

# ADVANCED ANIMATION

by

Preston Blair

RETURN TO  
DAVE TENBLAR

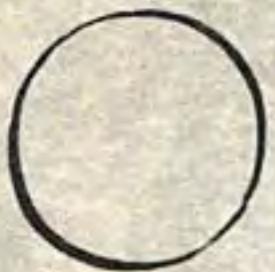


PUBLISHED BY WALTER T. FOSTER

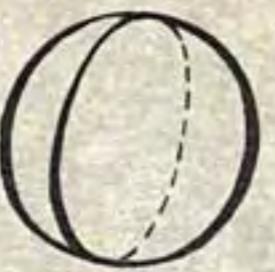
LEARN HOW TO DRAW ANIMATED CARTOONS

# CONSTRUCTION OF THE HEAD

THINK OF THE HEAD AS A ROUNDED MASS, EITHER BALL SHAPED, PEAR SHAPED OR EGG SHAPED AS THE CASE MAY BE.—IN ANIMATION THIS HEAD SHAPE MAY CHANGE PERSPECTIVE AND FORM A GREAT NUMBER OF TIMES DURING A SCENE.—TO SIMPLIFY MATTERS A CORRECT PERSPECTIVE FRAMEWORK SHOULD FIRST BE DRAWN, THEN THE DETAILS CONSTRUCTED OVER THIS FORM.



THIS CHARACTER STARTS WITH A ROUND GLOBE



DRAW AROUND THIS A CIRCLE THAT WILL DIVIDE FACE IN THE MIDDLE LENGTHWISE.—THIS DETERMINES THE TILT OF HEAD.



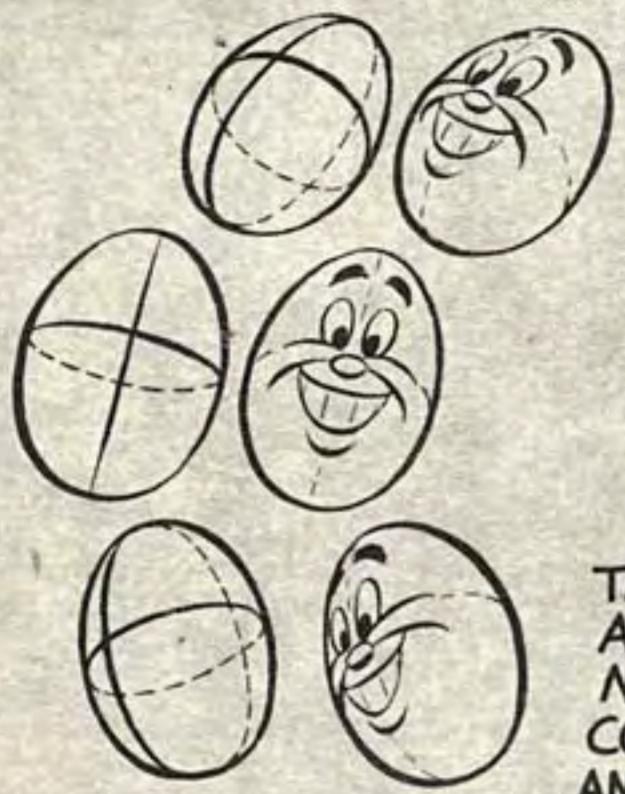
AT RIGHT ANGLES TO THIS PUT IN THE EYE LINE CIRCLE—THIS SETS FACE UP OR DOWN.



BASE OF EYES AND TOP OF NOSE TIE INTO EYE LINE.—NOTICE PERSPECTIVE MAKES LEFT EYE BIGGER THAN RIGHT



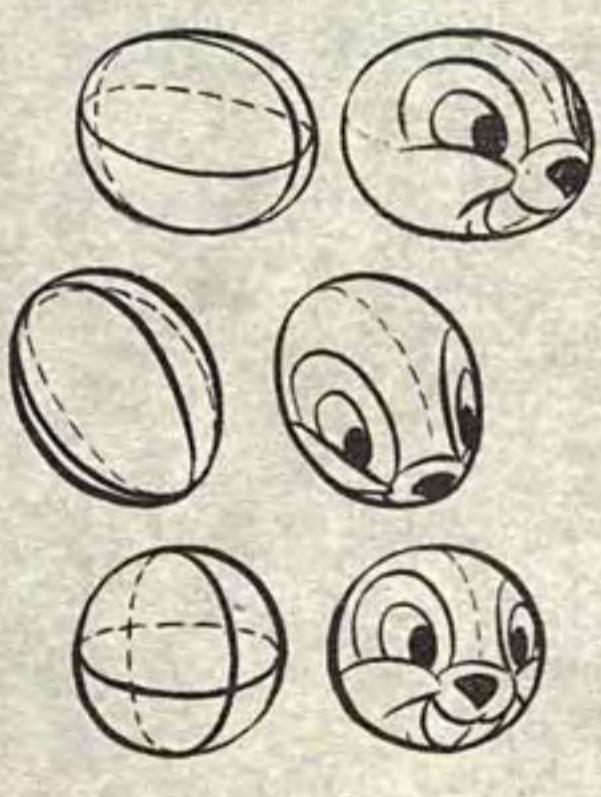
NOW THE DETAILS ARE PUT IN OVER THE FRAMEWORK.



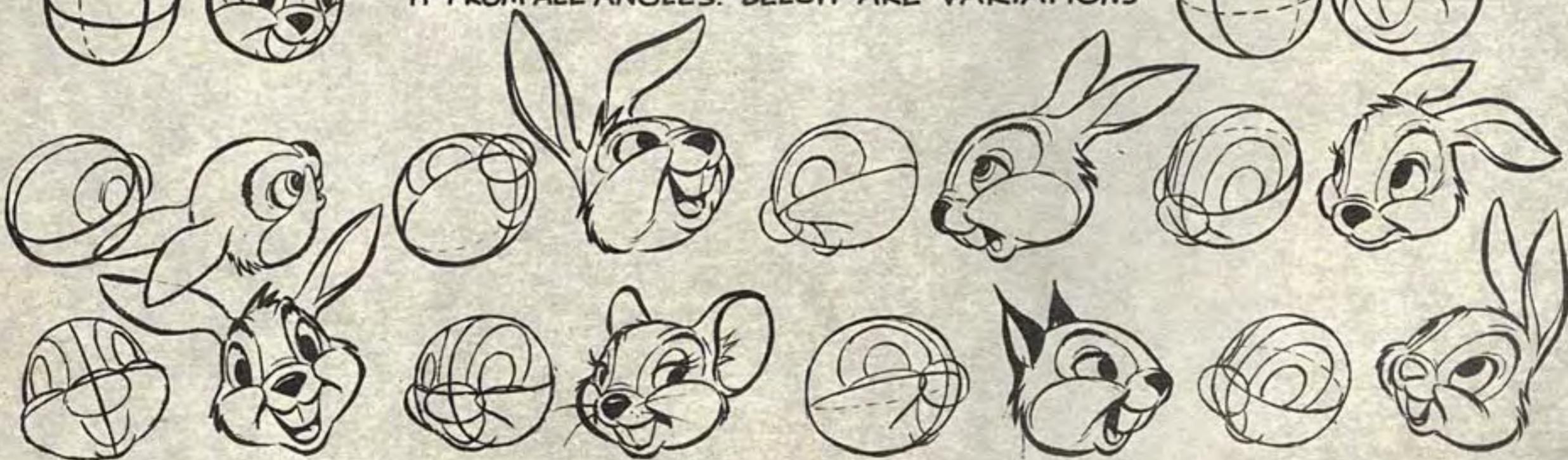
TAKE AN EGG—DRAW THE GUIDE CIRCLES AROUND IT—THEN PUT IN THE FACE—NOW TURN THIS EGG IN EVERY CONCIEVABLE POSITION AND DRAW IT.—ANIMATION PRESENTS THE SAME PROBLEMS.



—NOW ADD A FEW DETAILS AND DRAW THESE HEADS IN EVERY POSITION USING THE ABOVE EGG AS A GUIDE.  
—CARTOON STUDIOS OFTEN MAKE SMALL CLAY MODELS TO AID THE ANIMATOR DRAW DIFFICULT CHARACTERS FROM ALL THE ANGLES CORRECTLY.



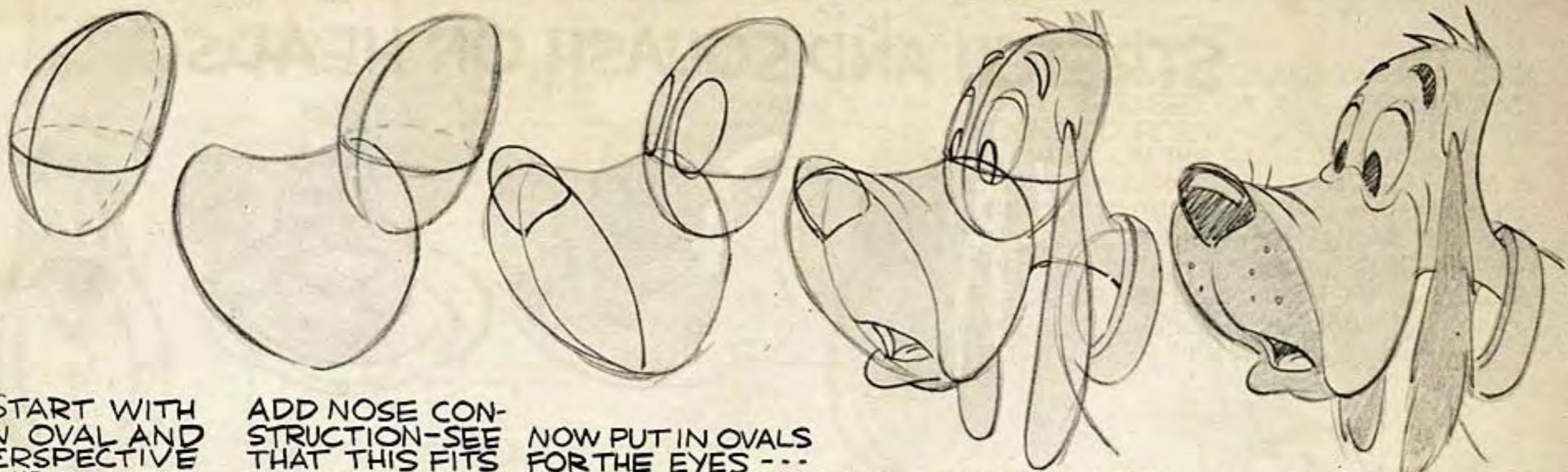
HERE IS THE BASIS OF A GREAT MANY CARTOON HEADS.—DRAW UP AN EGG LIKE THIS AND STUDY IT FROM ALL ANGLES—BELOW ARE VARIATIONS



## A NOTE ABOUT THE AUTHOR

Preston Blair, Cartoon Director, is one of the fine artists of Animation. Associated with the Disney Organization, he animated in "Pinocchio," "Bambi," and "Fantasia," in the later he designed the hippos. Later for Fred Quimby, shorts Producer at Metro-Goldwyn-Mayer, he designed and animated the highly successful, "Red Hot Riding Hood," directed "Barney Bear" shorts, and animated in "Anchors Aweigh." Blair is active in magazine illustration and fine arts, and is a member of the California and American Watercolor Societies. Recently when he won first prize in our National Print Exhibition at the Laguna Beach Art Gallery, I met him and suggested he make this book for you. I am sure it will prove interesting and helpful to all those studying this popular cartoon medium.

*Walter Foster*



START WITH AN OVAL AND PERSPECTIVE GUIDE LINES.

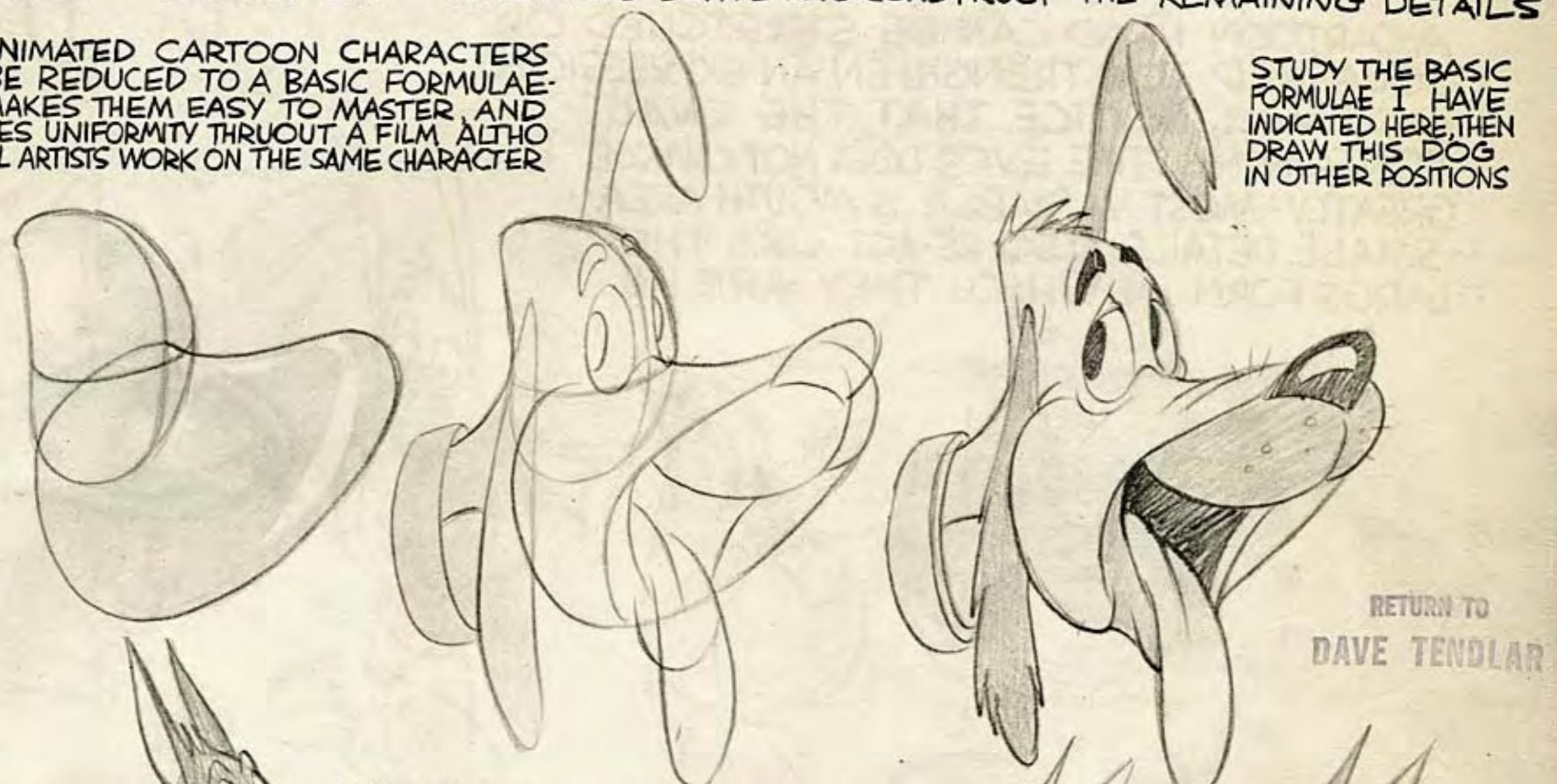
ADD NOSE CONSTRUCTION-SEE THAT THIS FITS SOLIDLY ON,

NOW PUT IN OVALS FOR THE EYES ---

WATCH PERSPECTIVE AND CONSTRUCT THE REMAINING DETAILS

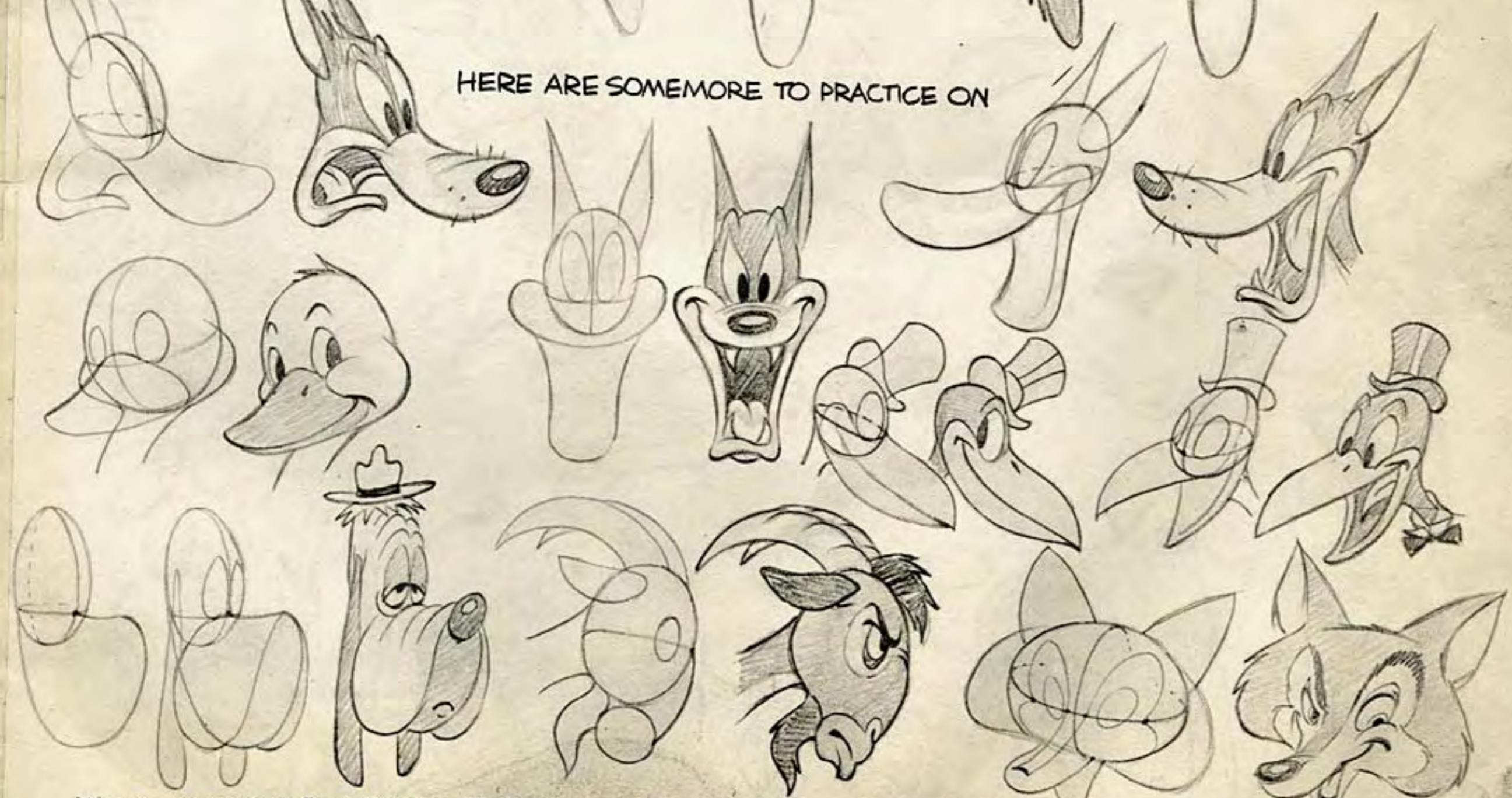
ALL ANIMATED CARTOON CHARACTERS CAN BE REDUCED TO A BASIC FORMULAE. THIS MAKES THEM EASY TO MASTER, AND INSURES UNIFORMITY THRUOUT A FILM ALTHO SEVERAL ARTISTS WORK ON THE SAME CHARACTER

