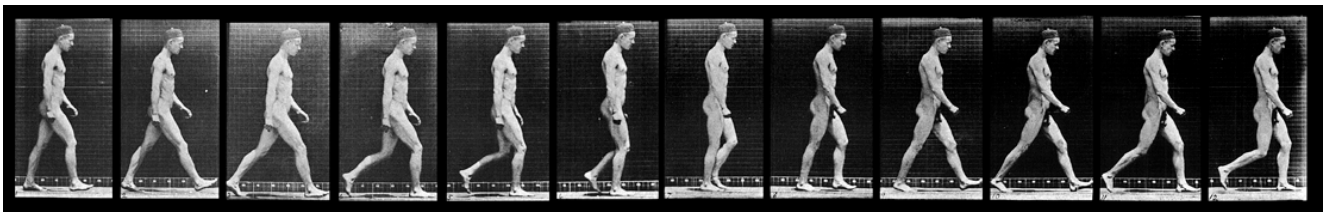
ANIM 3330 –Animation and Rigging

Final Project - Walk Cycle –Looping Pose and 3D Printed Model

OVERALL 10 POINTS



From ***The Human Figure in Motion*** by **Eadweard Muybridge** (2007)
http://sillydragon.com/muybridge/Muybridge_List.html

Part 1.

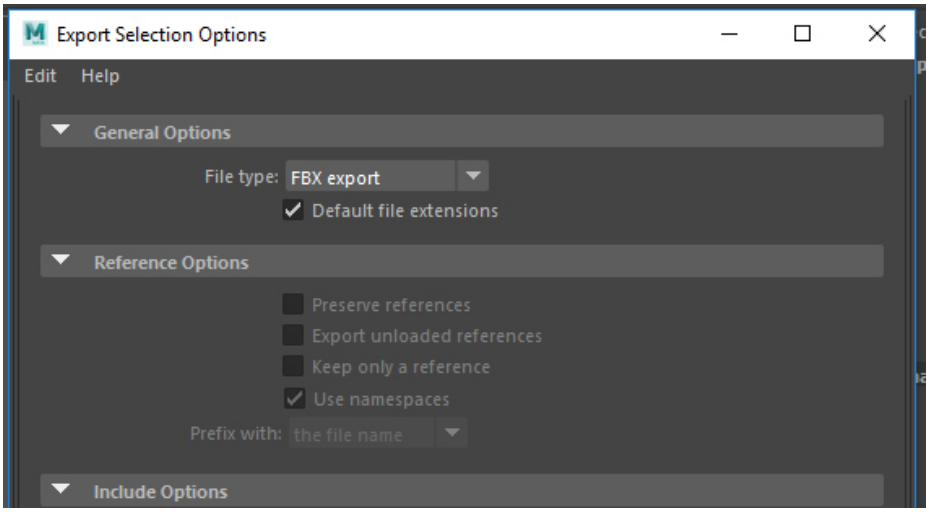
8 POINTS

- Using your character animate a walk cycle.
- Make him/her walk in place seamlessly.
- Use in-class techniques, demos, critiques, the book, and provided materials as guides.
- Pay attention to animation principles applied to it.
- Create an environment that loops behind her/him. Environment animation must synchronize with the walk cycle.
- Additionally, have your classmates and friends walk for you so you can see subtleties.
- Remember to use as much reference as possible.
- Render your result. Use good lighting and texturing.
- Be as critical of your animation as possible. Do more than one pass of animation.
- Remember to bring your character as a reference into the scene where it will be animated. Do the same for the environment you create.

