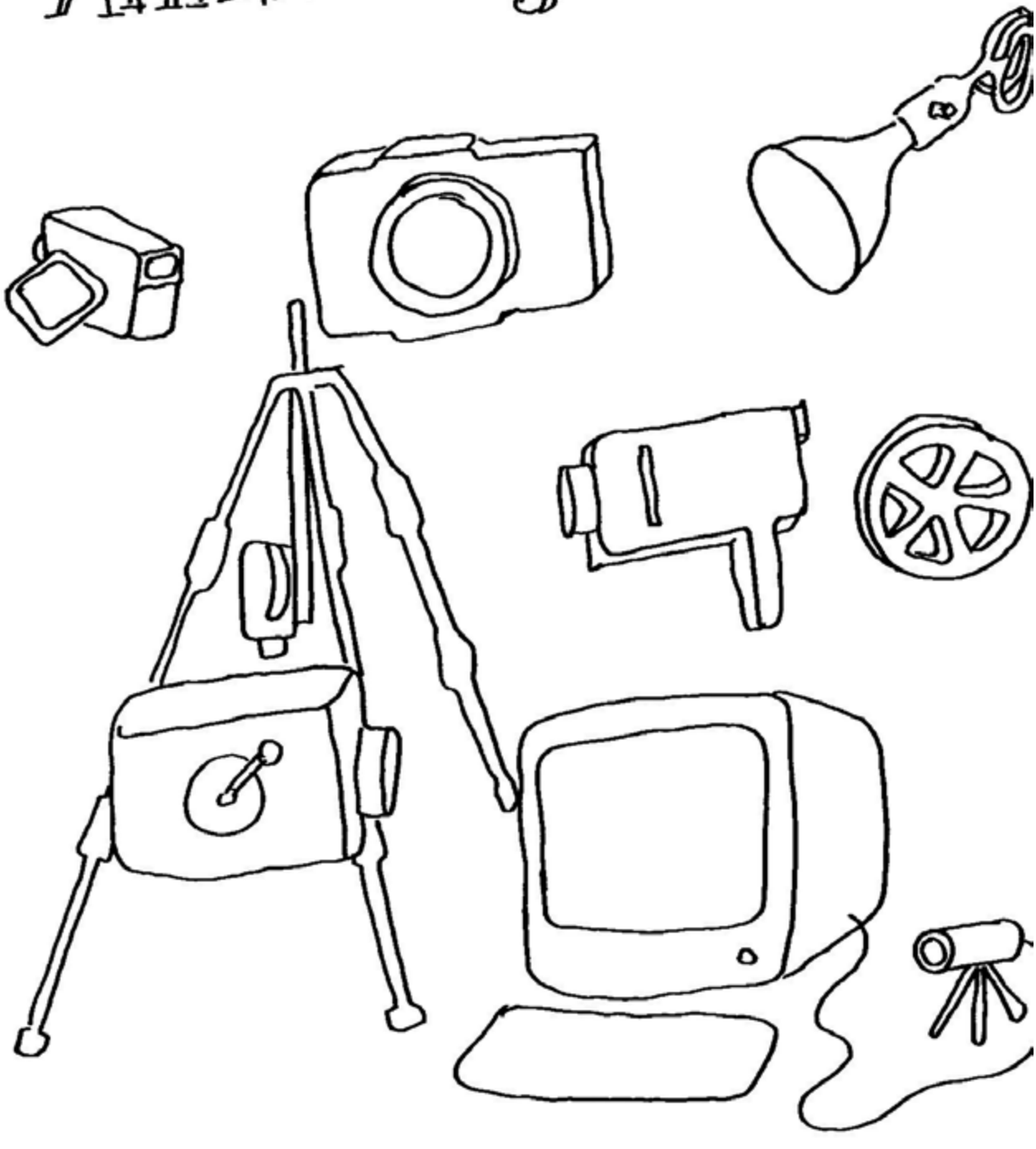
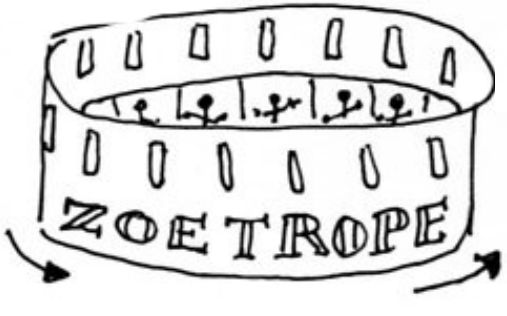
Animating is fun!