STUDY THE BASIC FORMULAE I HAVE INDICATED HERE, THEN DRAW THIS DOG IN OTHER POSITIONS



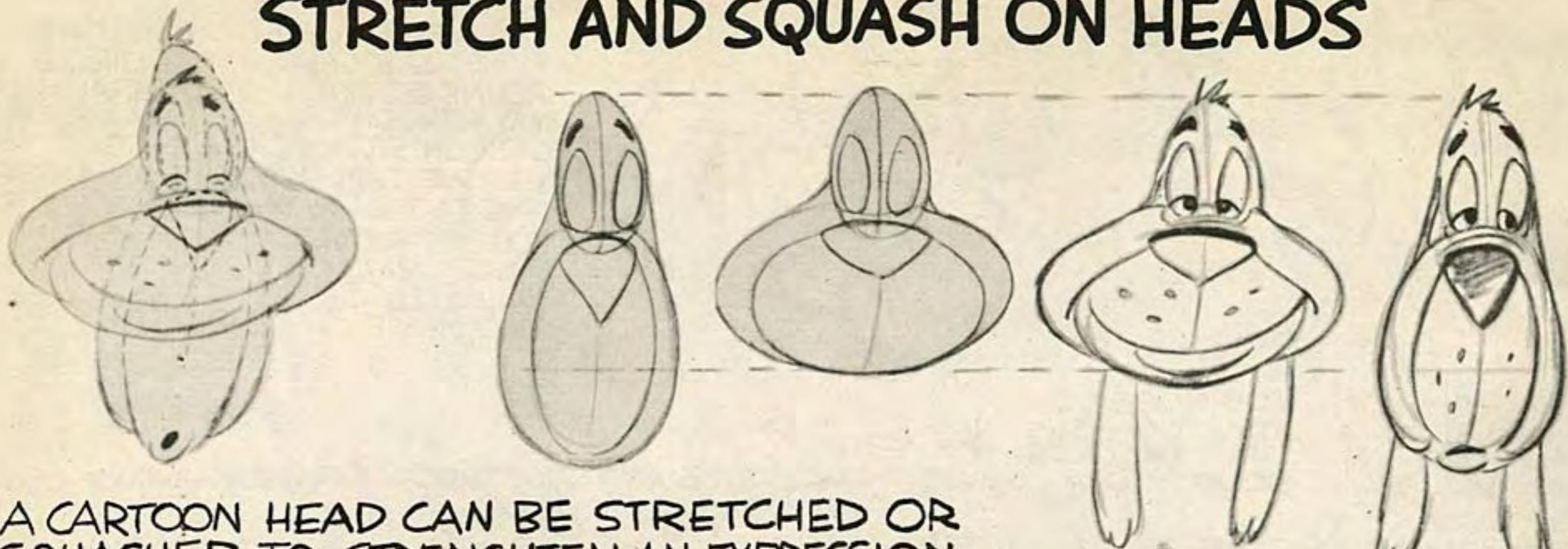
RETURN TO  
DAVE TENDLAR

HERE ARE SOME MORE TO PRACTICE ON



We are grateful to Fred Quimby, Shorts Producer, at Metro-Goldwyn-Mayer, for his permission to allow some of M.G.M.'s excellent cartoon characters to appear in this book, among them Tom and Jerry that riotously funny team of cat and mouse, that have captured the hearts of all of us, including the Motion Picture Academy judging from the Oscars the two have received with Fred Quimby. Yes, our hats are off to these fellows and M.G.M., creators of the most entertaining and amusing cartoons in recent years!

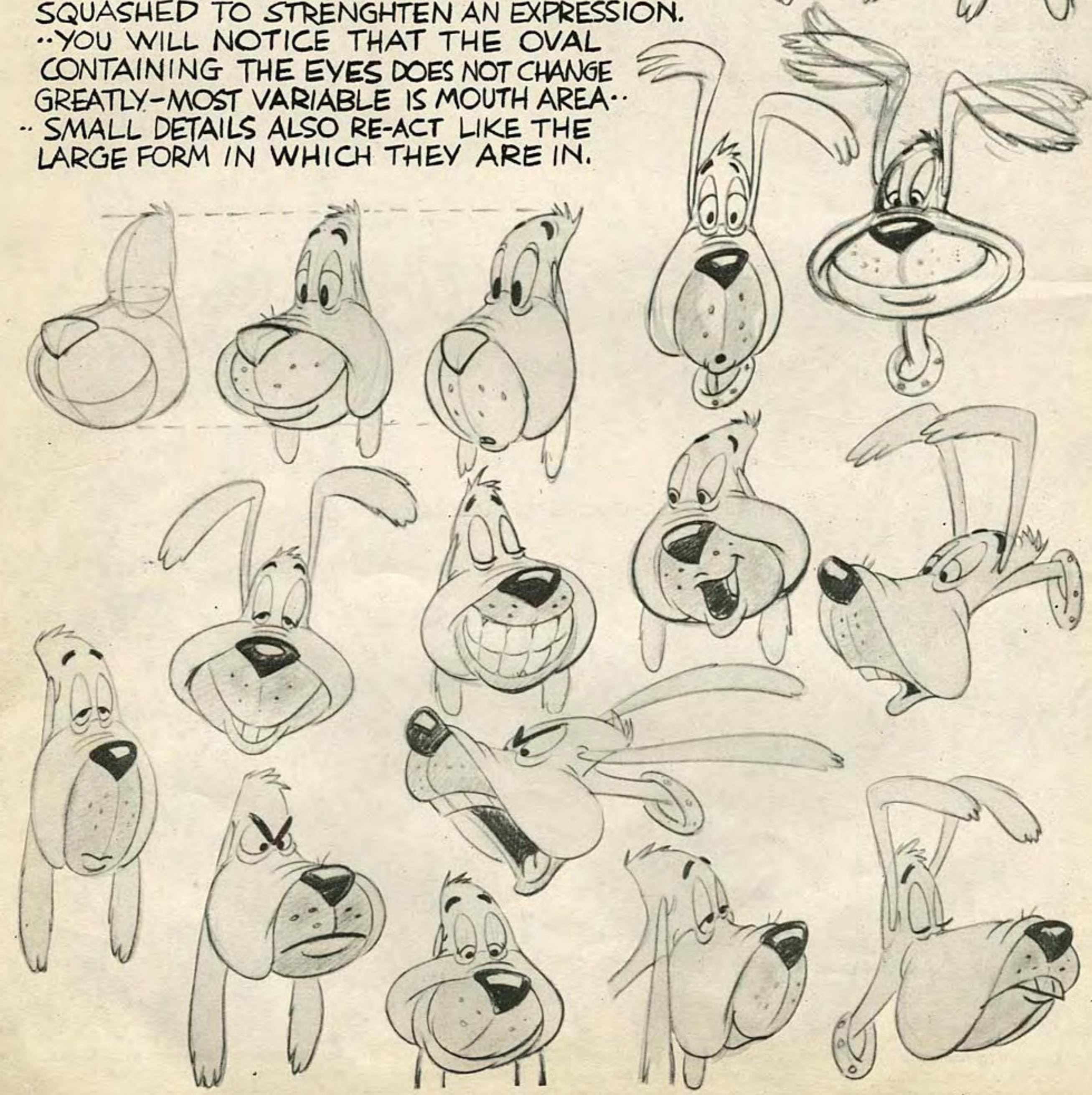
# STRETCH AND SQUASH ON HEADS



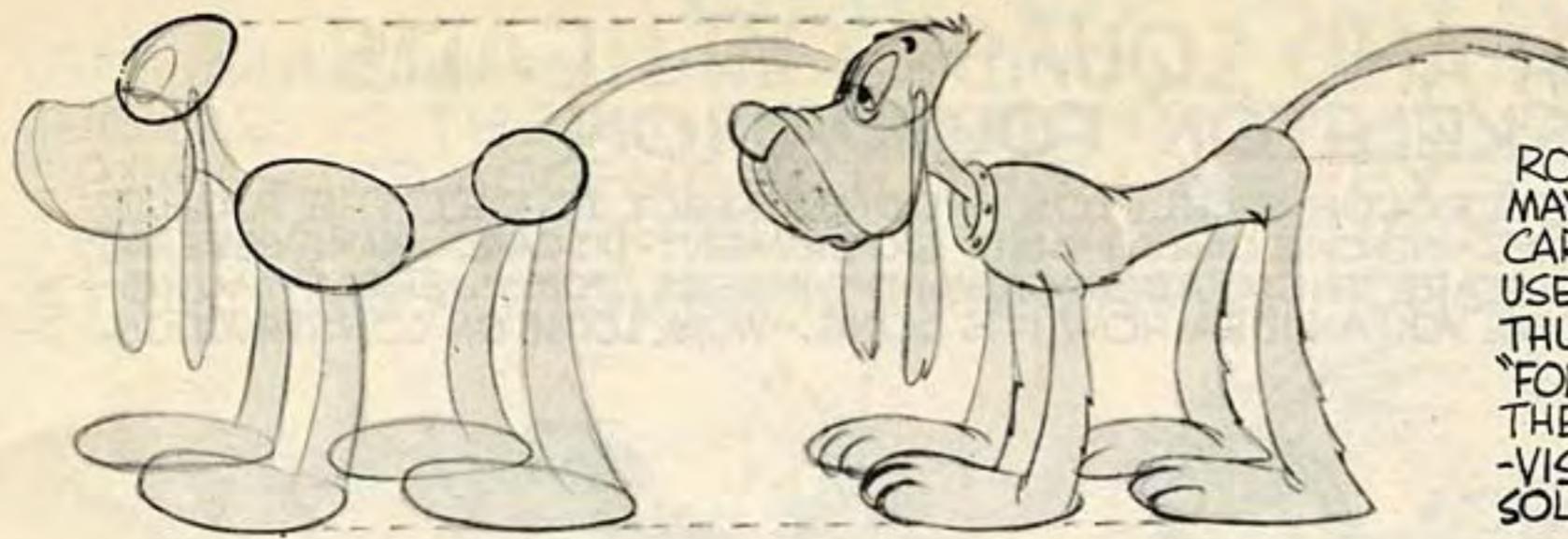
A CARTOON HEAD CAN BE STRETCHED OR SQUASHED TO STRENGTHEN AN EXPRESSION.

..YOU WILL NOTICE THAT THE OVAL CONTAINING THE EYES DOES NOT CHANGE GREATLY--MOST VARIABLE IS MOUTH AREA..

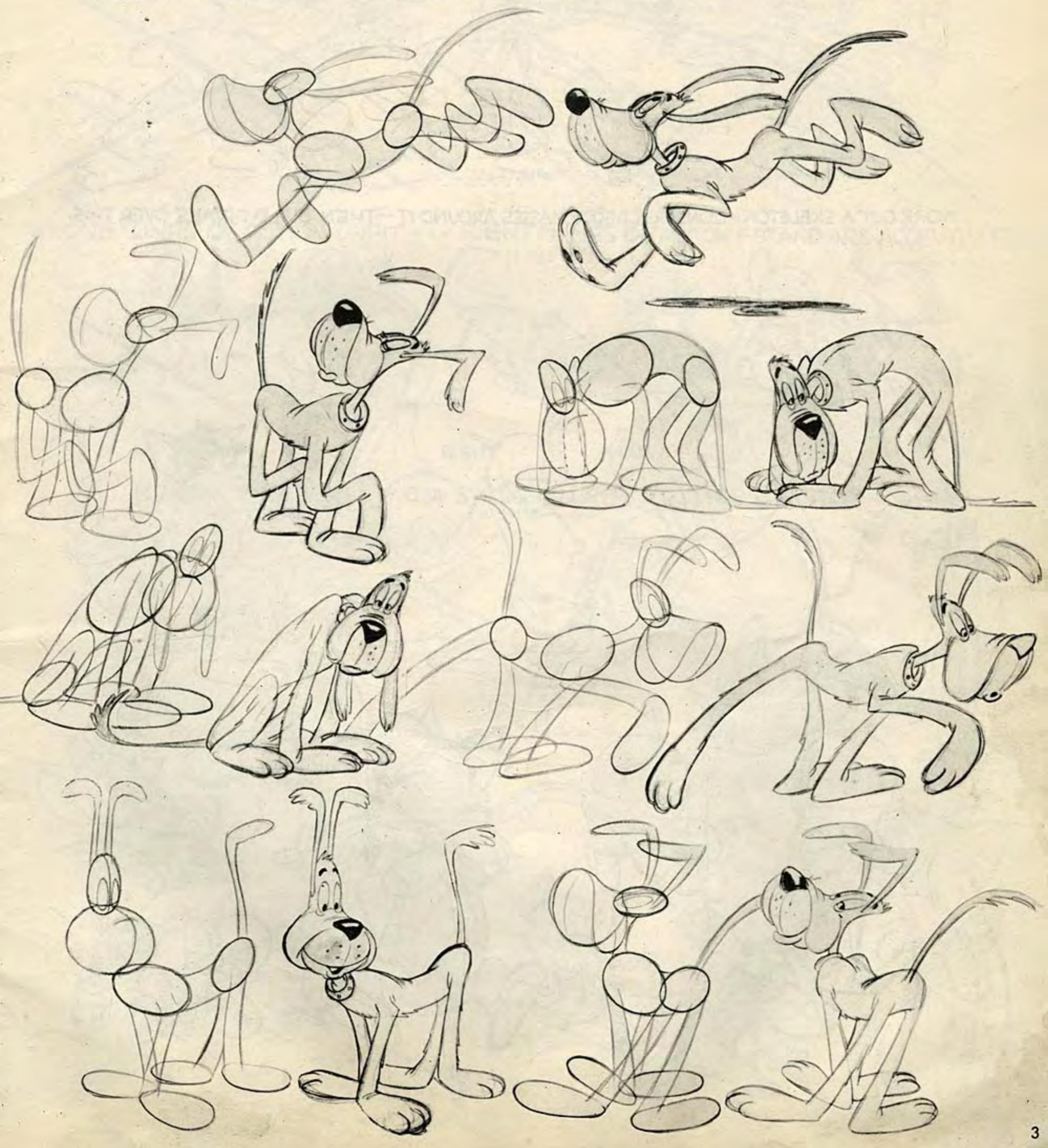
.. SMALL DETAILS ALSO RE-ACT LIKE THE LARGE FORM IN WHICH THEY ARE IN.



# BODY BUILT FROM ROUNDED OR CIRCULAR FORMS

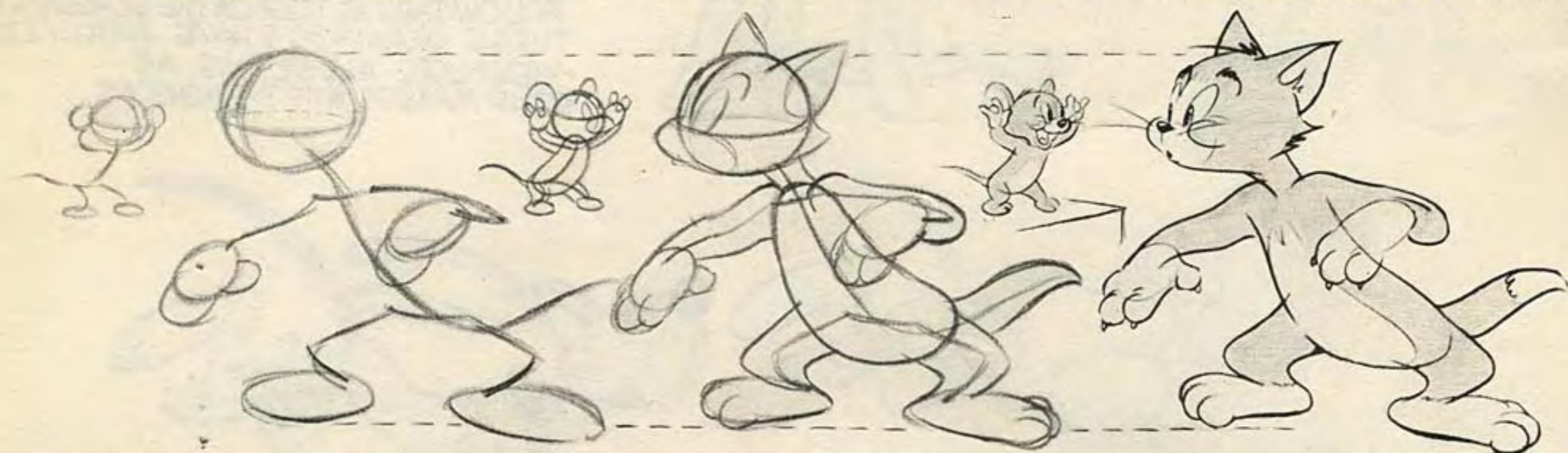


THE ANIMATED CARTOON CHARACTER IS BASED ON THE CIRCLE AND ROUNDED FORM -- AS SEVERAL PEOPLE MAY WORK ON THE SAME DRAWING IN A CARTOON STUDIO, THE ROUNDED FORM IS USED DUE TO ITS SIMPLICITY -- ANIMATION IS THUS EASIER -- ALSO CIRCULAR FORMS "FOLLOW THRU" BETTER ON THE SCREEN -- STUDY THESE DRAWINGS I HAVE ANALYZED -- VISUALIZE ALL FORMS AS SOLID MASSES WITH 3 DIMENSIONS.