Part 2

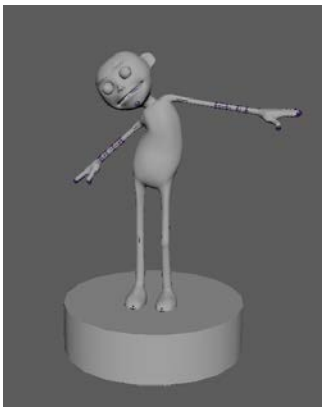
2 POINTS

- Using your character, create a pose that shows your character's personality.
- Animate the pose to a loop making the character hold the position and performance in a natural way.
- Avoid dramatic loops. The pose is intended to reflect a holding pattern, typical in a video game.
- Select all geometry and Export the file as an FBX



- Deliver the FBX file. Make sure you test it by importing it into an empty scene, before delivering it.
- The best models will be used in a VR exhibit of the class characters to celebrate the 25th anniversary of the program.

Part 3.



BONUS POINTS 5

- Using your character, create a pose for 3D printing. Avoid leaving any holes such as opening its mouth, or removing his eyeballs.
- Create a base for it.
- Make a smooth version of your character. Mesh/Smooth

- Select all geometry parts that form the character. Go Export selected. Use OBJ as the format to export.
- Open Maya 2016, import your model, then select the geometry and export it as and STL_DCE

    - Make sure you test the resulting model by importing it into an empty Maya scene, before trying to print. The STL will show the resolution as it will be printed. If needed go back to your original model and smooth it some more to increase its quality.
- Use the STL file to 3D print.

Deliverables and Requirements:

Part 1.

- QuickTime movie sequence. H264 required. Must fit when submitting it to D2L. Use provided After Effects process to render your file small enough.
- *Minimum* Resolution: 1280X720 (16:9)
- Frame Rate: 24fps
- Length: around 5 seconds (walk and run should be loopable when played in QuickTime.)
- Provide May archived zip file of the scene. Remember to include all references in the archived file.

Part 2.

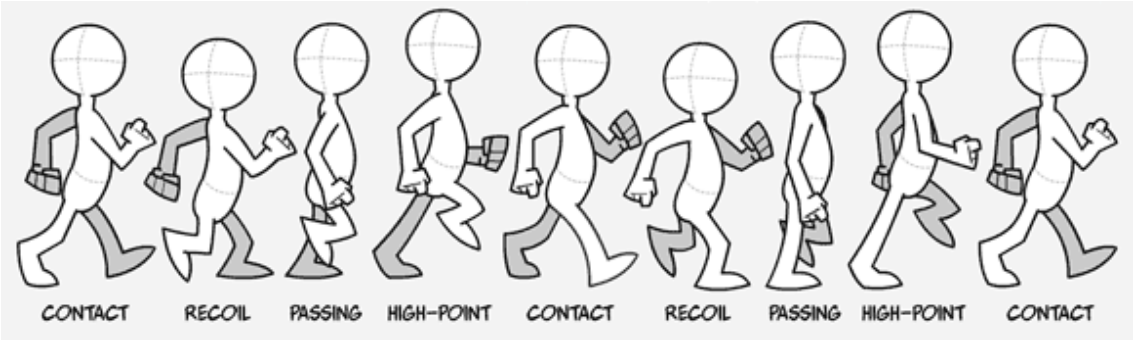
- Individual FBX file of your character. To D2L