what is animation:

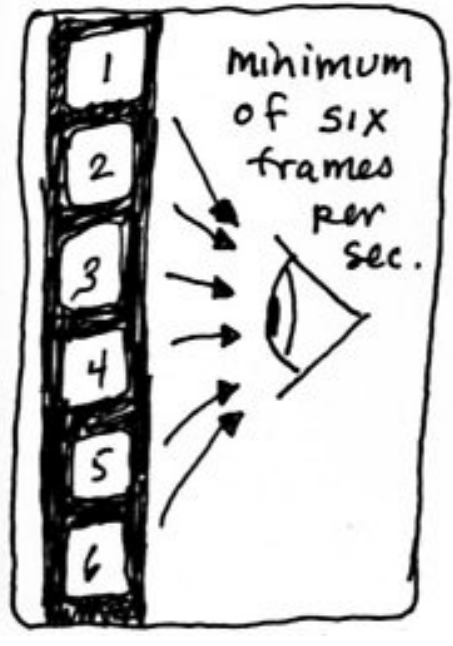
it's motion picture, an optical illusion of movement. a series of sequential stills are presented in rapid succession, and our eyes retain the information for the fraction of a second until the next image is presented. this is called *persistence of vision*.

some of the earliest forms of animation were done using *flipbooks* and *zoetropes* - a spinning cylinder with slits in the sides, with typically very few frames.



frames per second (fps):

thanks to *persistence of vision*, our eyes will let us get away with as low as 6 fps. obviously the more frames used per second, the smoother the movement... but if you are working without a crew to do your bidding, then the fewer frames you have to make, the better.



movies generally are 24 fps
video uses almost 30 fps
animation can range from 6-18 fps
most of my work is 10 fps

types of animation:

animation can be made many different ways, below are a few.

traditional or cell animation is hand drawn, frame by frame.

rotoscope is traced live action.

claymation is stop motion using 3-d clay models.

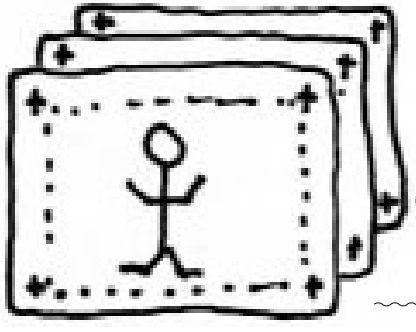
cut-out is stop motion using paper or fabric.

pixilation is animating with people.

digital is a handful of ways you can animate using a computer.

traditional:

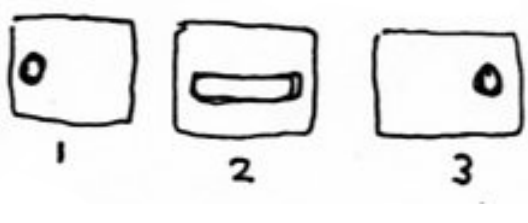
is a challenging and time consuming method. motion is checked by fanning the pages. each page should be numbered to maintain order, and marked to ensure proper registration.



tips:

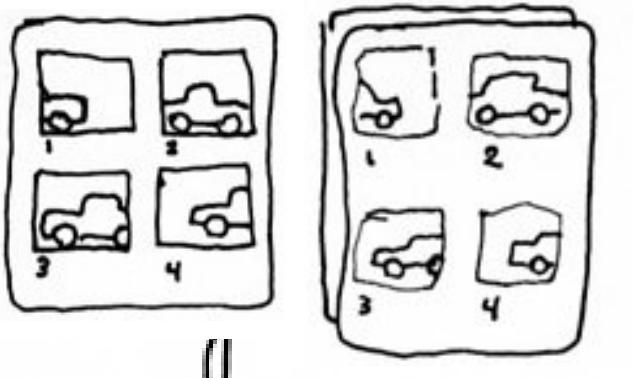
stretch and squash creates a sense of weight with exaggerated rendering, like the ball bouncing below:

smears create a sense of fast motion by drawing the blur. trace the start and end frames then connect them:

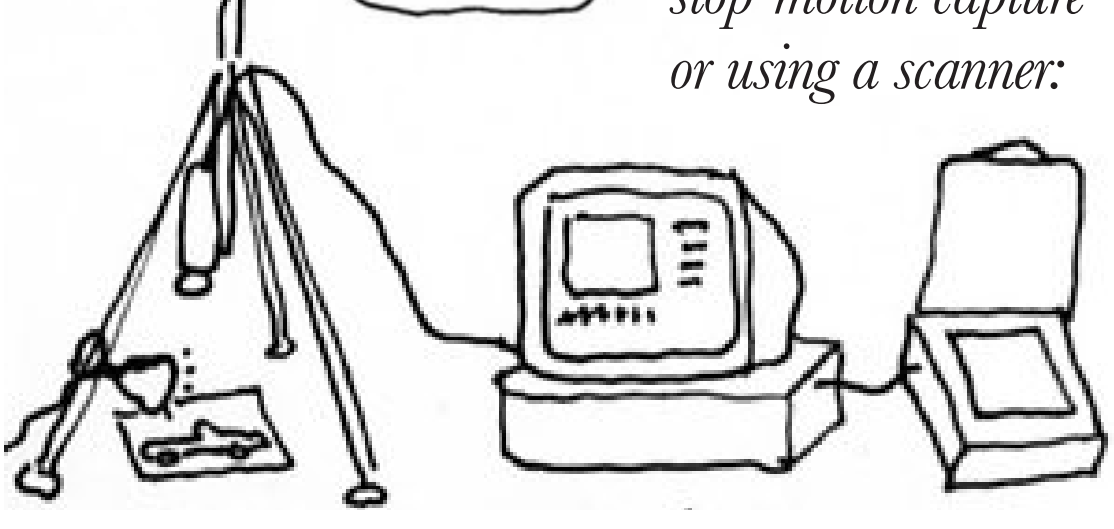


rotoscope:

an offshoot of traditional animation, it's simply traced live-action footage and is a fool-proof way of attaining realistic motion. this method involves lots of paper which should be numbered and marked for registration.



sampled video footage is printed out, traced or transferred, then redigitized by either stop-motion capture or using a scanner:



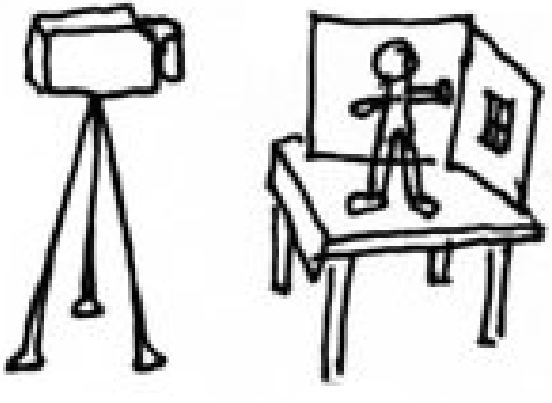
stop motion:

is a broad method which encompasses any method where you capture a frame then manipulate the subject.

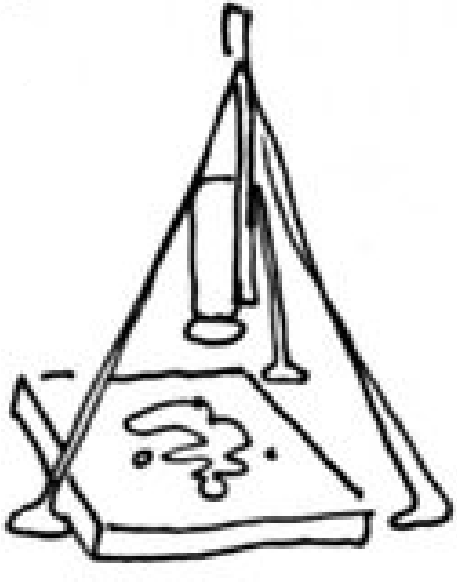
you can use anything: dolls, beans, rice, candy, chalk, sand, paper, paint, clay, fabric, buttons, lego...

you need space and light, and will have to ensure the set and lighting remain unchanged between shoots.

camera positions:



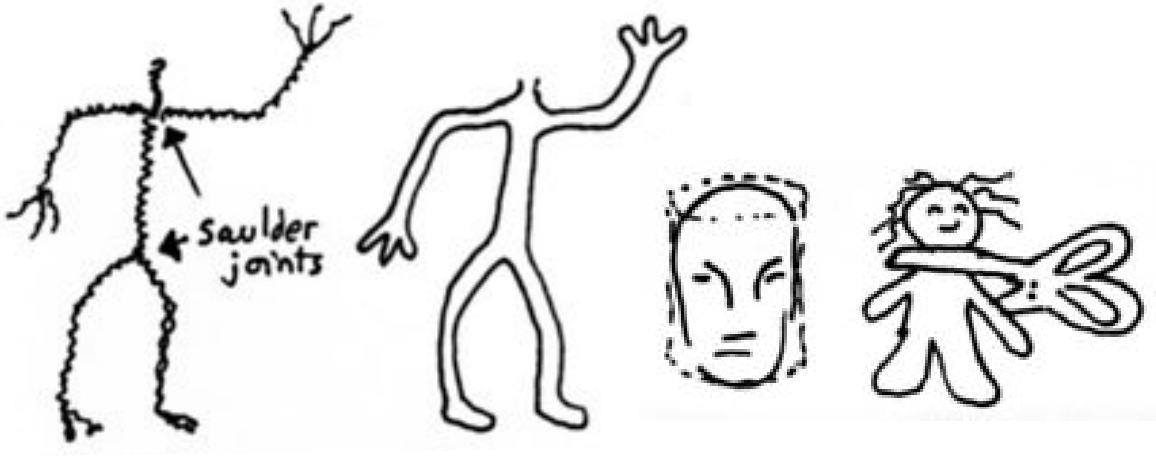
3-d models with sets.



cut-outs, sand, etc.

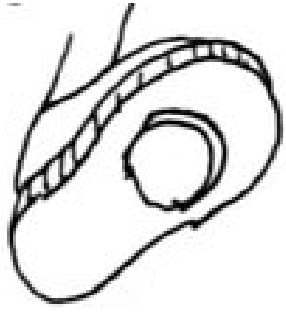
3-d models:

a malleable wireframe with a skin using anything from stickytack to hockey tape - clothing optional. to maintain balance, the head should be lighter than the body... like carved cork or an old doll's head.



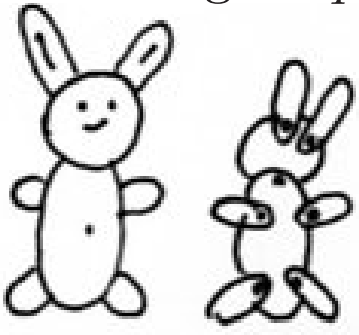
if your model is bipedal, you'll want to use either pins or magnets in their feet to keep them standing up... or consider giving them a tail to lean on!

obviously you will need the correct set floor for either method. hard foam for pins and metal for magnets.



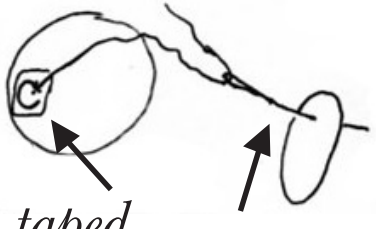
2-d puppets:

a subject is drawn on, and cut from paper, keeping in mind the added length required for the hinging of body parts.



poke a hole through the limb, use the hole to mark with pen where on the back of the body it will pivot. take a needle and thread and sew through a small bit of masking tape, leaving a little thread to loop as an anchor on the sticky side of the tape, and press into place on the back of the body. then draw the needle through the hole in the limb and leave about 1mm of thread as the hinge, loop the thread as an anchor and cover with another small bit of tape.