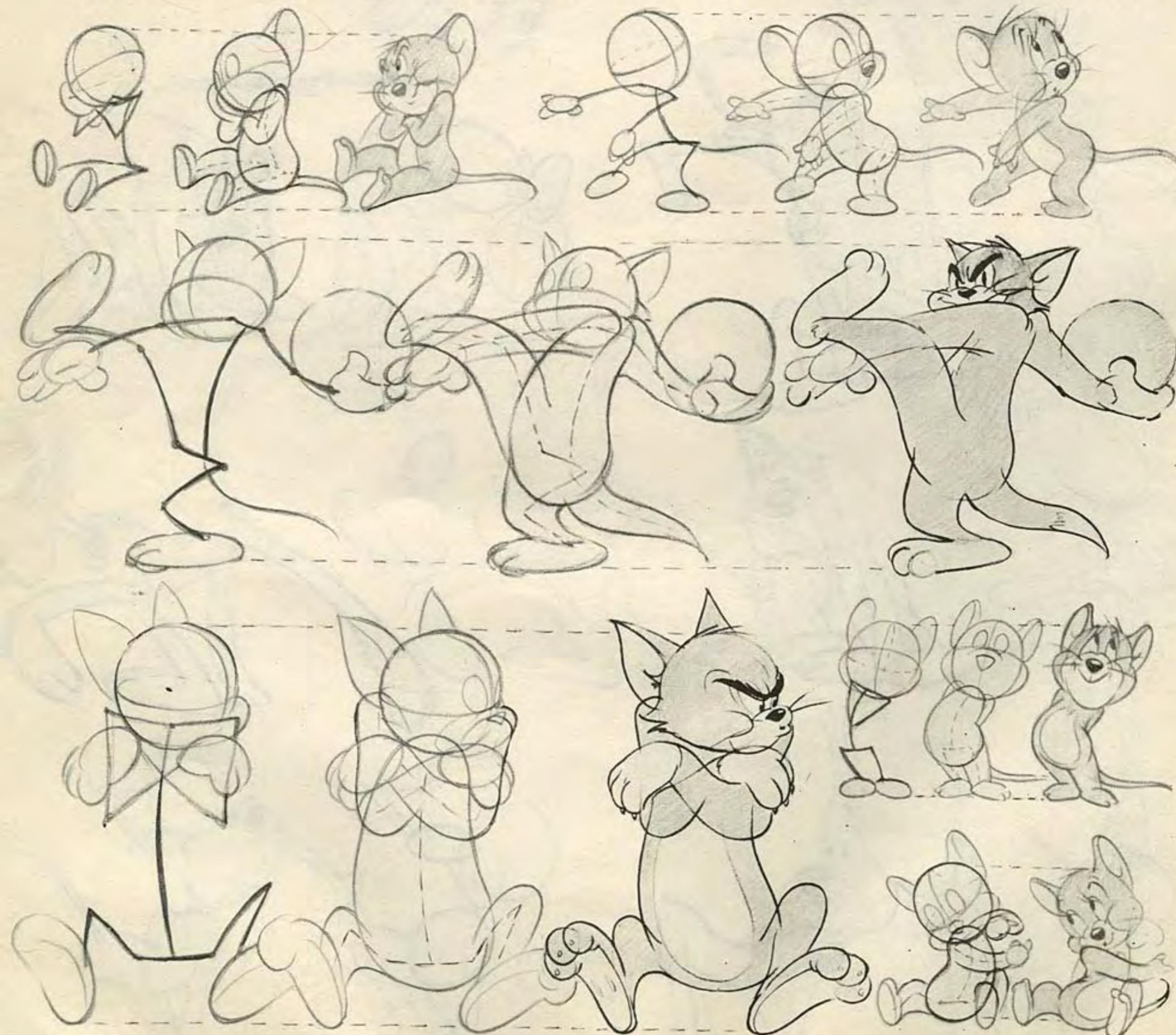


# THE SKELETON FOUNDATION

BUILD THE CARTOON UP FROM A ROUGH SKELETON -- DON'T EXPECT TO GET THE RIGHT SKELETON THE FIRST TRY ALWAYS--NO ONE CAN DO THAT--EXPERIMENT-DISCARD-MAKE SEVERAL THEN PICK THE BEST ONE -- HERE ARE THE ACADEMY AWARD WINNERS "TOM + JERRY" (WHO APPEAR IN M.G.M. PICTURES) TO GIVE YOU AN IDEA HOW IT'S DONE.--WORK LOOSE ON CONSTRUCTION.

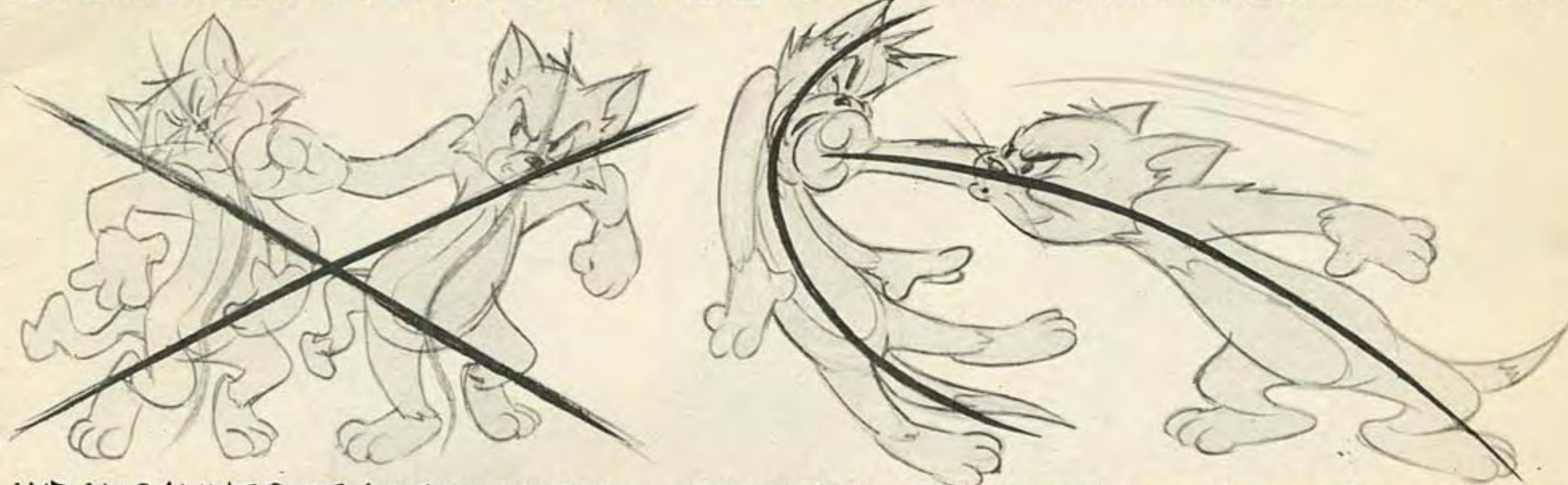


WORK OUT A SKELETON-CONSTRUCT BODY MASSES AROUND IT-THEN BUILD DETAILS OVER THIS

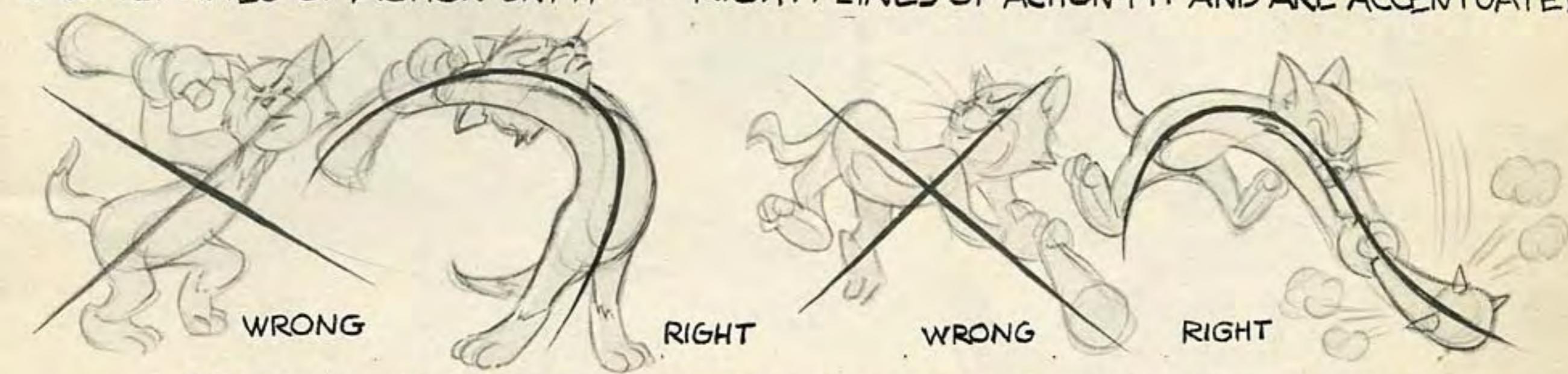


# LINE OF ACTION

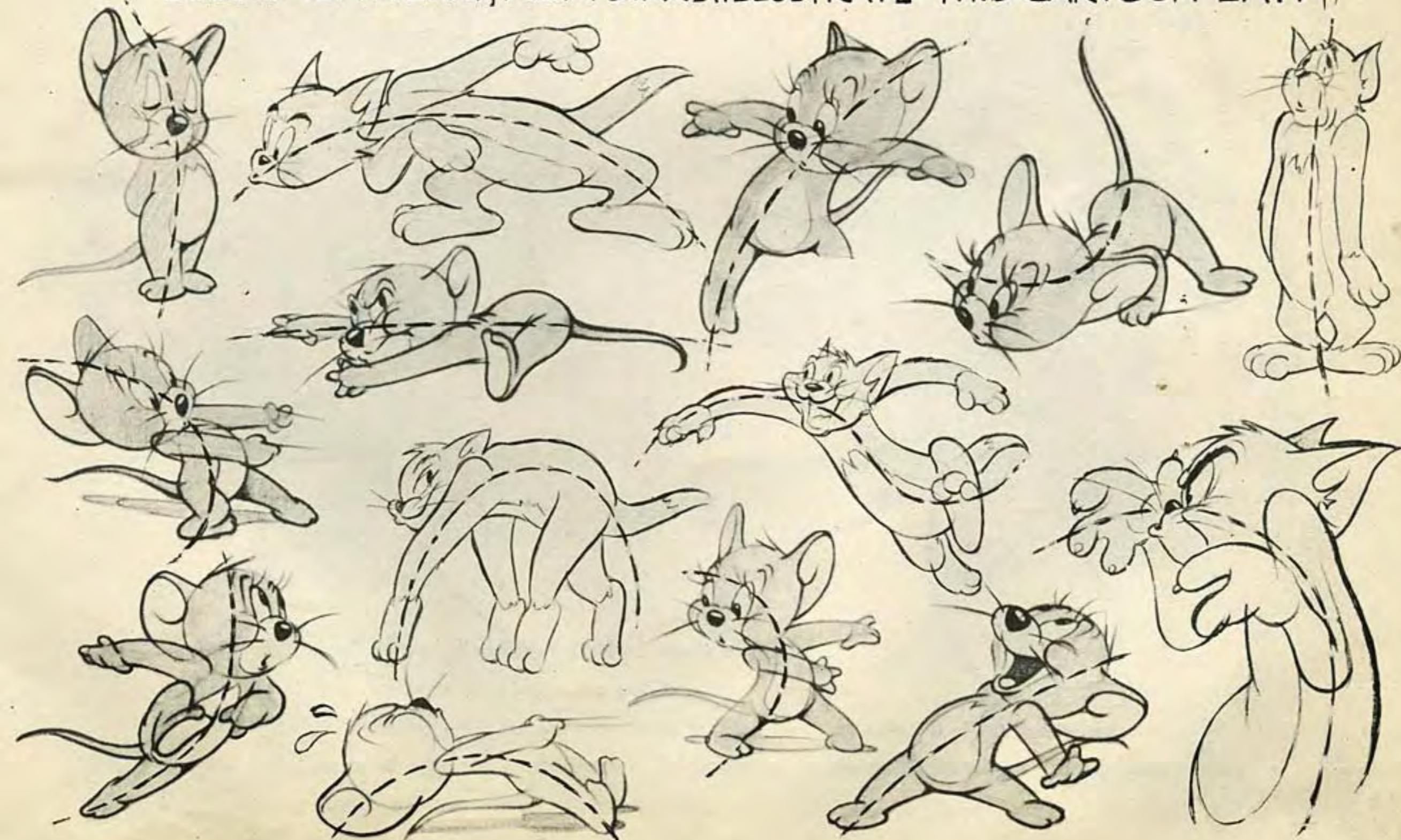
AN IMAGINARY LINE EXTENDING THRU THE MAIN ACTION OF THE FIGURE IS THE "LINE OF ACTION" -- PLAN YOUR FIGURE AND IT'S DETAILS TO ACCENTUATE THIS LINE -- BY SO DOING YOU STRENGTHEN THE DRAMATIC EFFECT -- THE FIRST THING TO DRAW WHEN CONSTRUCTING A FIGURE IS THE LINE OF ACTION -- THEN BUILD OVER THAT.