Part 3. Optional

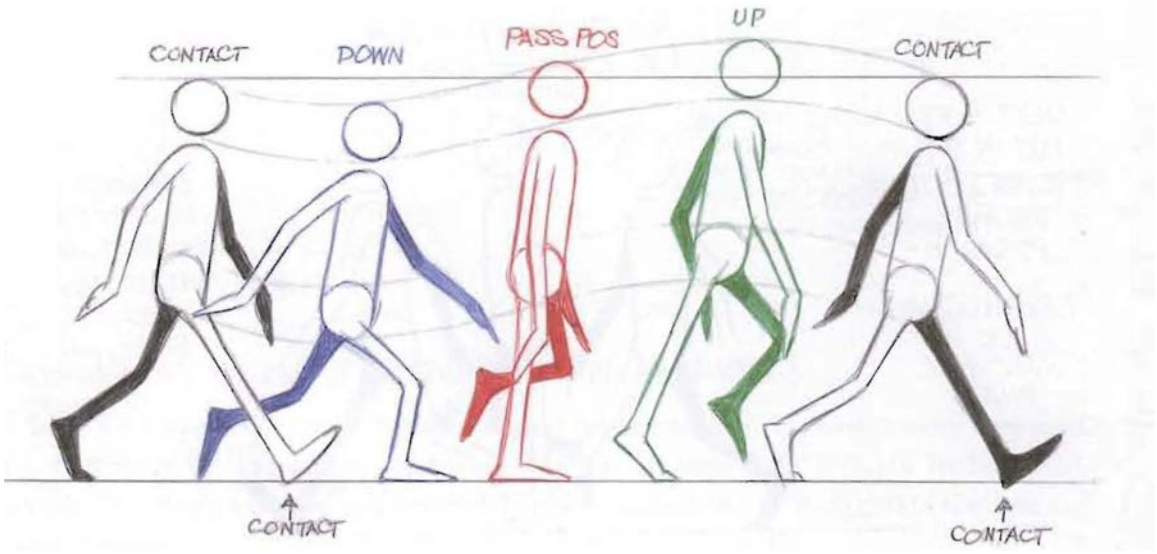
- Deliver the final 3D printed model of your character. You will receive your model back after the show in the Fall of 2018.
- Remember to take some pictures of the model for your own portfolio.

Milestones:

- First pass of animation - playblast posted to FB. April 24th. Critique.
- Final Delivery and Critique. **Thursday, May 3rd 10 am.**



From ***The Angry Animator*** by **Dermont O Connor**
http://www.angryanimator.com/word/


CONTACT
DOWN
PASS POS
UP
CONTACT
CONTACT
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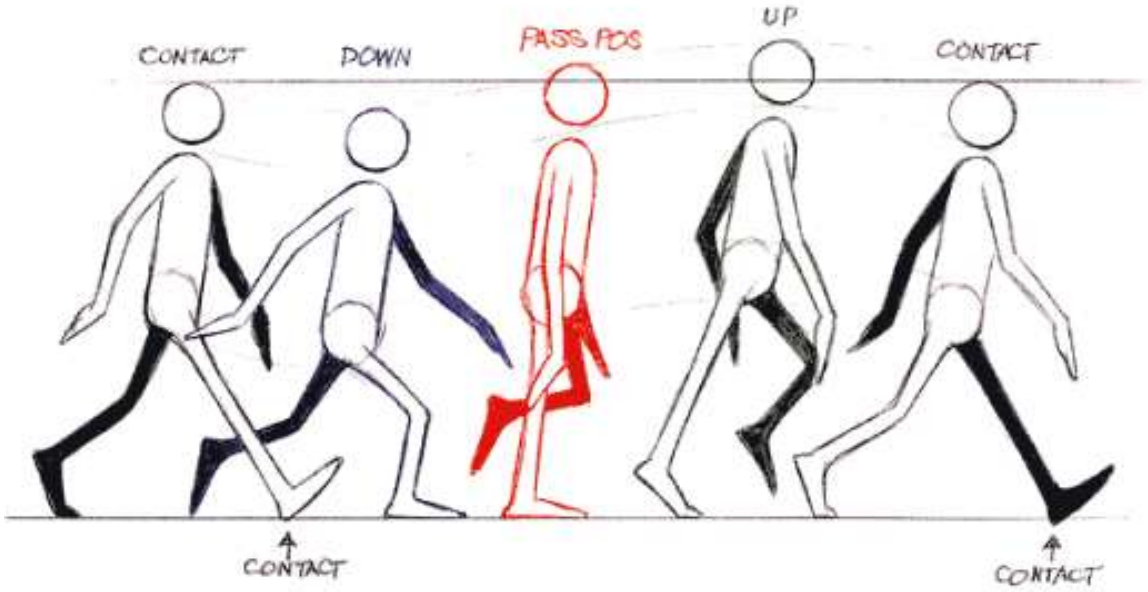
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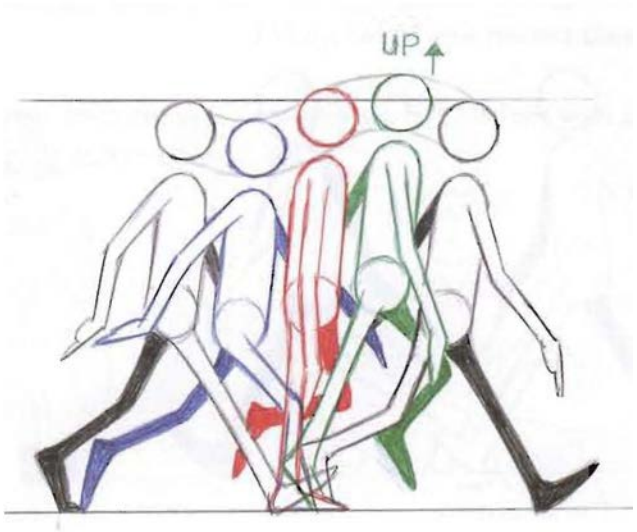
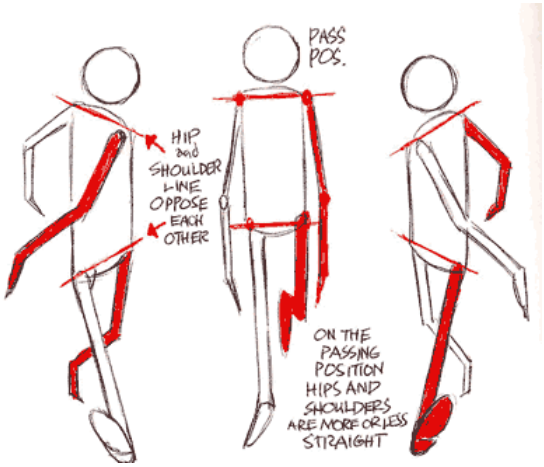

