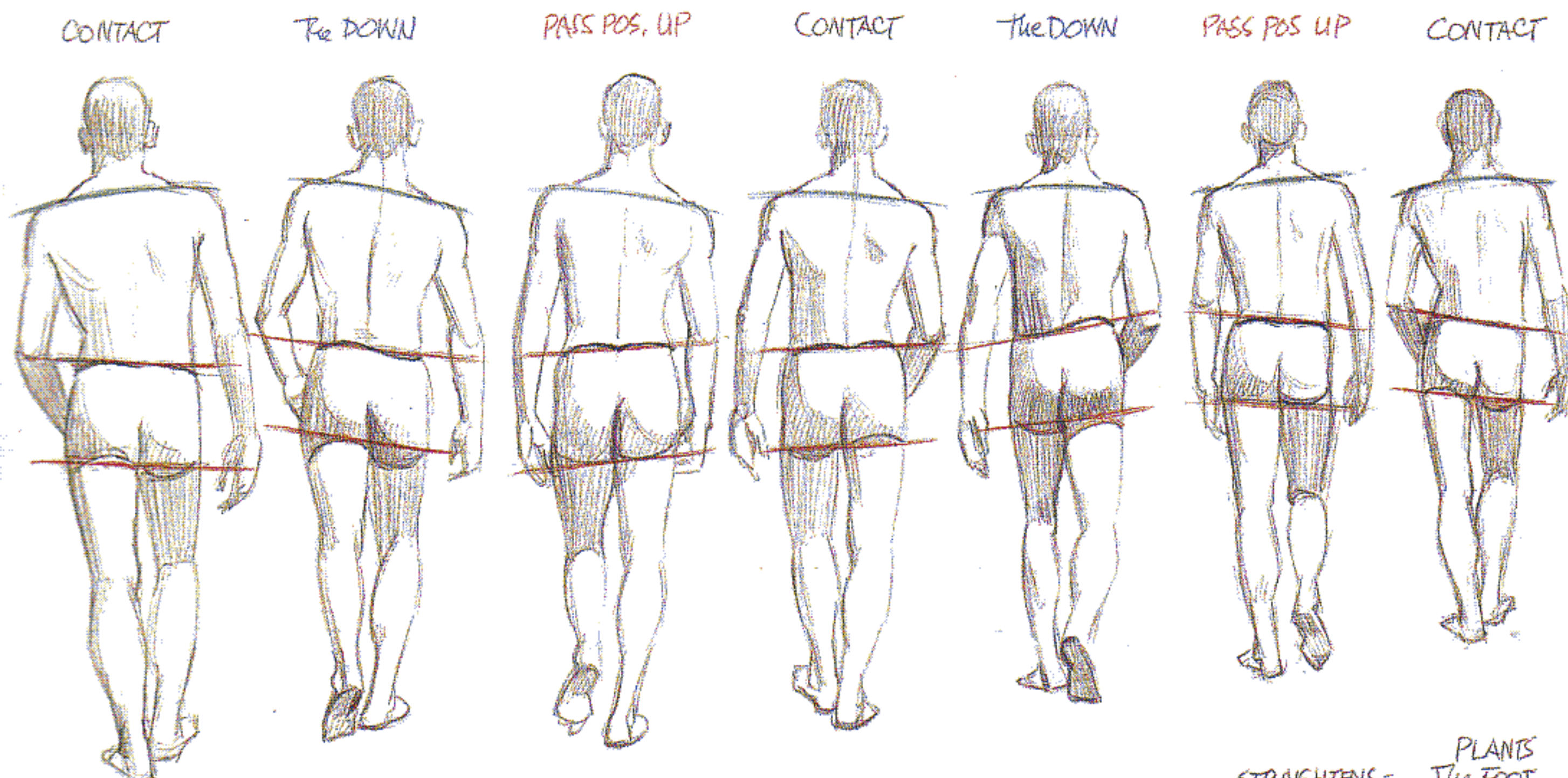


## WEIGHT SHIFT

THE WEIGHT SHIFTS FROM ONE FOOT TO ANOTHER IN A NORMAL STRIDE.

EACH TIME WE RAISE A FOOT IT THRUSTS THE WEIGHT OF OUR BODY FORWARD  
AND TO THE SIDE OVER THE OTHER FOOT.

AND THE SHOULDERS MOSTLY OPPOSE THE HIPS AND BUTTOCKS.