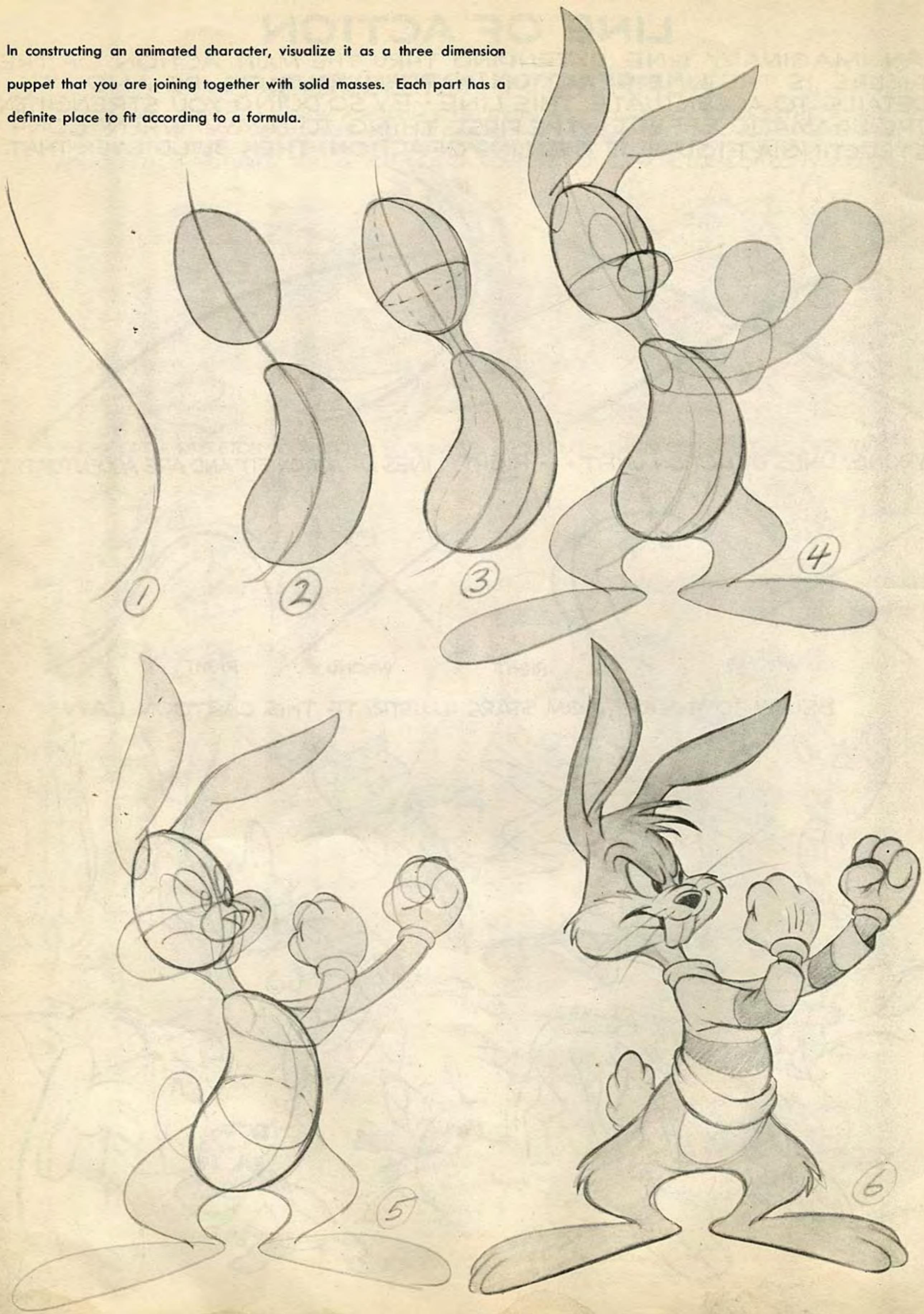
WRONG! LINES OF ACTION UNFIT --- RIGHT! LINES OF ACTION FIT AND ARE ACCENTUATED



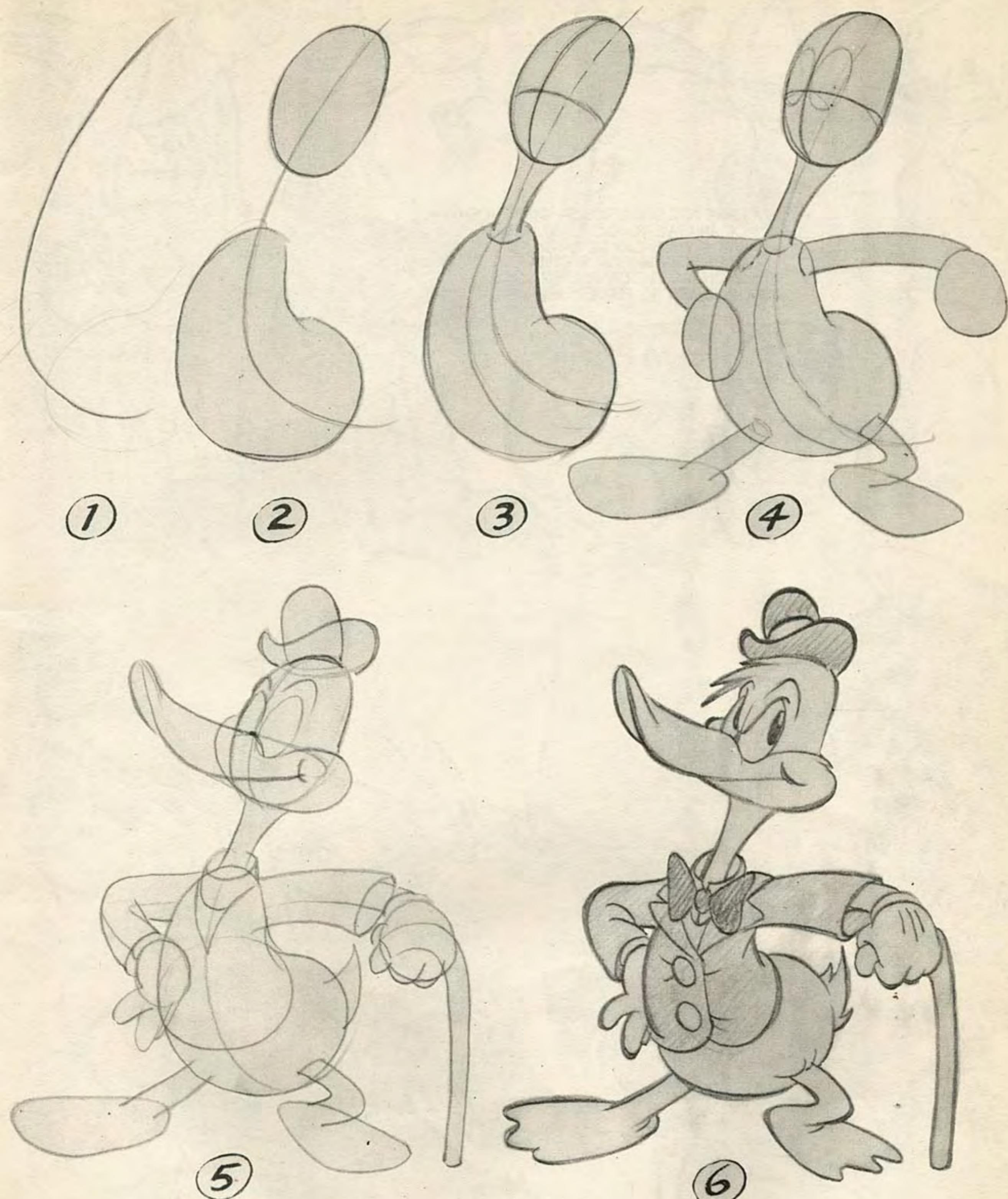
BELOW "TOM+JERRY," M.G.M. STARS. ILLUSTRATE THIS CARTOON LAW



In constructing an animated character, visualize it as a three dimension puppet that you are joining together with solid masses. Each part has a definite place to fit according to a formula.



These are progressive steps taken by an animator in drawing a cartoon character



- 1 Draw in "Line of Action" to establish general stance of figure.
- 2 Rounded masses for head and body are put in.
- 3 Perspective lines around these masses are put in to establish front, side, tilt etc. of body and head.
- 4 Now arms, legs and eyes are constructed or "anchored on" in their definite position to perspective lines.
- 5 Details are now fitted in or hinged into their position.
- 6 Character is cleaned up around these construction lines.

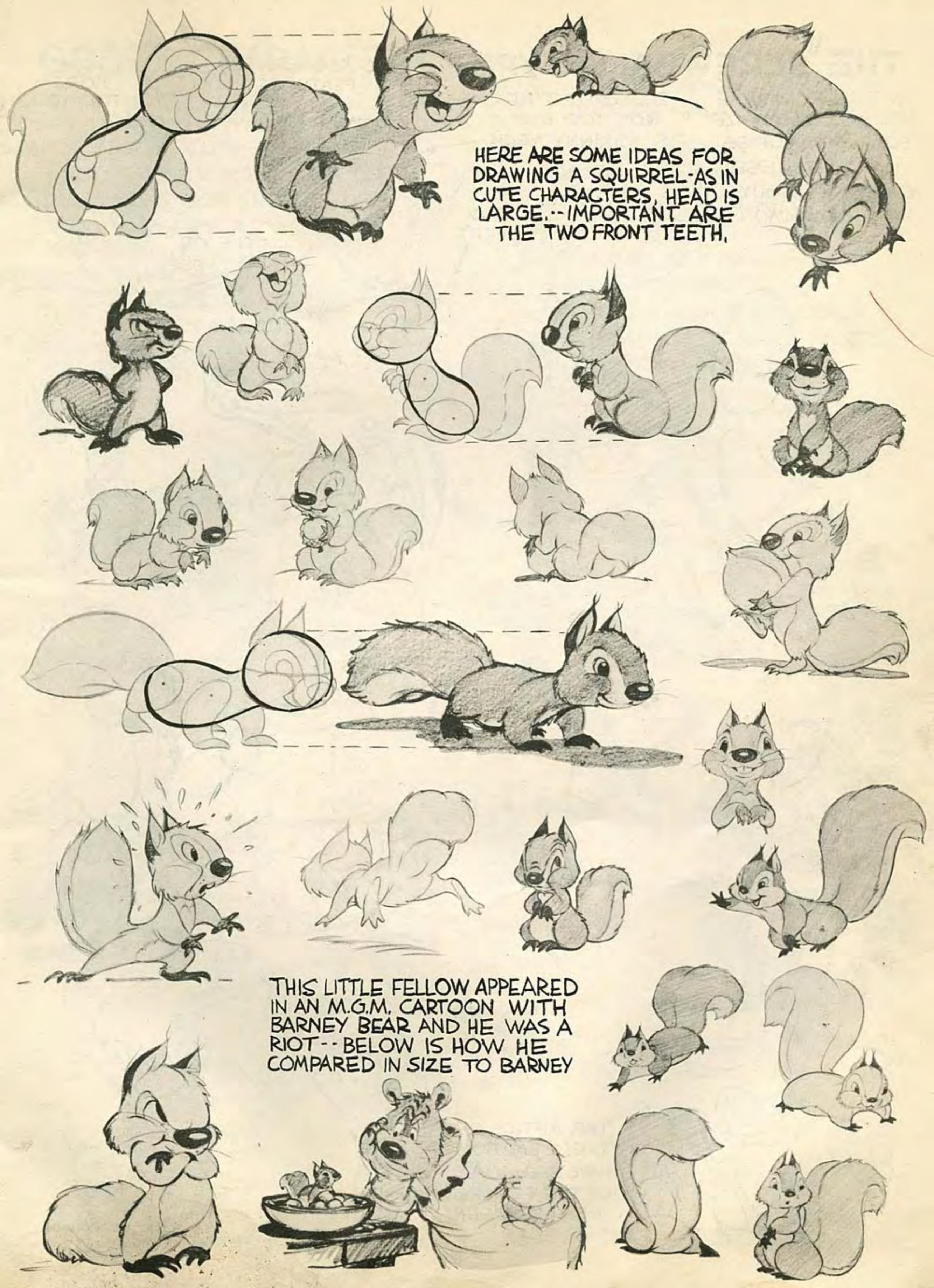
HERE ARE SOME ROUGH SKETCHES  
OF AN OWL--TO SHOW YOU HOW A  
BIRD'S WING CAN BE HANDLED--IT  
CAN BE STRAIGHT, OR AT OTHER TIMES  
TAKE ON ALL THE CHARACTERISTICS  
OF A HAND WITH THE FEATHERS AS FINGERS.







Make a repeat cycle of this bulldog running using drawing to right for one position. See "run" in "movements of the four legged figure" on page 25 for guide.



HERE ARE SOME IDEAS FOR  
DRAWING A SQUIRREL--AS IN  
CUTE CHARACTERS, HEAD IS  
LARGE.--IMPORTANT ARE  
THE TWO FRONT TEETH.

THIS LITTLE FELLOW APPEARED  
IN AN M.G.M. CARTOON WITH  
BARNEY BEAR AND HE WAS A  
RIOT--BELOW IS HOW HE  
COMPARED IN SIZE TO BARNEY



# THE "SCREWBALL" TYPE

IN THIS FORMULA  
YOU WILL RECOGNIZE  
SOME FEATURES  
THAT ALL THESE  
COCKY-WISE GUYS  
HAVE IN COMMON

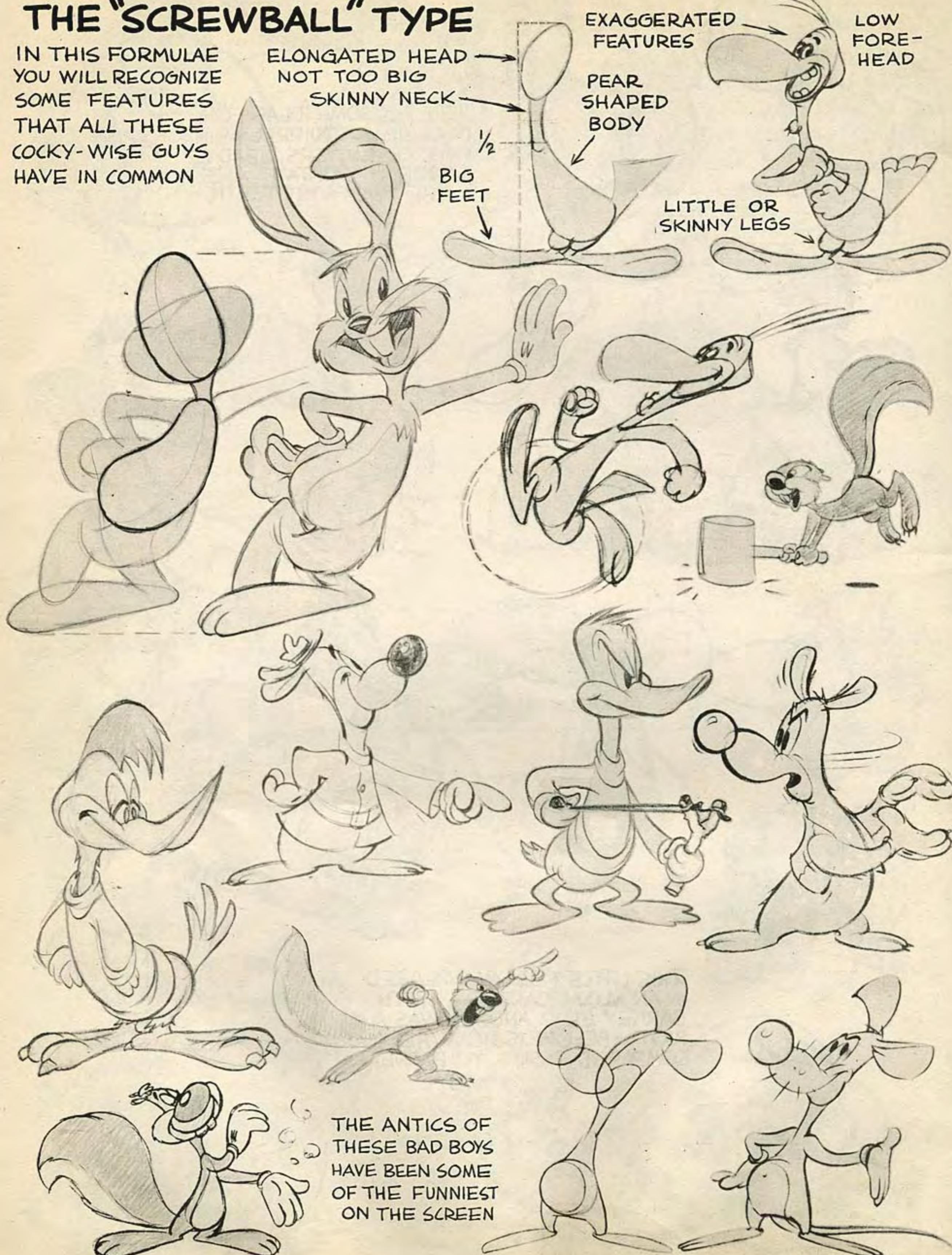
ELONGATED HEAD →  
NOT TOO BIG  
SKINNY NECK →

$\frac{1}{2}$   
BIG FEET →

EXAGGERATED  
FEATURES  
PEAR  
SHAPED  
BODY

LOW  
FORE-  
HEAD

LITTLE OR  
SKINNY LEGS →



THE ANTICS OF  
THESE BAD BOYS  
HAVE BEEN SOME  
OF THE FUNNIEST  
ON THE SCREEN

# GOOFY CHARACTERS

HERE IS THE BASIC FORMULAE FOR GOOFY TYPES THAT ACT LIKE A SIMPLE SIMON CLOD-HOPPER:

LONG SKINNY NECK.

HUMP BACK-STOOP SHOULDRED.

LONG DROOPY ARMS.

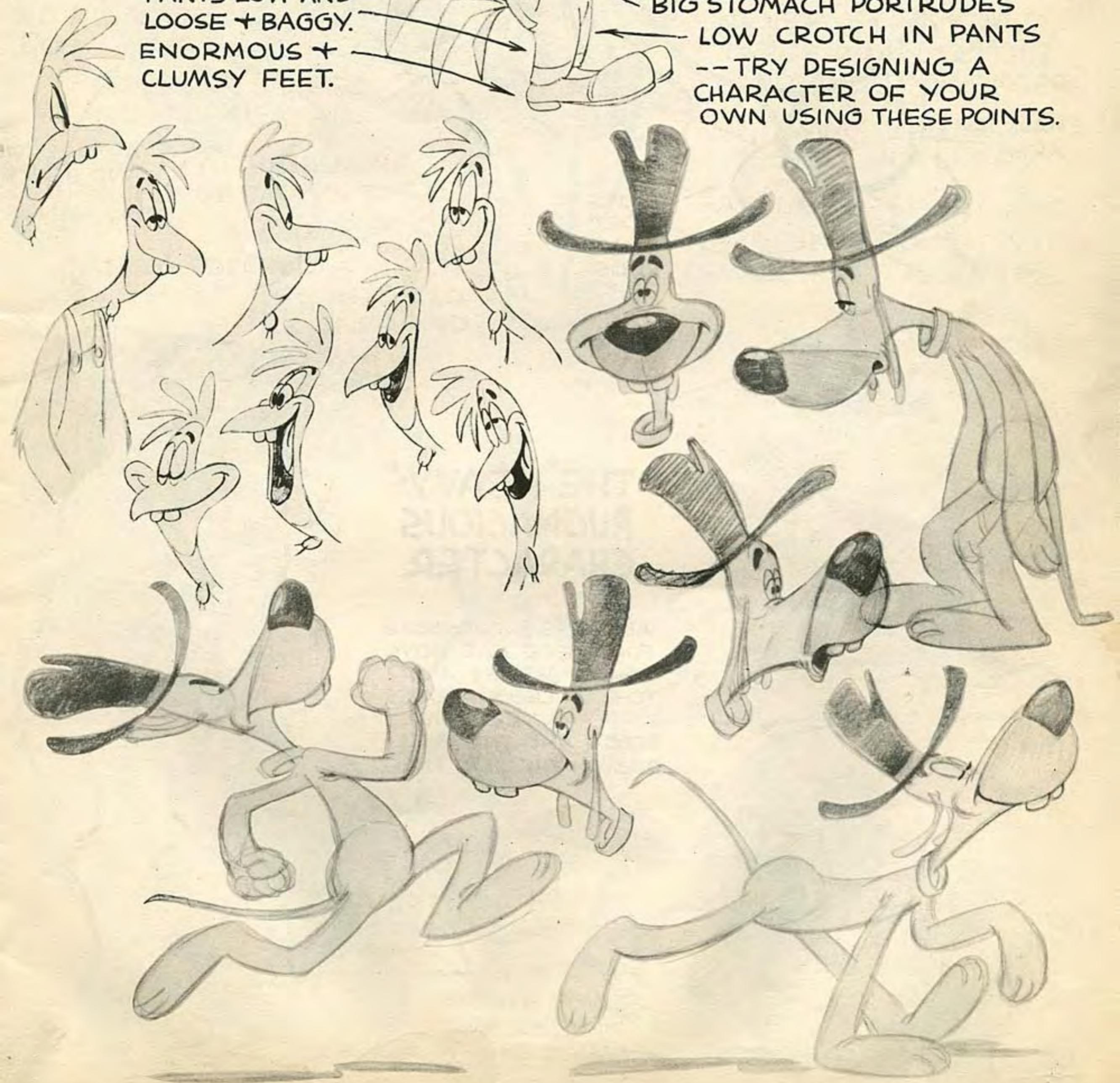
WITH BIG HANDS.