UP


PASS POS.
HIP and SHOULDER LINE OPPOSE EACH OTHER
ON THE PASSING POSITION HIPS AND SHOULDERS ARE MORE OR LESS STRAIGHT

WAYS TO GET VITALITY IN A WALK

The RECIPE

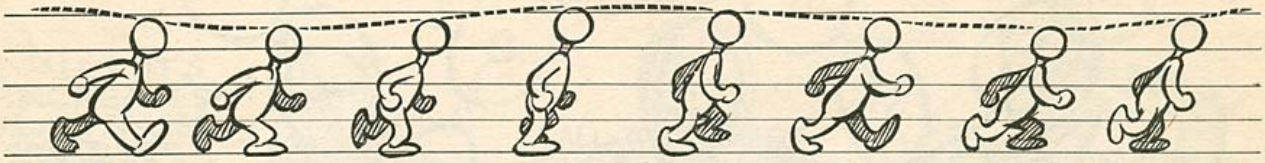
1. LEAN the BODY
2. USE STRAIGHT LEGS ON CONTACTS and PUSH OFF POSITIONS (GOING FROM STRAIGHT TO BENT OR BENT TO STRAIGHT)
3. TWIST the BODY – TILT the SHOULDERS and HIPS
   HAVE the SHOULDERS OPPOSE the HIPS
   SWIVEL the HIPS
4. FLOP the KNEE IN OR OUT
5. TILT the BELT LINE FAVOURING the LEG THAT'S LOWEST
6. FLOP the FEET
7. DELAY the FEET AND TOE LEAVING the GROUND UNTIL the VERY LAST INSTANT
8. TIP the HEAD OR MAKE IT GO BACK and FORTH
9. DELAY PARTS DON'T HAVE EVERYTHING WORKING TOGETHER AT the SAME TIME.
10. USE COUNTERACTION - FAT, BUTTOCKS, BREASTS, DELAYED CLOTHES, PANT LEGS, HAIR etc.
11. BREAK the JOINTS
12. MORE UPS and DOWNS (FOR WEIGHT)
13. USE DIFFERENT TIMINGS ON LEGS VERSUS ARMS VERSUS HEAD VERSUS BODY Etc.
14. TWIST the FEET - TAKE THEM OFF the PARALLEL.
15. IF WE TAKE A NORMAL CLICHÉD ACTION and ALTER ONLY ONE TINY PART - WE GET SOMETHING DIFFERENT!