mark the pivot



taped thread

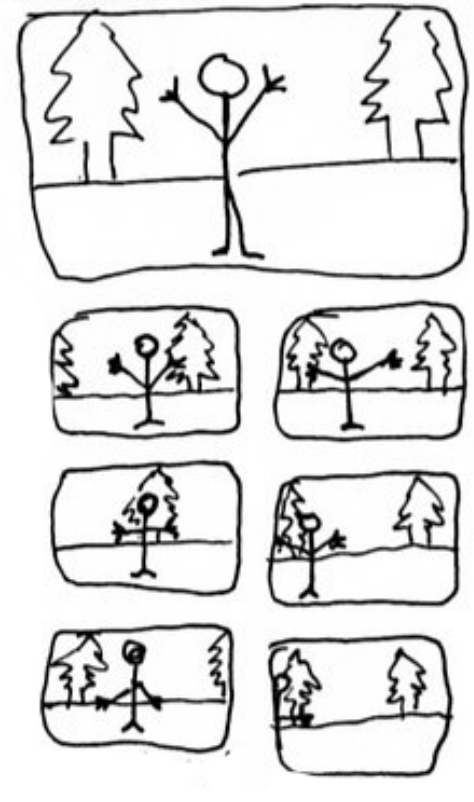
sew the limb

leave 1mm hinge

pixilation:

is stop-motion using real people who move between shots. with this method you can create the illusion that someone is flying, or gliding.

this method is simple and rewarding, as it can easily be done in a short amount of time using a digital still camera.

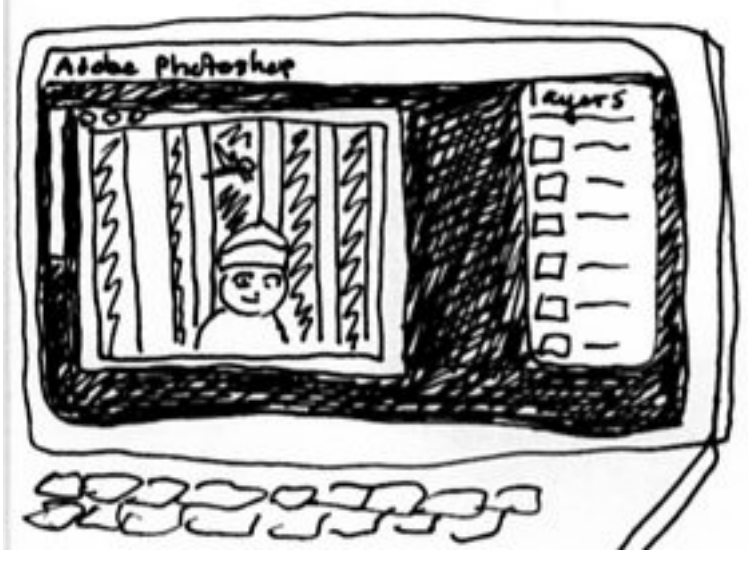


try to keep one thing in a consistent position in each shot - whether it be a part of the subject's body, or the background.

digital:

this is a fast growing and diverse group ranging from the fancy 3-d computer generated work, to the very basic flash style animating.

for me, i consider the work i do in adobe photoshop as digital animation. this includes both my “real” animations and the animated web graphics i build.



what do you need:

depending on the kind of animation you want to make, you will need different tools and materials.

to be sure you will need these three things:

a camera
an idea
patience

most likely you'll also need:

a computer
a tripod
some clamp lights
editing software

what else you may need:

traditional animation - paper, pens, lights, tripod, camera, lightbox.

rotoscope - printer, paper, pens, tripod & lights, camera or a scanner.

claymation - models, sets, lights, camera and tripod.

cut-out - paper, cardboard or fabric puppets, background, lights, camera, tripod.

pixilation - subjects (people), digital still camera.

digital - a computer and software of your choice.

tips that will serve you well:

planning your animation using story-boards - even the most basic - will help you to properly envision your idea.

be patient and go slow.

if you can find a way to cheat, do it.

use looping as much as possible: *a static loop only need 3 unique frames*.

five seconds is a long shot.

combine and mix techniques.

experiment.

play.

editing:

since each frame is painstakingly made, you want very little to be cut out.

adobe premiere - powerful editing tool for both image and sound. features include: multiple tracks, transparency, titling, image control & motion graphics.

adding sound:

this is the last phase of the process, and it can really bring your work to life.

consider not just the sound effects for the action, but what might be going on out of view. a continuous background track can also act like audible glue. also music!

thanks!

i have learned a lot by taking workshops from some nifty canadian artists like Chris Campbell, Graeme Patterson, David Gregory, Amy Lockhart, Elisabeth Belliveau, and Paula Cowan.

much of the content in this wee book is gleaned directly from their juicy brains.

i also would be nowhere without the good folks at struts gallery and faucet media arts.

2007

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