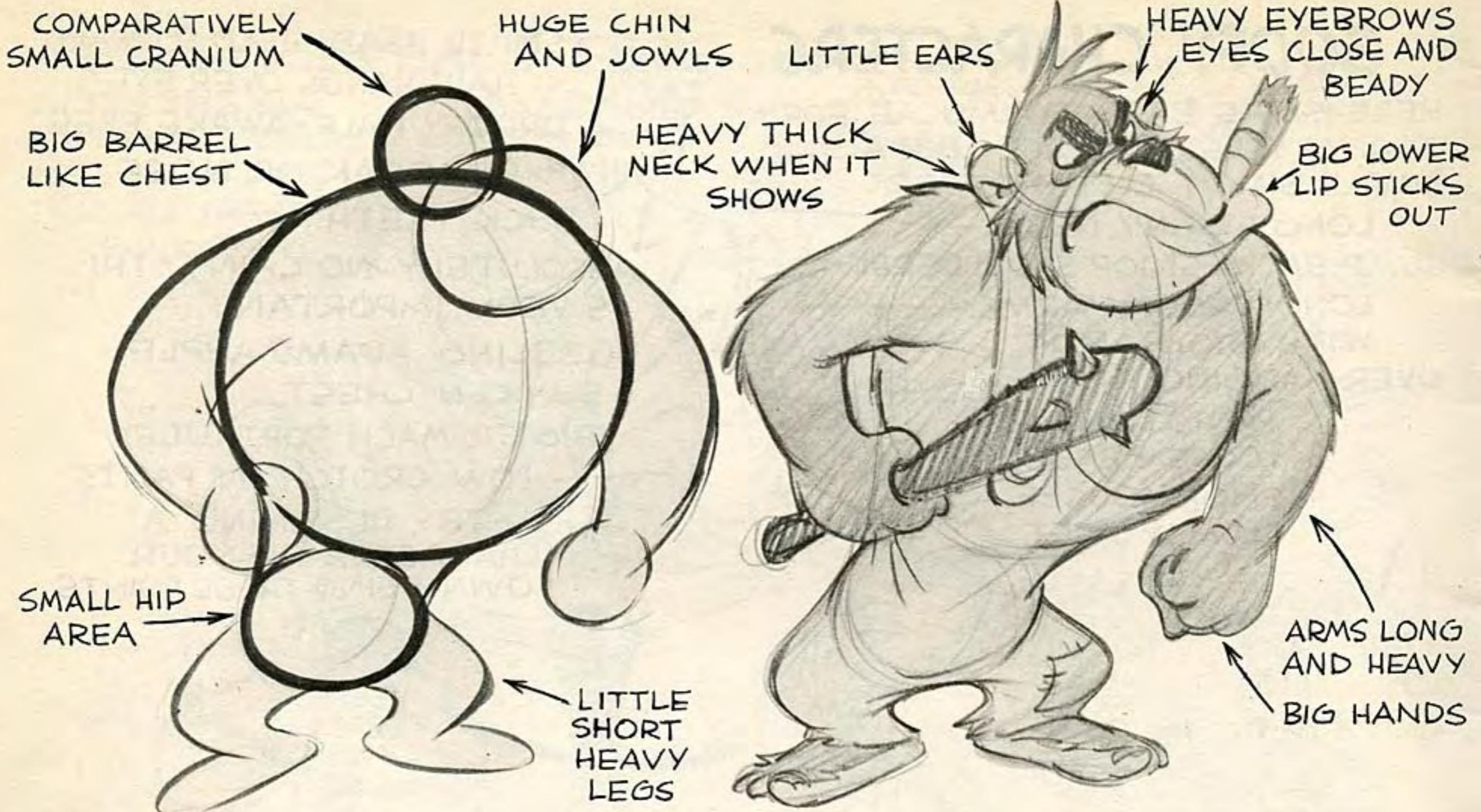
OVER-HANGING FANNY.

PANTS LOW AND  
LOOSE + BAGGY.

ENORMOUS +  
CLUMSY FEET.

SMALL HEAD -HELD FORWARD  
HAIR HANGS OVER EYES  
DROOPY HALF-AWAKE EYES  
BIG BEAK OR NOSE  
BUCK TEETH  
ABSOLUTELY NO CHIN !- THIS  
IS VERY IMPORTANT.  
BOBBLING ADAMS APPLE  
SUNKEN CHEST  
BIG STOMACH PORTRUDES  
LOW CROTCH IN PANTS  
-- TRY DESIGNING A  
CHARACTER OF YOUR  
OWN USING THESE POINTS.





## THE "HEAVY" PUGNACIOUS CHARACTER

ABOVE IS A FORMULAE  
FOR THESE BAD BOYS  
WHICH APPLIES ALSO  
TO FOUR LEGGED TYPES  
---- AS THE BEAR  
BELOW AND THE BULL-  
DOG ON THE NEXT PAGE.



# THE CUTE CHARACTER

CUTENESS IS BASED ON THE BASIC PROPORTIONS OF A BABY + EXPRESSIONS OF SHYNESSE OR COYNESSE.

EARS ARE SMALL IN RELATION TO ADULT SIZE.

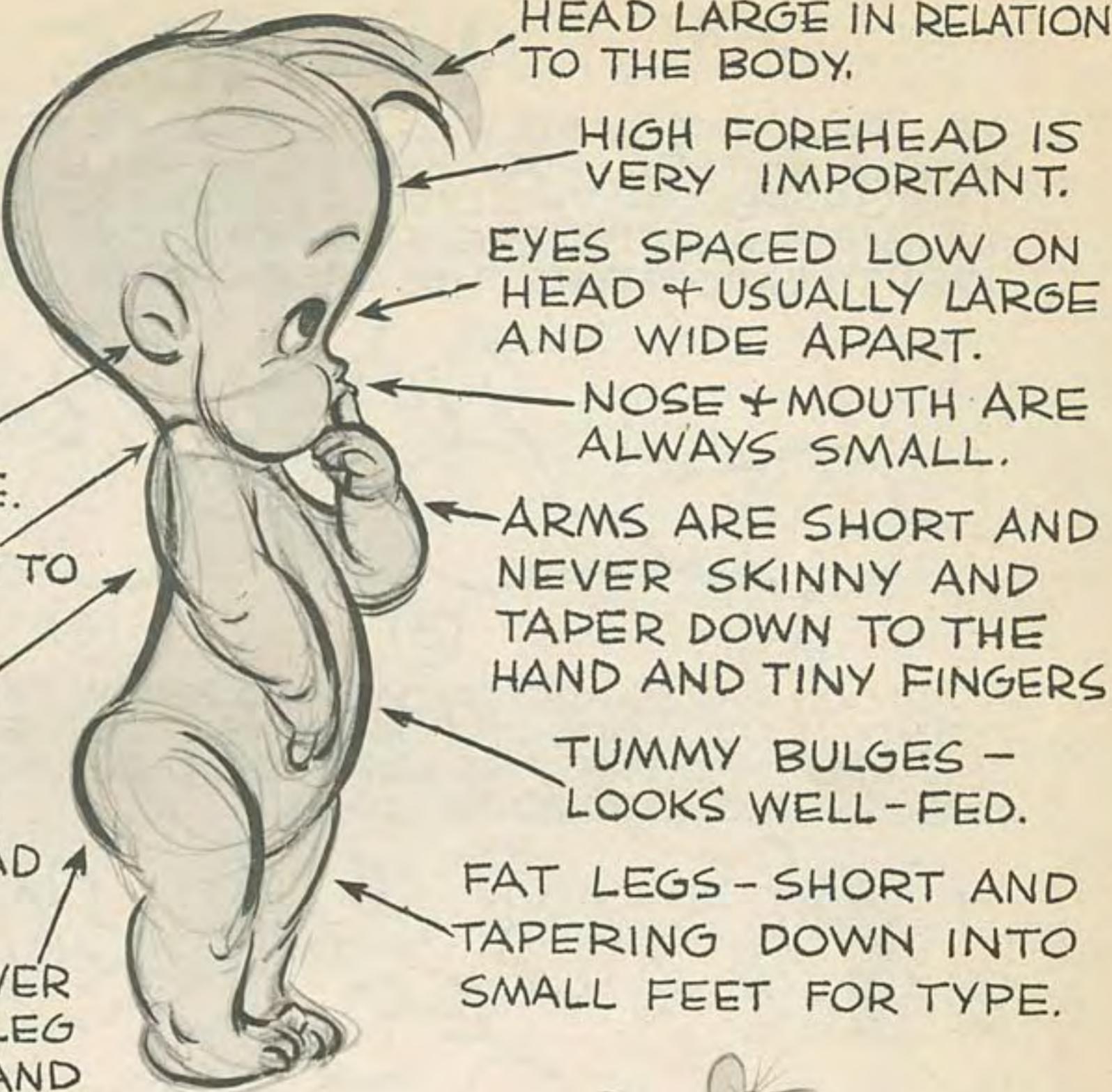
NO NECK - HEAD JOINS ON TO BODY DIRECTLY.

BODY PEAR SHAPED AND ELONGATED.

SWAY BACK - WITH THIS LINE CONTINUING UP BACK OF HEAD AND DOWN INTO FANNY.

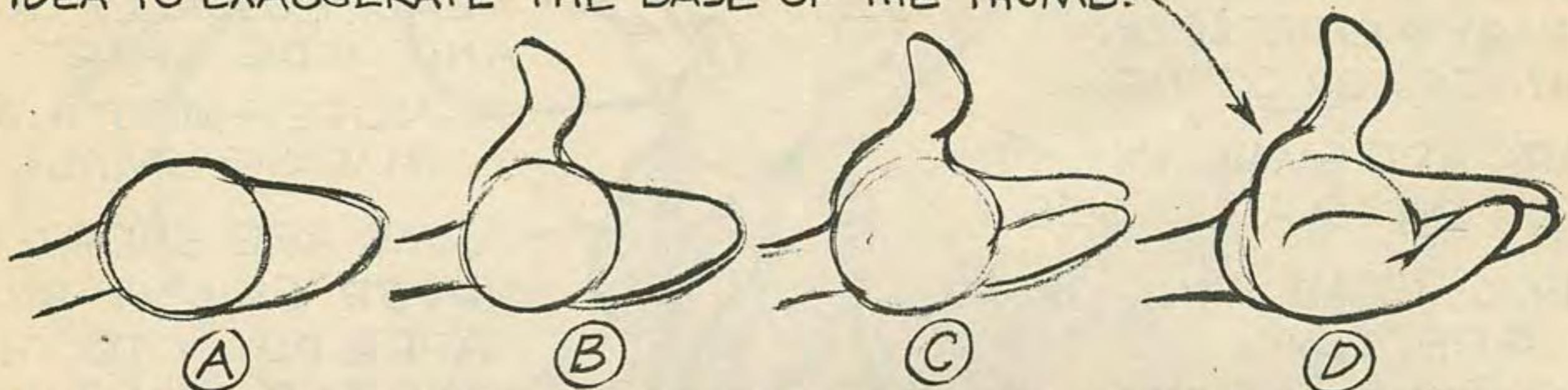
FANNY PORTRUDES - NEVER BULGES - BUT FITS INTO LEG

LINES AND  
BASE OF  
BODY.

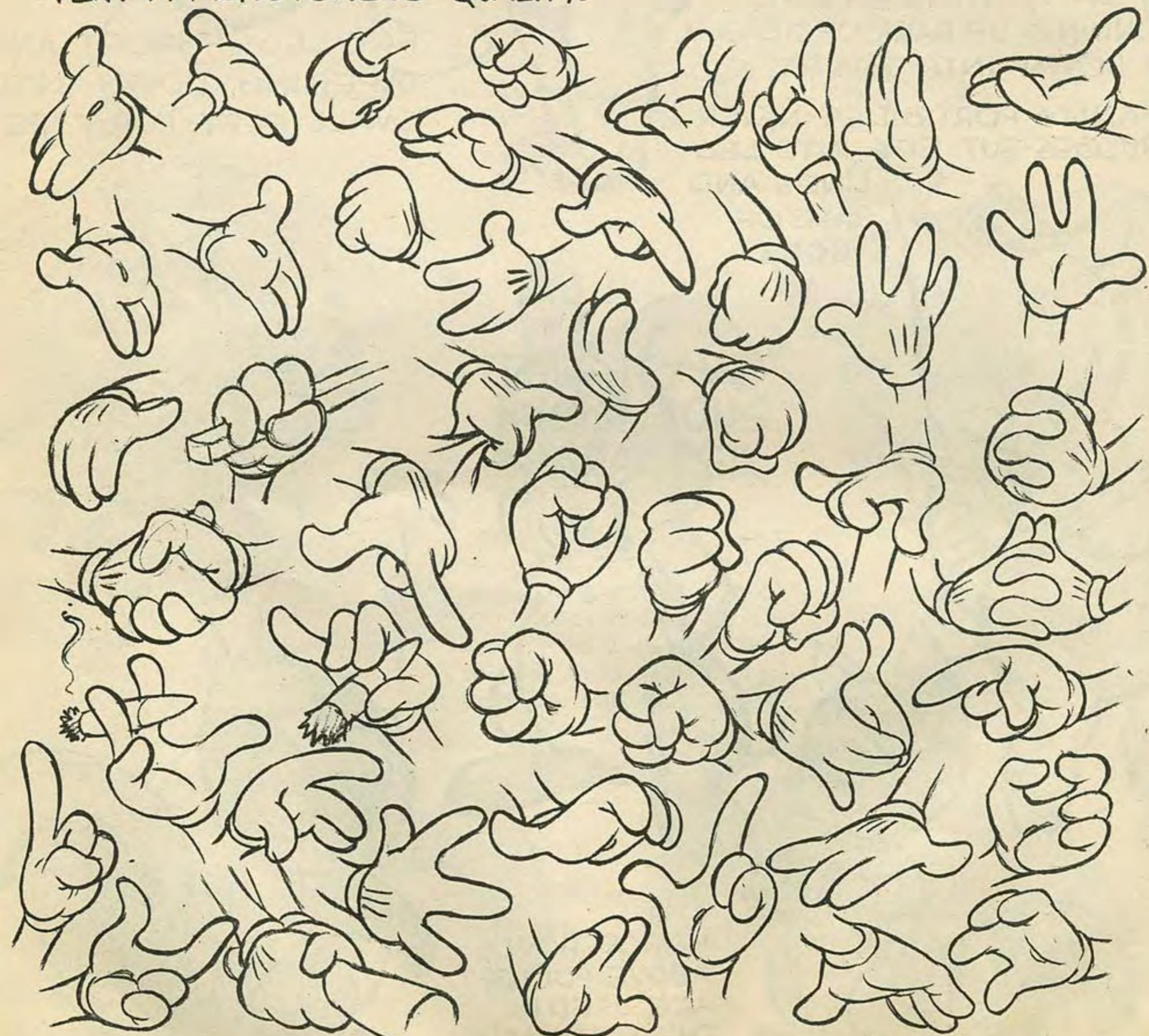


# HANDS

TO DRAW THE HAND FIRST START AS IF IT WERE A MITTEN **A** AND **B** — THEN PUT THE TWO MIDDLE FINGERS IN FOLLOWING THIS SHAPE **C** — THE LITTLE FINGER IS THEN PUT IN, VARYING IT IN ANY FASHION TO PREVENT MONOTONY **D** — IT IS OFTEN A GOOD IDEA TO EXAGGERATE THE BASE OF THE THUMB.

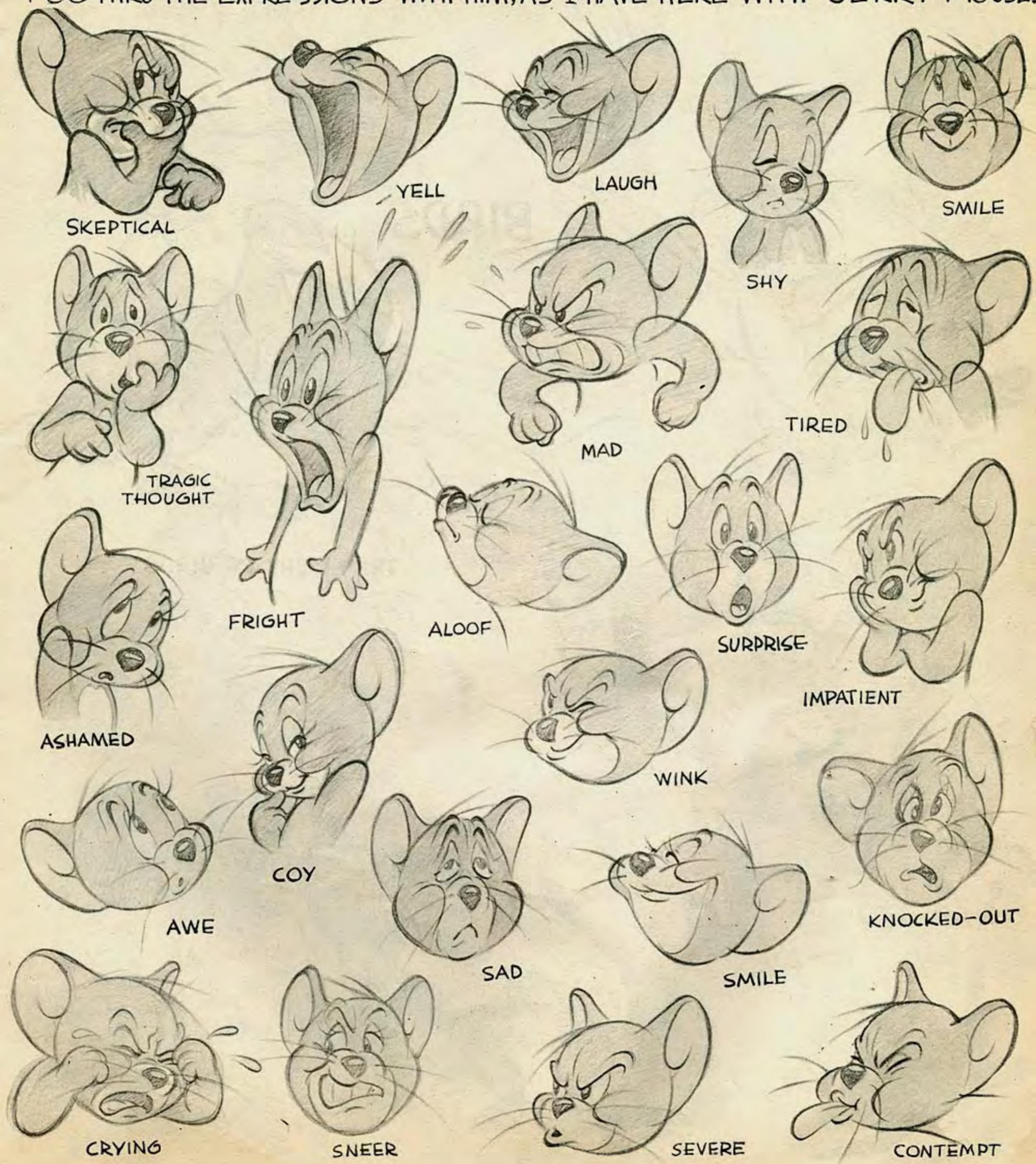


CARTOON HANDS ARE TRICKY — SO BELOW I'VE DRAWN AN AVERAGE HAND IN ALL KINDS OF POSITIONS TO GIVE YOU SOME IDEAS. — NOTICE THAT THE FINGERS SHOULD BE UNEVENLY PLACED TO PREVENT A MONOTONOUS QUALITY.