From *The Animator's Survival Kit* by **Richard Williams** (2002)
http://www.amazon.com/The-Animators-Survival-Kit-Revised-Edition/dp/086547897X
http://www.theanimatorssurvivalkit.com/
Starting on Page 102 (in old edition)

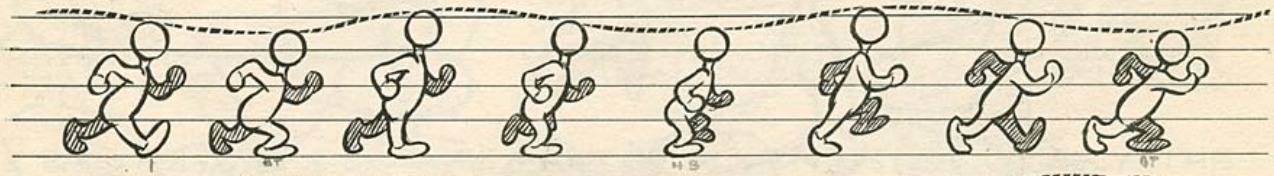
MOVEMENTS OF THE TWO LEGGED FIGURE

HERE IS A COMPARISON OF THE VARIOUS TWO LEGGED FORWARD MOVEMENT CYCLES --I HAVE DRAWN ONE-HALF OF EACH CYCLE BELOW--REVERSE HANDS + FEET FOR THE OTHER HALF.-- -THESE CYCLES CAN BE USED AS "REPEATS"-(THAT IS THE DRAWINGS MAY BE REPEATED OVER + OVER IF THE FIGURE REMAINS CENTERED ON THE SCREEN AND THE BACKGROUND MOVES.