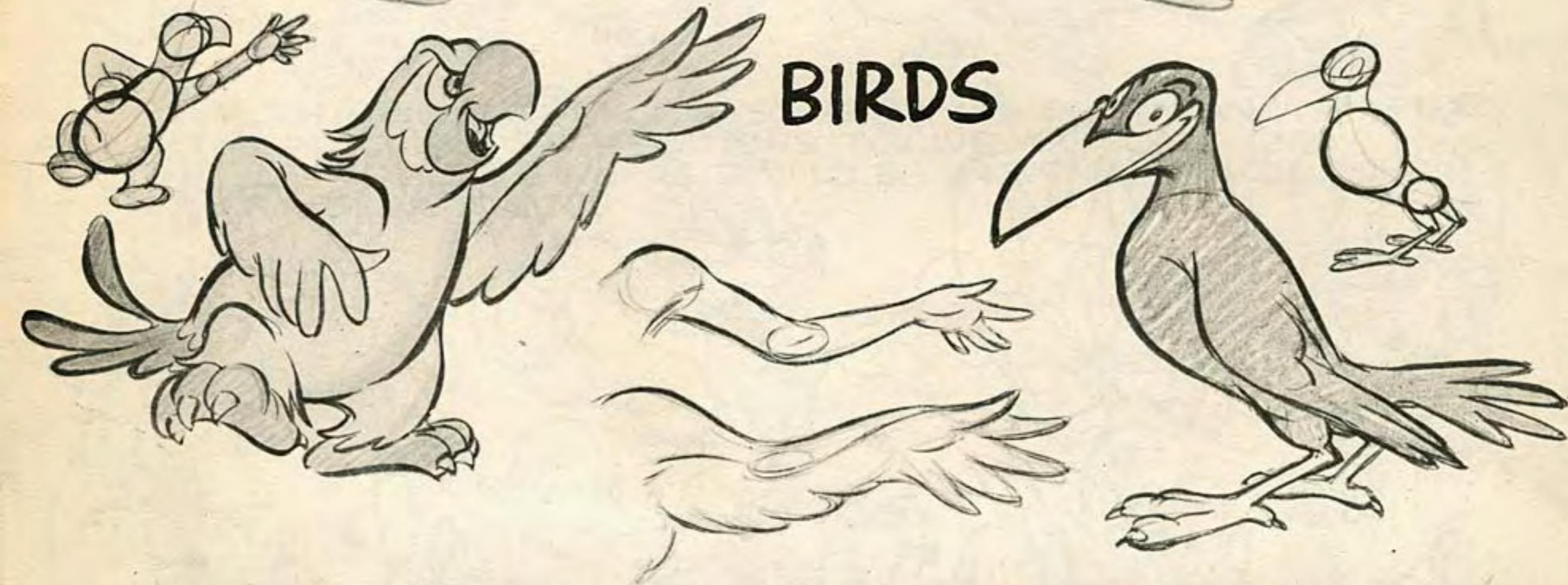
# FACIAL EXPRESSIONS

AN ANIMATOR'S JOB IS THE SAME AS AN ACTOR'S JOB IN LIVE ACTION PICTURES.--BOTH SHOULD BE MASTERS OF PORTRAYING EMOTIONS.--STUDYING YOUR OWN GRIMACES IN A MIRROR IS A MUST.--PICK A CHARACTER YOU KNOW + GO THRU THE EXPRESSIONS WITH HIM, AS I HAVE HERE WITH "JERRY" MOUSE.

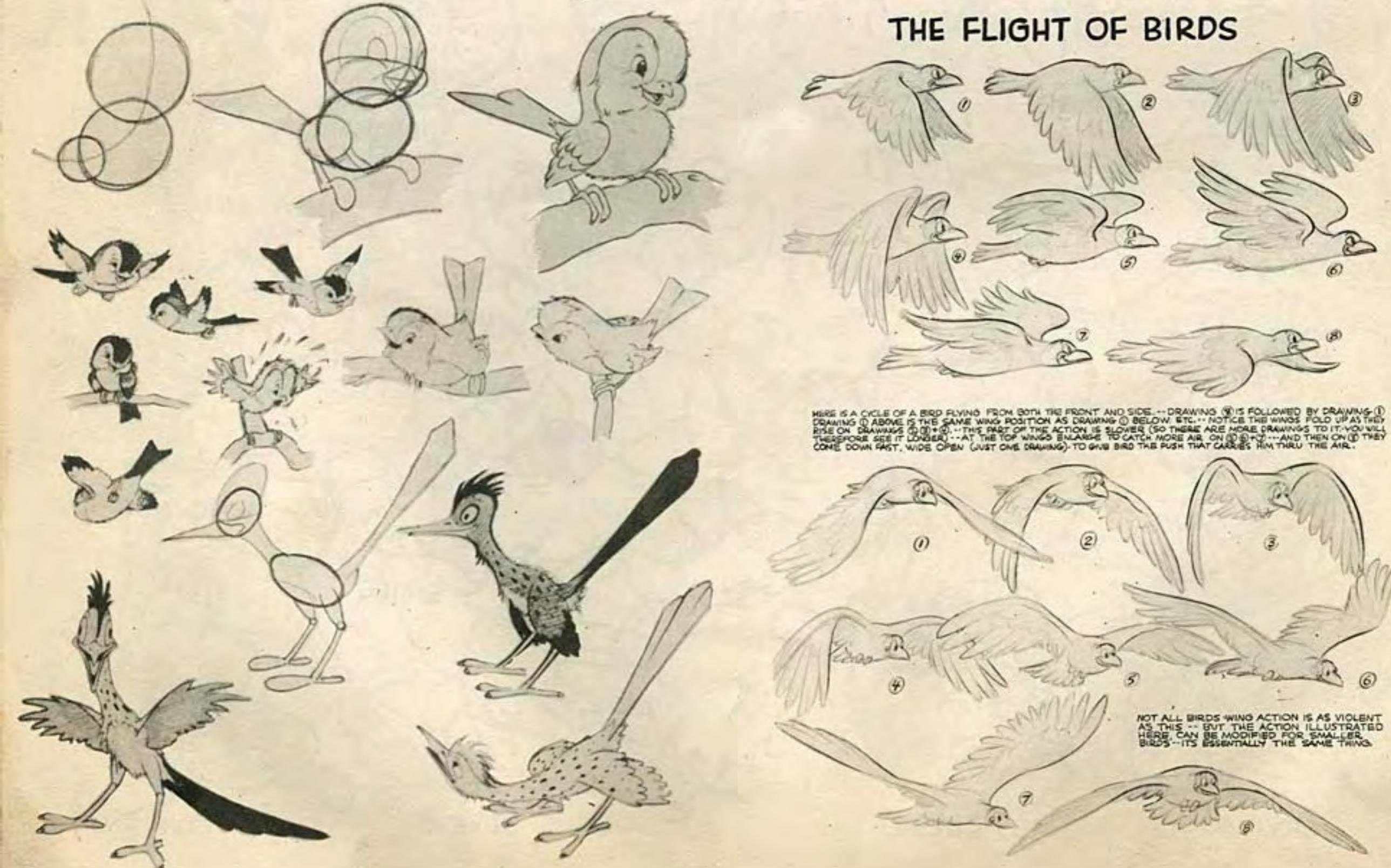




## BIRDS



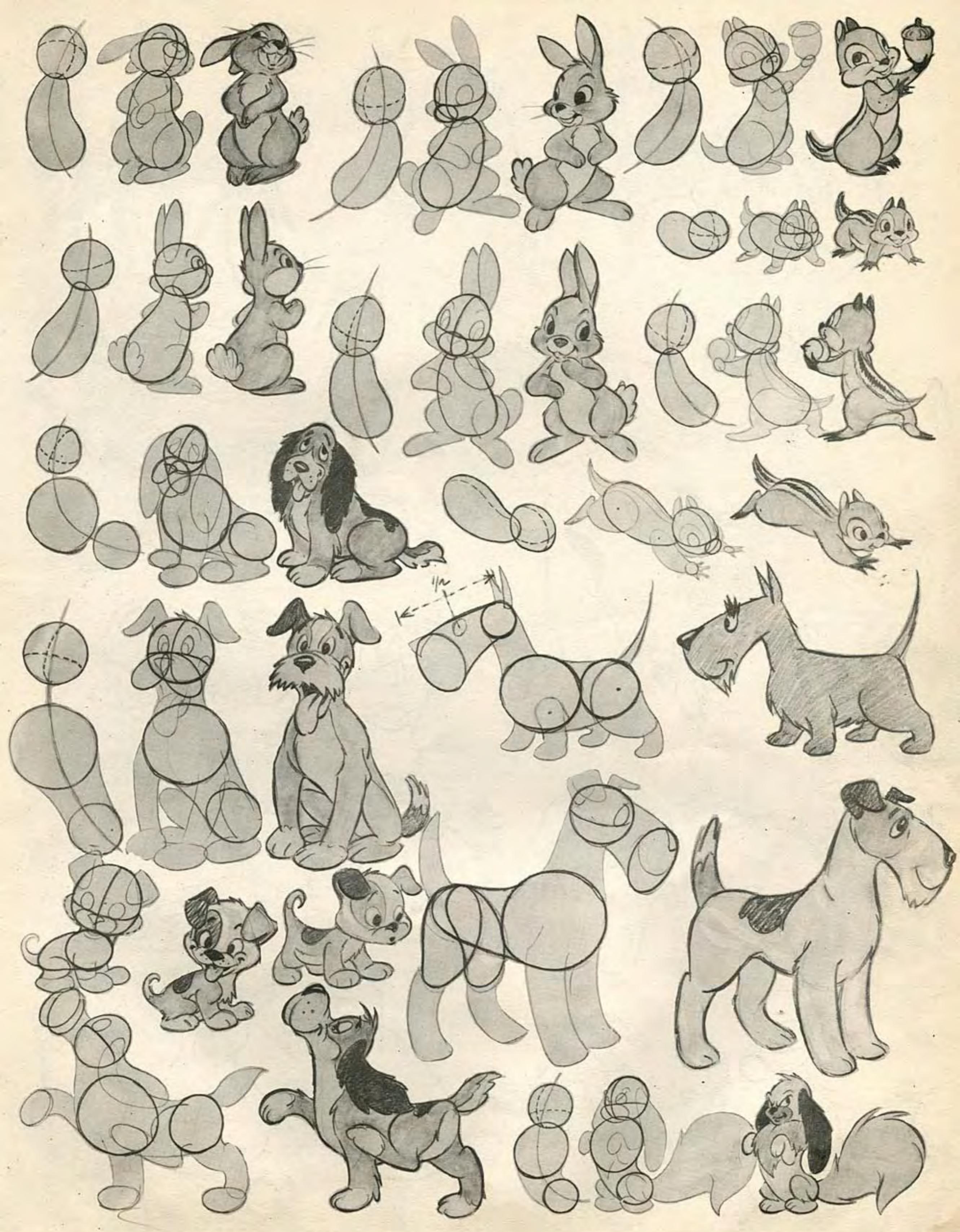
### THE FLIGHT OF BIRDS

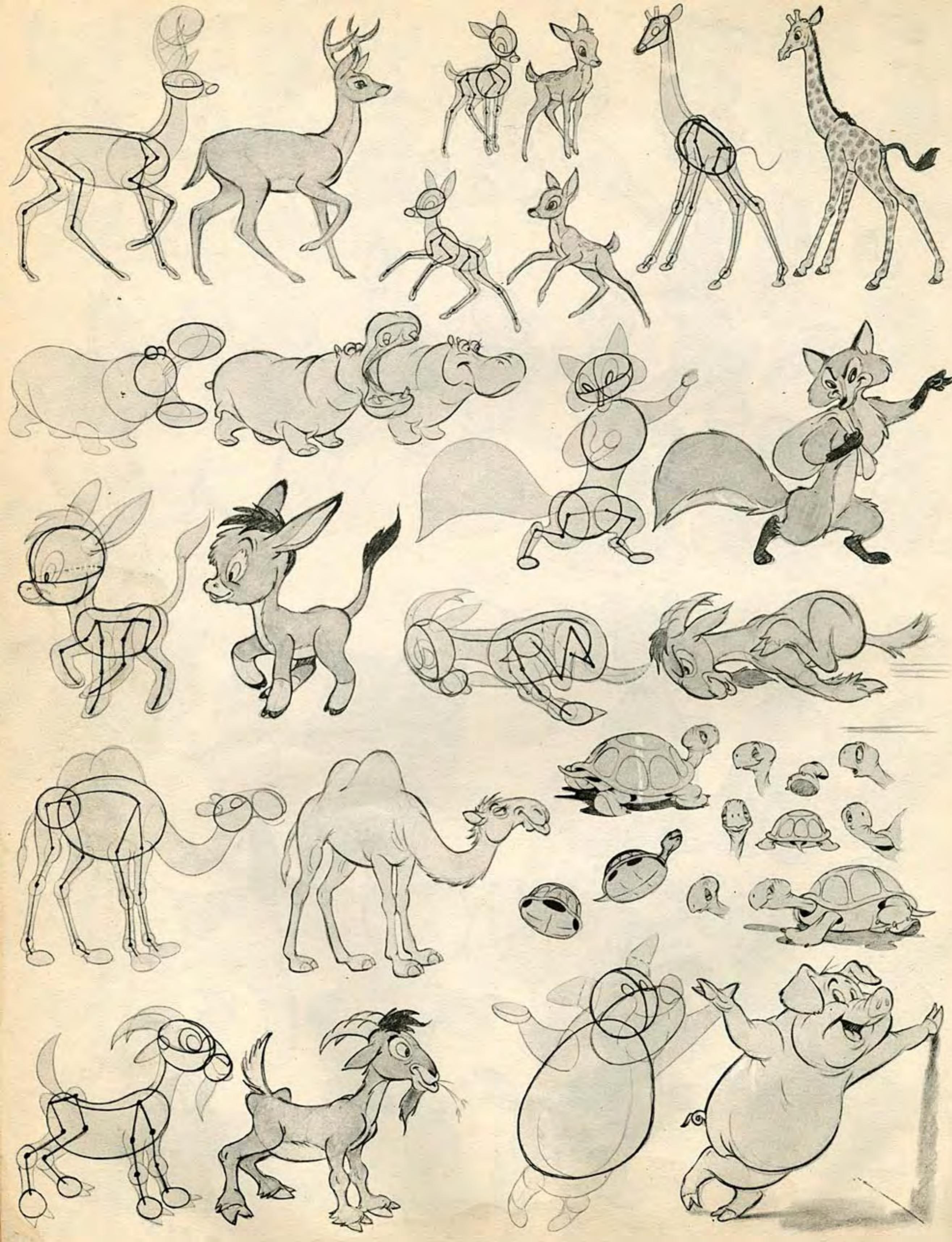


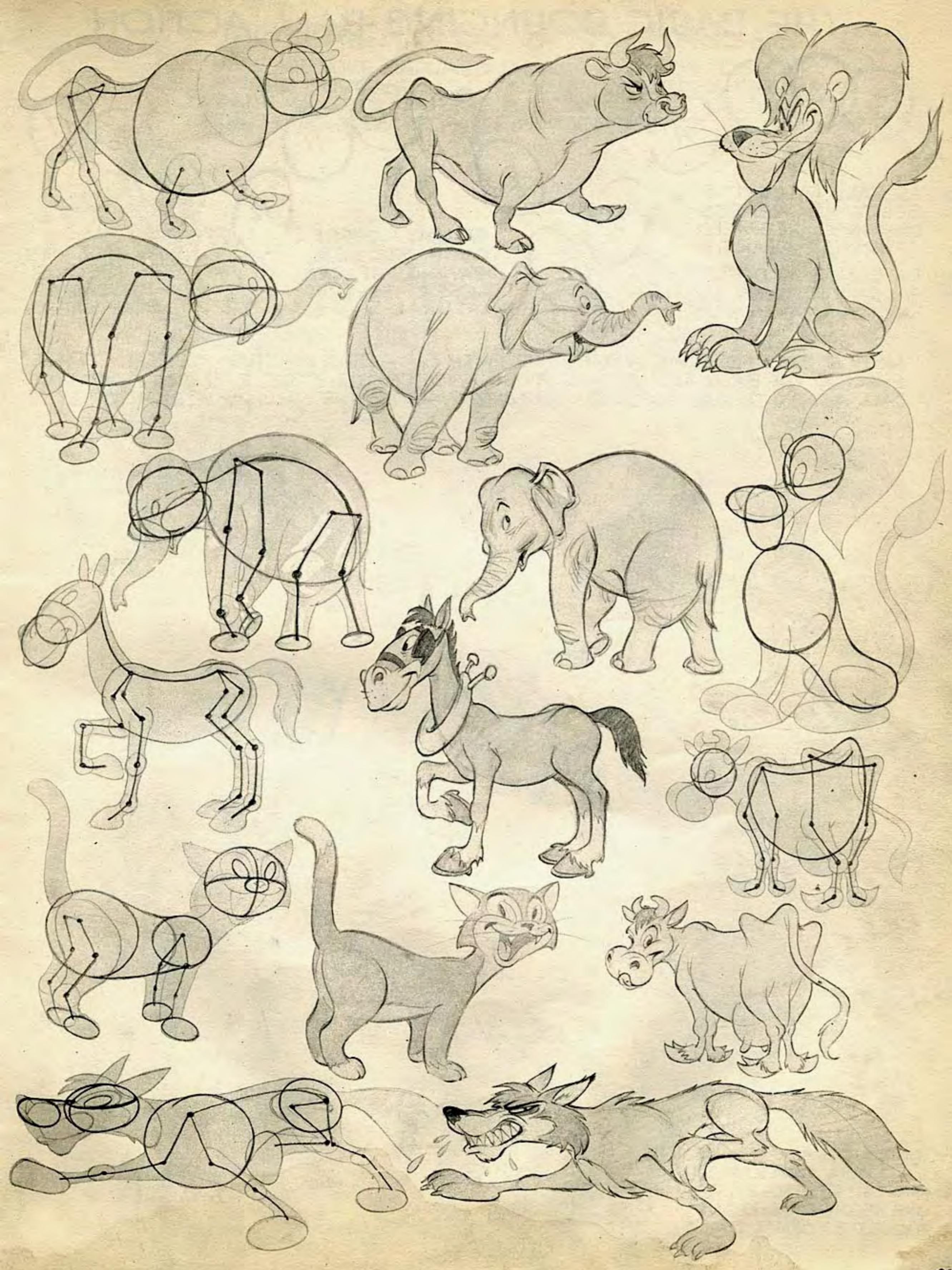
HERE IS A CYCLE OF A BIRD FLYING FROM BOTH THE FRONT AND SIDE... DRAWING ② IS FOLLOWED BY DRAWING ① DRAWING ① ABOVE IS THE SAME WING POSITION AS DRAWING ② BELOW, ETC... NOTICE THE WINGS FOLD UP AS THEY RISE ON DRAWINGS ②, ③ + ④... THIS PART OF THE ACTION IS SLOWER (SO THERE ARE MORE DRAWINGS TO IT) YOU WILL THEREFORE SEE IT LONGER... AT THE TOP WINGS ENLARGE TO CATCH MORE AIR, ON ⑤ FOR... AND THEN ON ⑥ THEY COME DOWN FAST, WIDE OPEN (JUST ONE DRAWING) TO GIVE BIRD THE PUSH THAT CARRIES HIM THRU THE AIR.



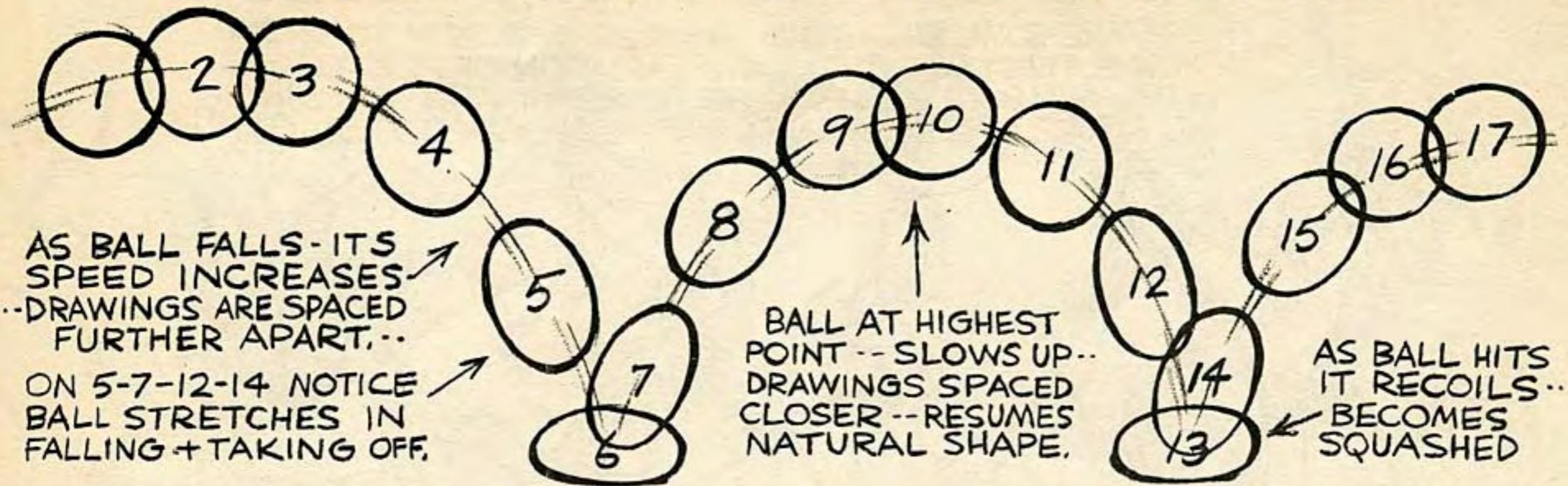
NOT ALL BIRDS WING ACTION IS AS VIOLENT AS THIS -- BUT THE ACTION ILLUSTRATED HERE CAN BE MODIFIED FOR SMALLER BIRDS -- IT'S ESSENTIALLY THE SAME THING.



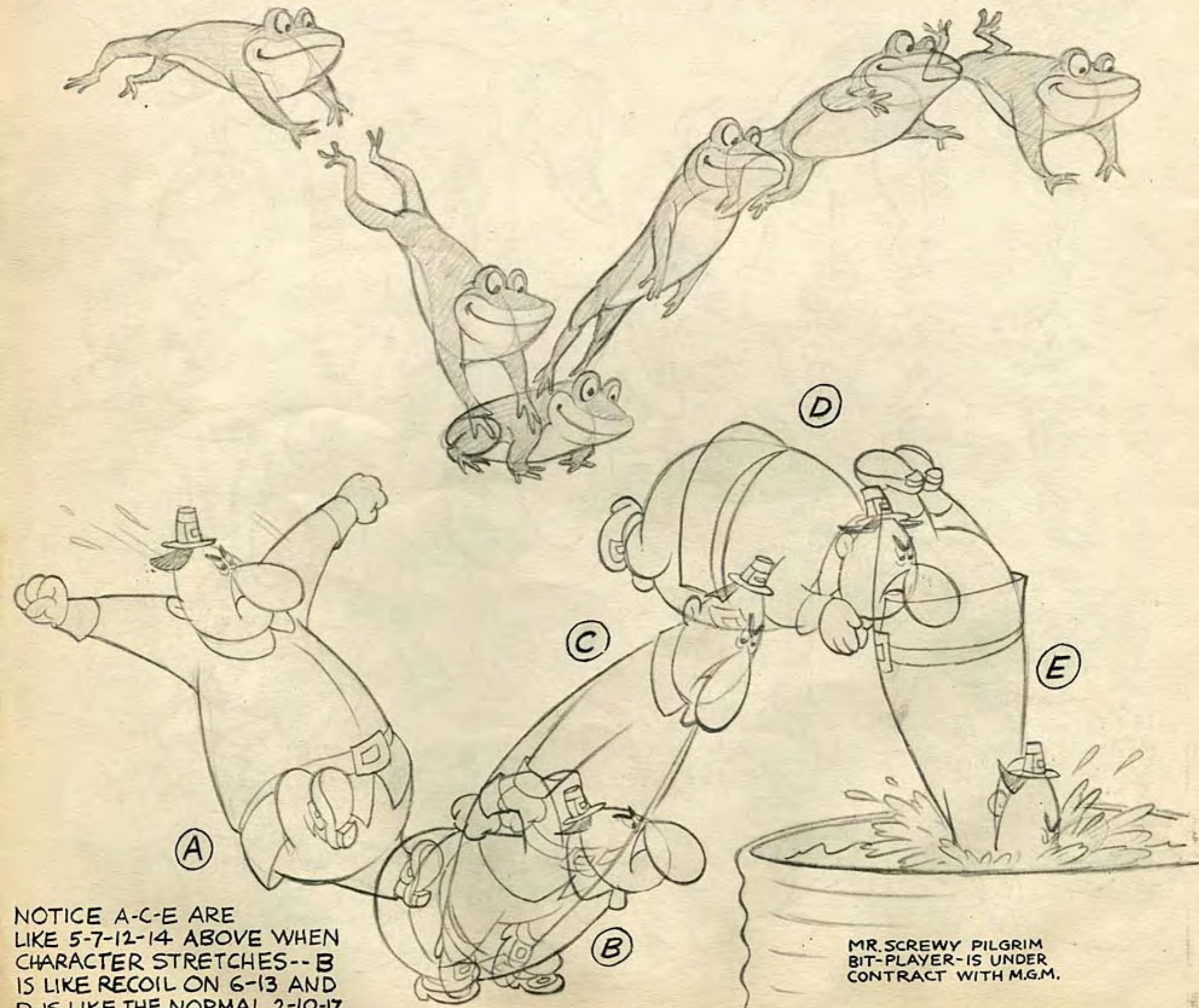




# THE BASIC BOUNCING BALL ACTION

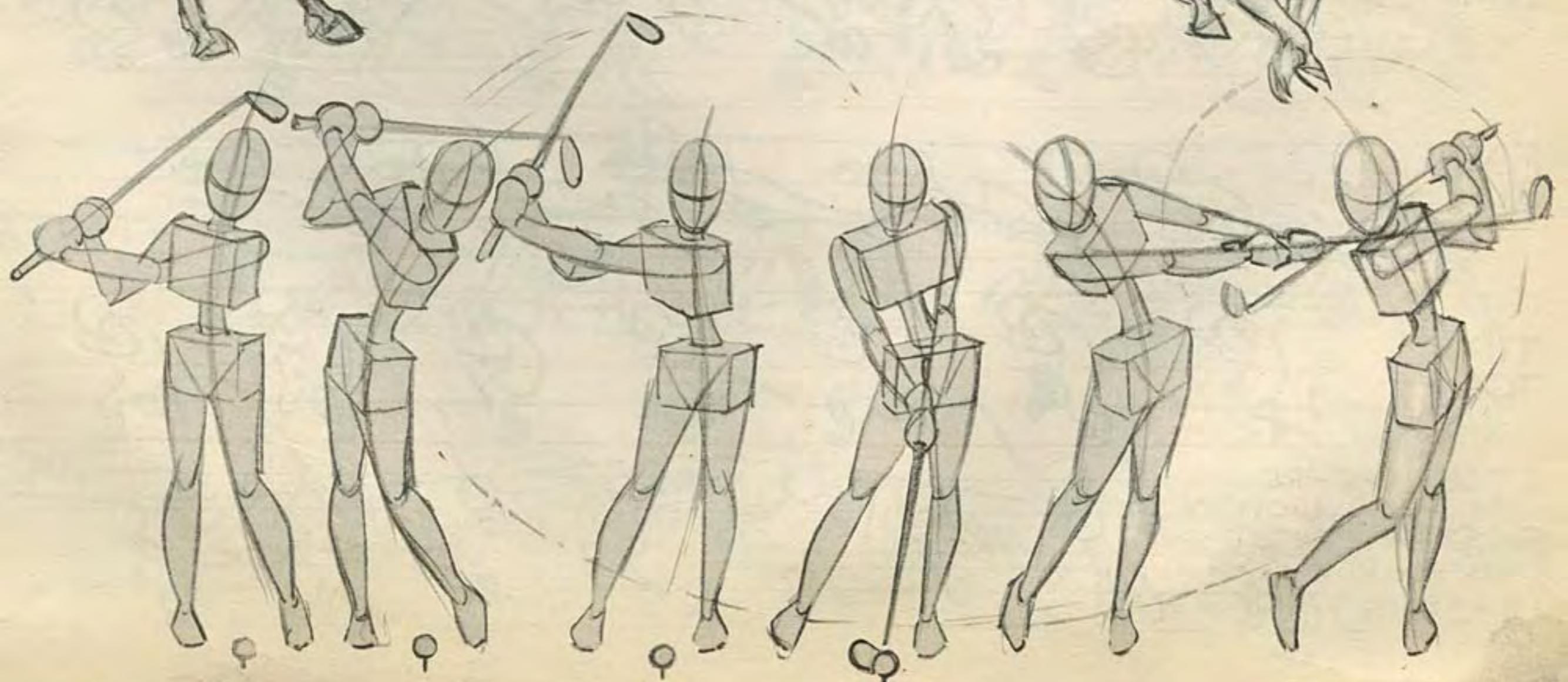
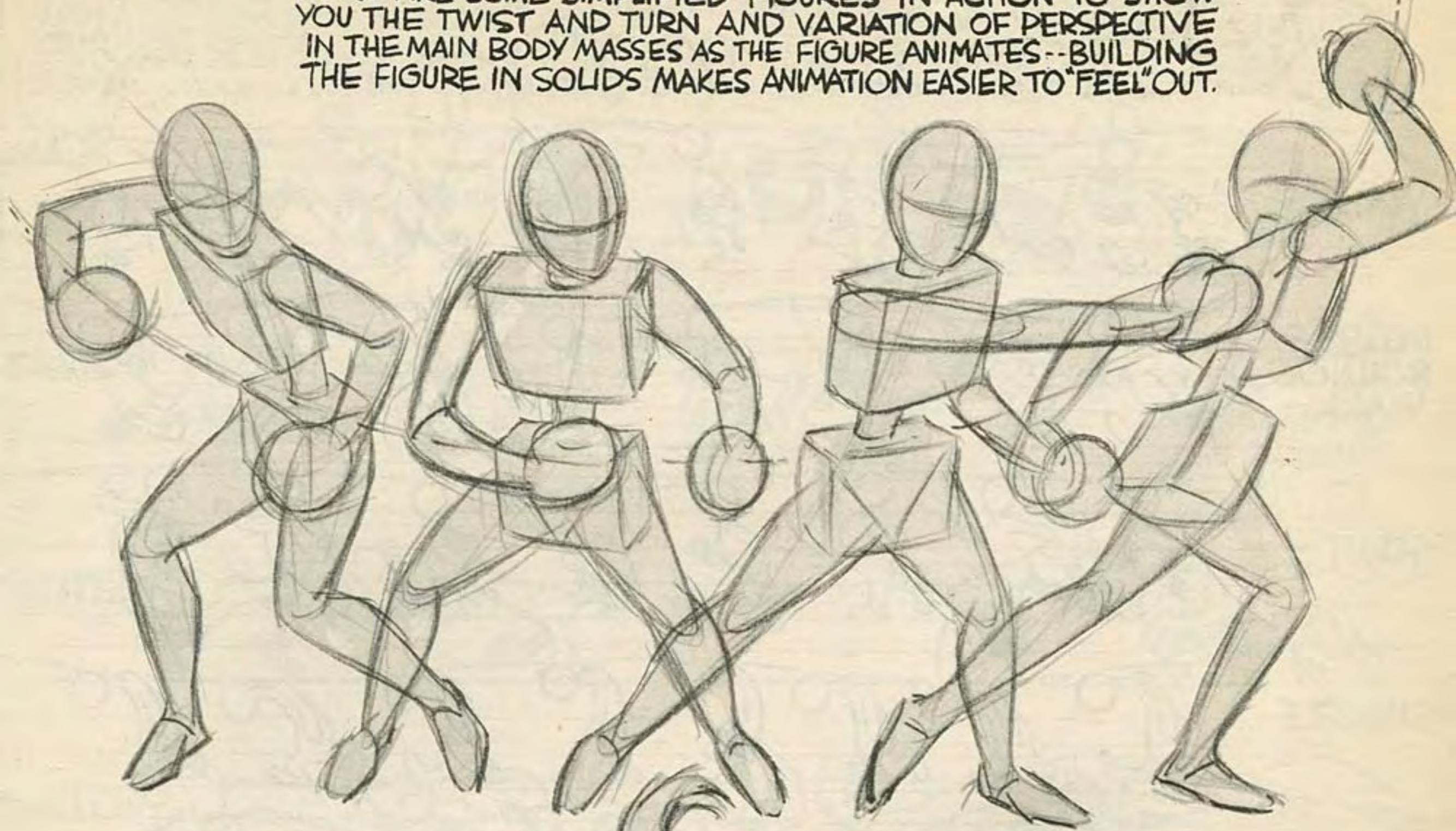


NOTICE BALL FOLLOWS A DEFINITE PATH OF ACTION -- STUDY CLOSELY THE SPACING OF BALL ALONG THIS PATH -- NOTICE THE BASIC SIMILARITY OF THIS BALL ACTION TO THE HOP AND JUMP BELOW; ALSO TO THE WALK-RUN-LEAP-SKIP-ETC.



# MOVEMENT OF BODY MASSES

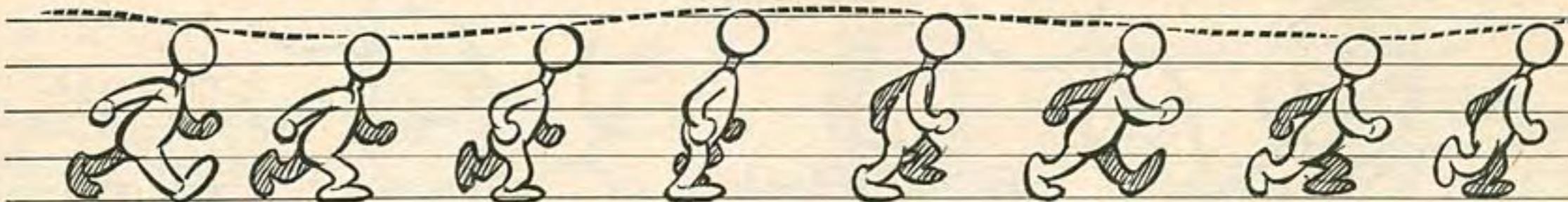
HERE ARE SOME SIMPLIFIED FIGURES IN ACTION TO SHOW YOU THE TWIST AND TURN AND VARIATION OF PERSPECTIVE IN THE MAIN BODY MASSES AS THE FIGURE ANIMATES--BUILDING THE FIGURE IN SOLIDS MAKES ANIMATION EASIER TO "FEEL" OUT.



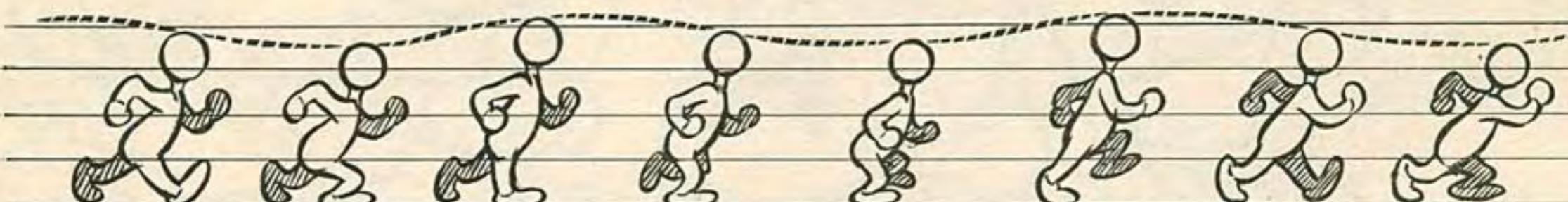
# MOVEMENTS OF THE TWO LEGGED FIGURE

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.