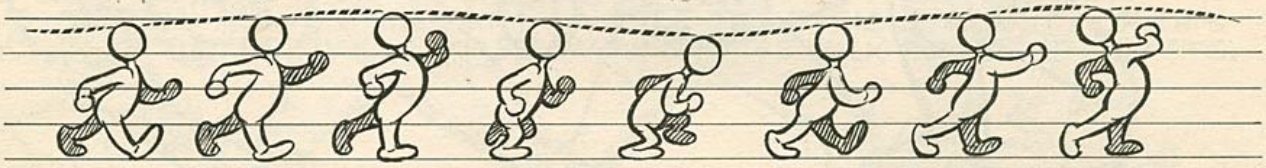
WALK—



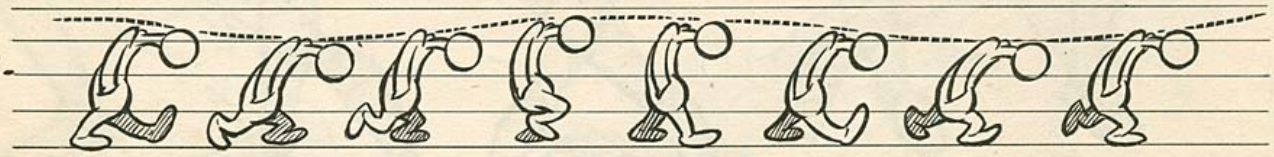
DOUBLE BOUNCE WALK—



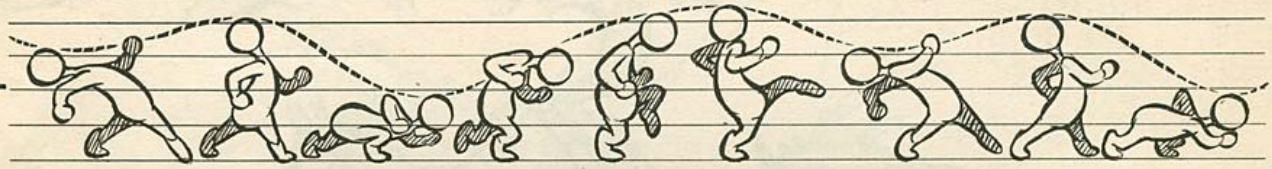
STRUT —



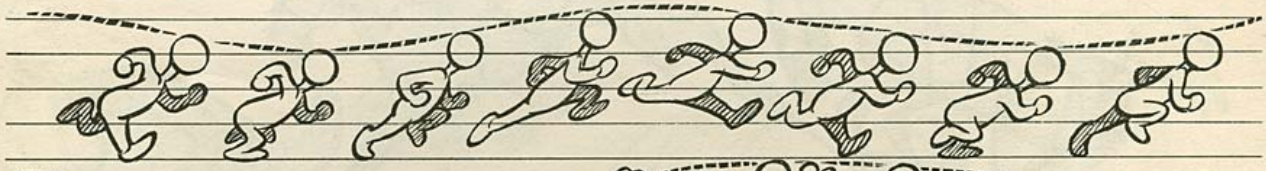
SHUFFLE—



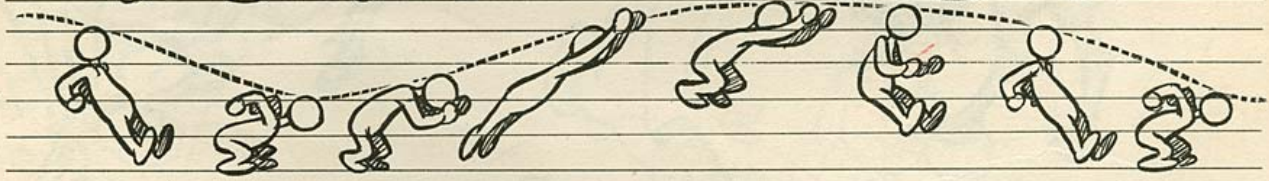
SNEAK—



RUN —



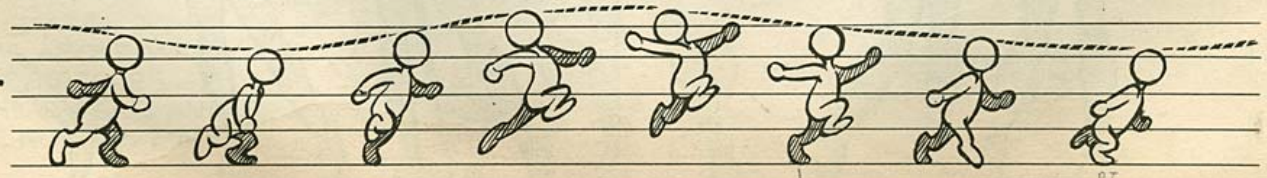
JUMP —



FAST RUN —

TIP TOE —

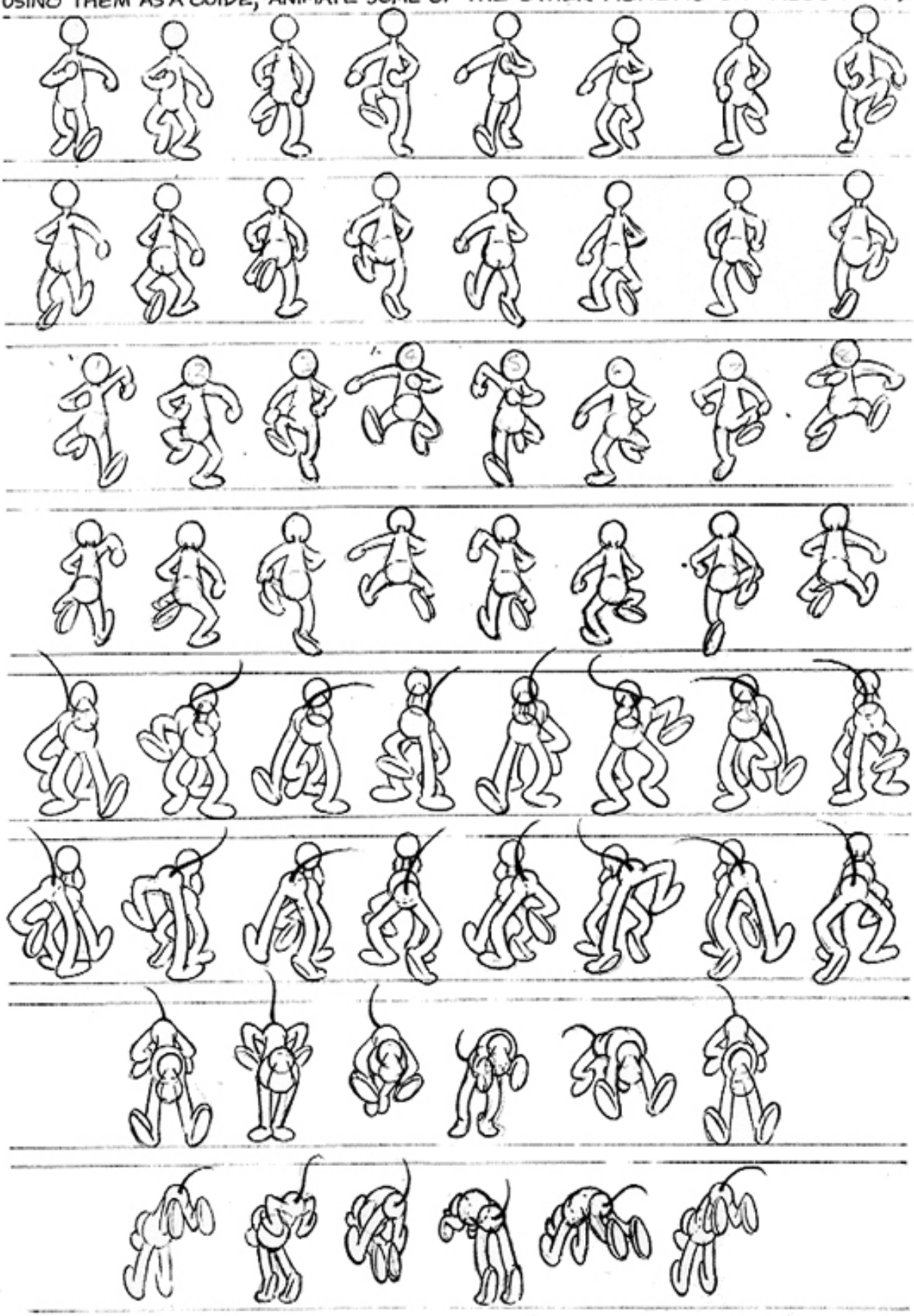
SKIP —



From ***Advanced Animation*** by **Preston Blair** (1947)
http://animationresources.org/?p=2091

FRONT + REAR VIEWS OF FIGURE MOVEMENTS

HERE IS THE WALK AND RUN FROM THE FRONT + REAR VIEWS.— ANIMATING FROM THESE ANGLES IS LIKE STUDYING A FOOTBALL GAME FROM THE GOAL POSTS IN THE END ZONES.— ALL ACTIONS TAKE ON DIFFERENT CHARACTERISTICS.— STUDY THE ACTIONS BELOW,-THEN USING THEM AS A GUIDE,- ANIMATE SOME OF THE OTHER ACTIONS ON PAGES 24+25.



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