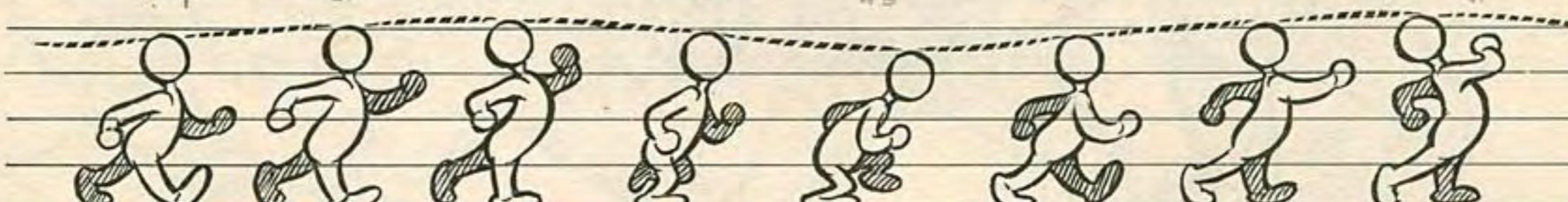
WALK -



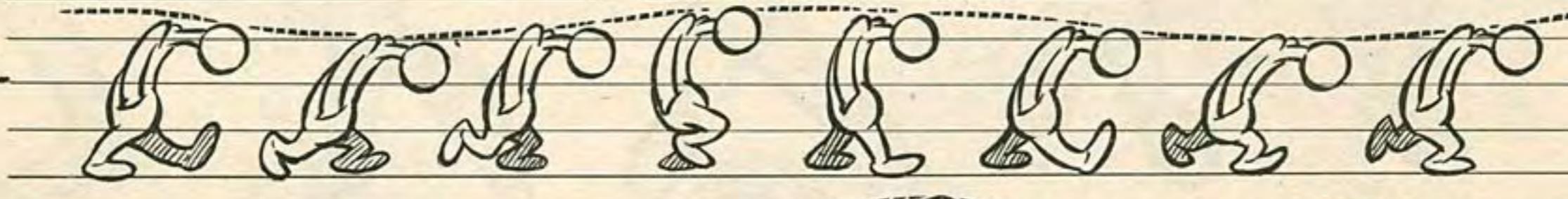
DOUBLE  
BOUNCE  
WALK -



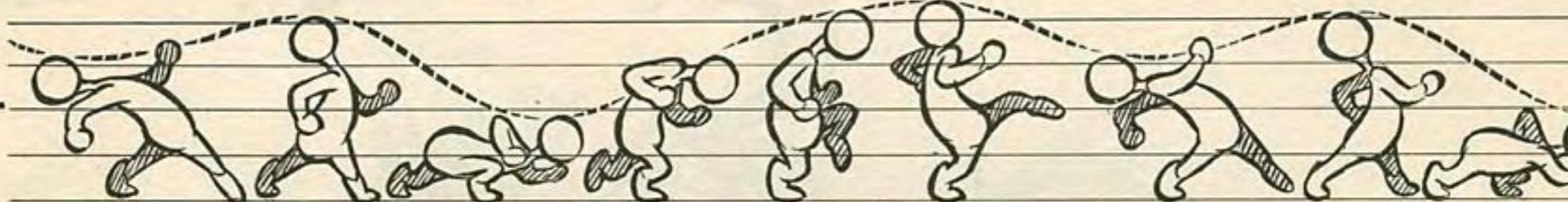
STRUT -



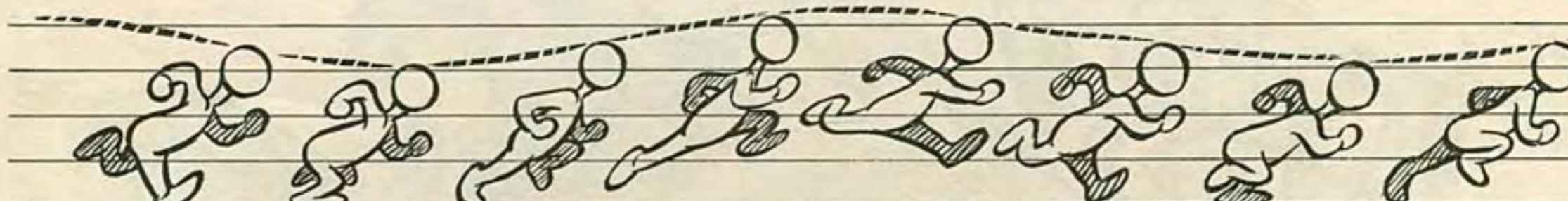
SHUFFLE -



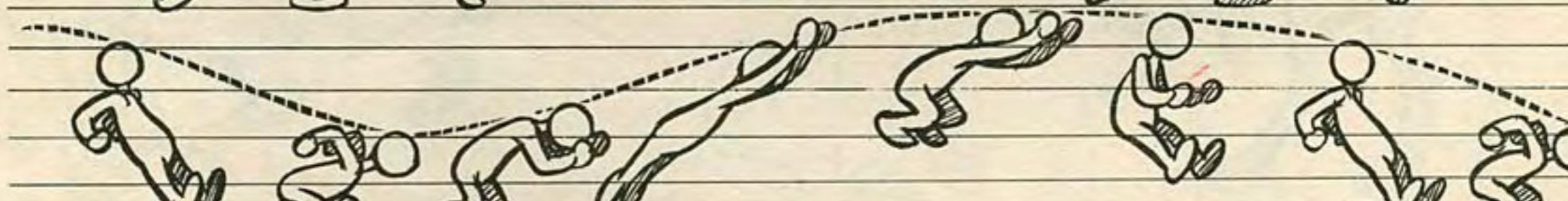
SNEAK -



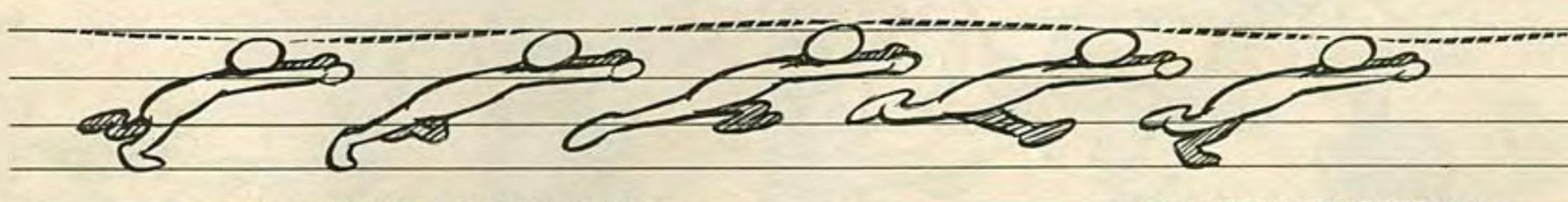
RUN -



JUMP -



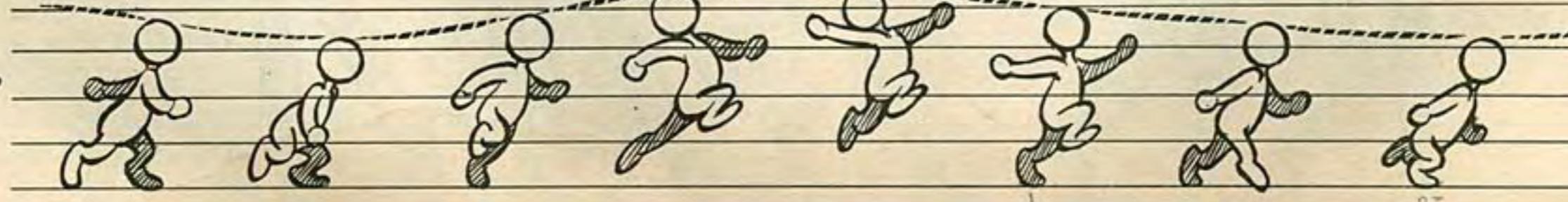
FAST  
RUN -



TIP  
TOE -



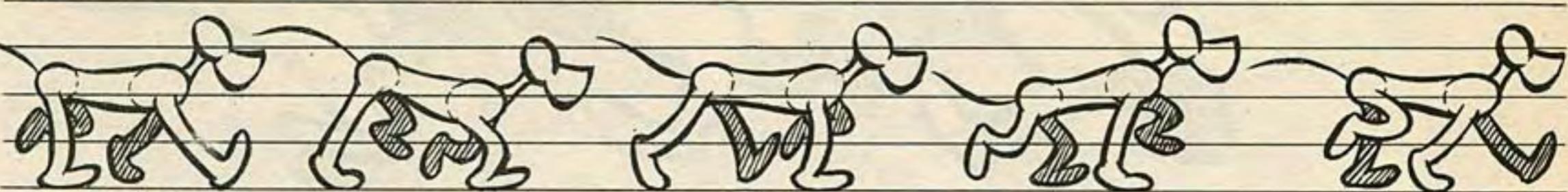
SKIP -



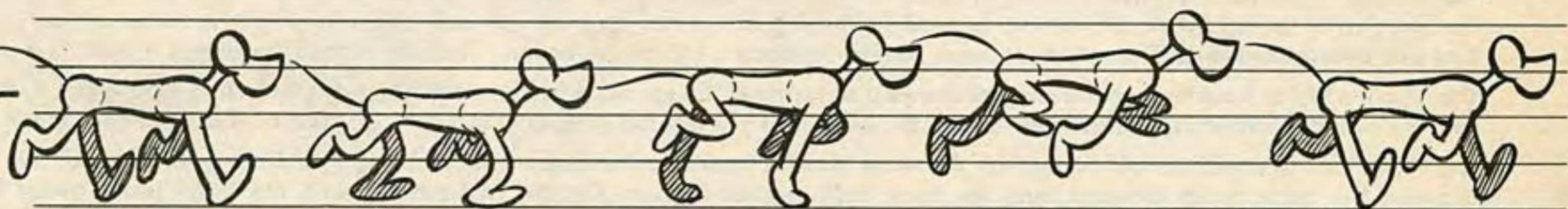
# MOVEMENTS OF THE FOUR LEGGED FIGURE

HERE IS A COMPARISON OF THE MAIN CYCLES OF FOUR LEGGED MOVEMENT--  
SOME OF THESE CYCLES ARE COMPLETE --OTHERS ARE ONE-HALF OF THE CYCLE--  
ON THESE REVERSE FEET FOR THE OTHER HALF.--STUDY THE DIFFERENCES IN THESE.

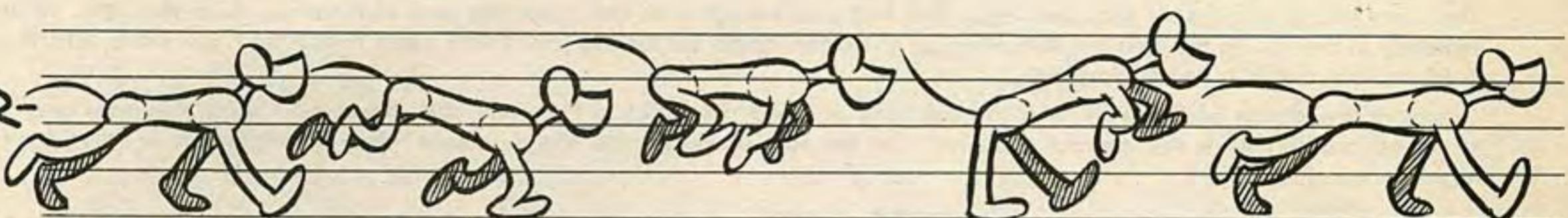
WALK-



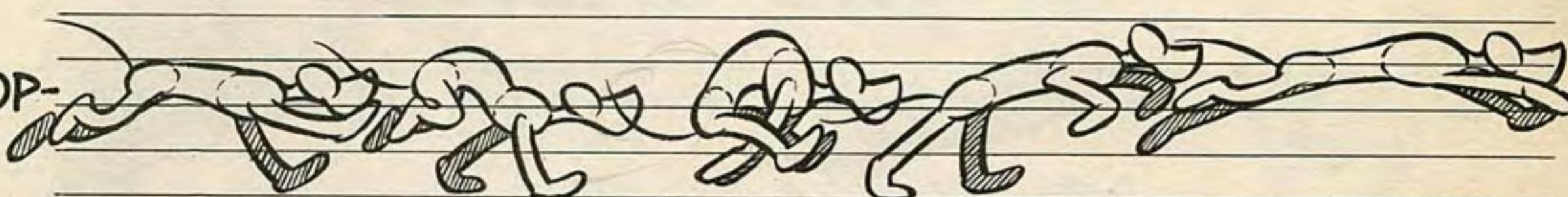
TROT-



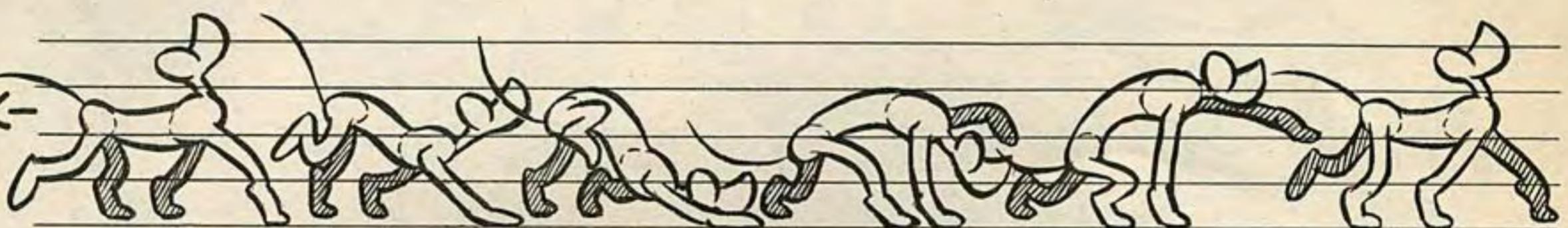
CANTER-



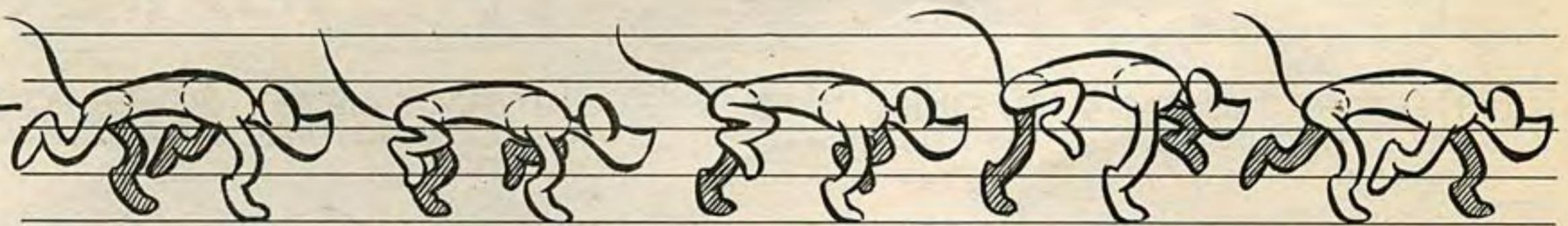
GALLOP-



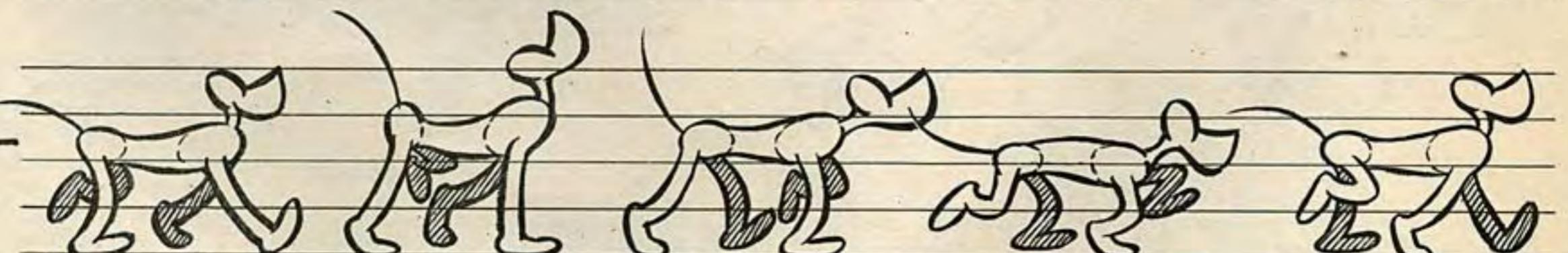
SNEAK-



TIP-TOE-



STRUT-



SNIFF-



# DIFFERENCE BETWEEN WALK + RUN



Above are the contact drawings from (A) The Walk (B) The Run (C) The Fast Run. The contact drawing is the drawing on which the foot, after being lifted, strikes the ground. In laying out a run or walk for animation, usually it is these contact drawings that are determined first. This sets the speed, size of character, etc. of the action. Then the rest of the action is built around them.

The position of the back foot on the contact drawing determines the speed more than any other single factor. Notice on (A) the back foot is down still contacting the ground. On (B) the back foot has left the ground. On (C) the position of the back foot is still higher.

The front foot is stretched out further on the walk contact position, the body is more upright, denoting less speed. On the run drawing the body leans forward, and the front foot is back further. On the fast run drawing the body leans away forward denoting speed, and the front foot is back now under the body.

The arms swing conversely with the legs. The left arm swings with the right leg and vice versa. Also the arms swing more violently in the run. In the fast run the swing on the arms would be too violent. It has been found they are more effective when held straight out in a reach position.

Compare the action of the walk with the run, and you will note that in the walk, the drawing in which the arms and legs are stretched out further is the contact drawing. On the run, however, the stretch comes when the figure is up in mid-air at the high point in the action.

## THE WALK



① LEFT FOOT CONTACTS THE GROUND.

② SINKS INTO RECOIL POSITION.

③ RIGHT FOOT LIFTS STARTS COMING THRU FOR STEP.

④ HIGH POINT IN STEP. RIGHT FOOT RAISED.



⑤ RIGHT LEG STIFFENS INTO CONTACT POSITIONS

⑥ RECOIL POSITION' LEGS BEND.

⑦ RABBIT UP AS LEFT LEGS LIFTS.

⑧ HIGH POSITION NO.① FOLLOWS THIS.

# THE RUN



① RIGHT FOOT DOWN  
IN CONTACT POSITION

② RIGHT FOOT TAKES  
WEIGHT OF BODY

③ RIGHT FOOT PUSHES  
BODY OFF

④ BODY AT HIGHEST  
POINT IN RUN



⑤ LEFT FOOT REACHES  
FOR GROUND

⑥ RECOIL - RIGHT FOOT  
COMING THROUGH

⑦ LEFT FOOT STRETCHES  
FOR TAKE-OFF

⑧ ARMS + LEGS STRETCH  
NO. ① FOLLOWS THIS.

## THE FAST RUN

In animating a fast run here is a rule about animation to remember: To have an action drawing in practically the same silhouette position as another within one or two frames (exposures) is not a good practice. The action will be apt to look monotonous and might often give a false illusion and a different effect than the one you are striving to create. As for example, those moving wheels in old fashioned movies, that appear to be going backwards instead of forwards. In the walk and run there are enough drawings between similar silhouette positions (1 and 5 above) so that there is no problem here. But that is not the case with this four drawing cycle of a fast run. Notice that all foot action drawing is varied and not similar to any other. 3 is varied to be different from 1, and the same with 2 and 4. There is a single circular action on the head and body instead of a double circular action as in the walk and run.

The speed lines around the feet help in a fast action like this.

The crosses above and below drawings represent a fixed point on the screen. If you trace these repeats be sure that they coincide.