PLANTS  
THE FOOT

AND TAKES  
THE WEIGHT  
TO THE SIDE  
OVER THE FOOT

STRAIGHTENS -  
BUT THE LIFTED  
PASSING LEG  
CAUSES THE WEIGHT  
TO DROP ON  
ITS SIDE

PLANTS  
THE FOOT

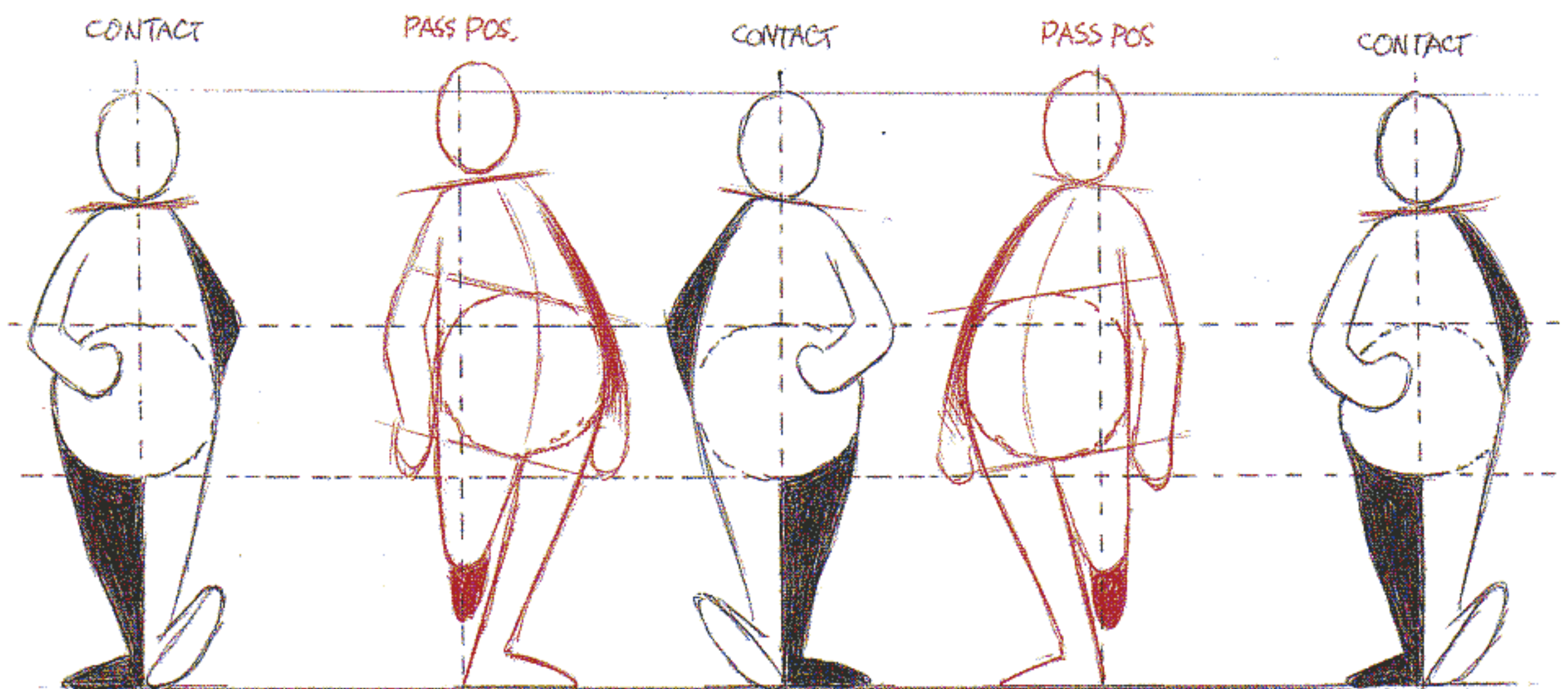
AND TAKES  
THE WEIGHT  
TO THE SIDE  
OVER THAT FOOT

STRAIGHTENS -  
BUT THE LIFTED  
PASSING LEG  
CAUSES THE WEIGHT  
TO DROP ON  
ITS SIDE

PLANTS  
THE FOOT

HERE'S AN  
EXAGGERATED  
WEIGHT  
SHIFT  
FORMULA -

(NOT SO  
MUCH  
SHIFT  
FOR  
RUNS)



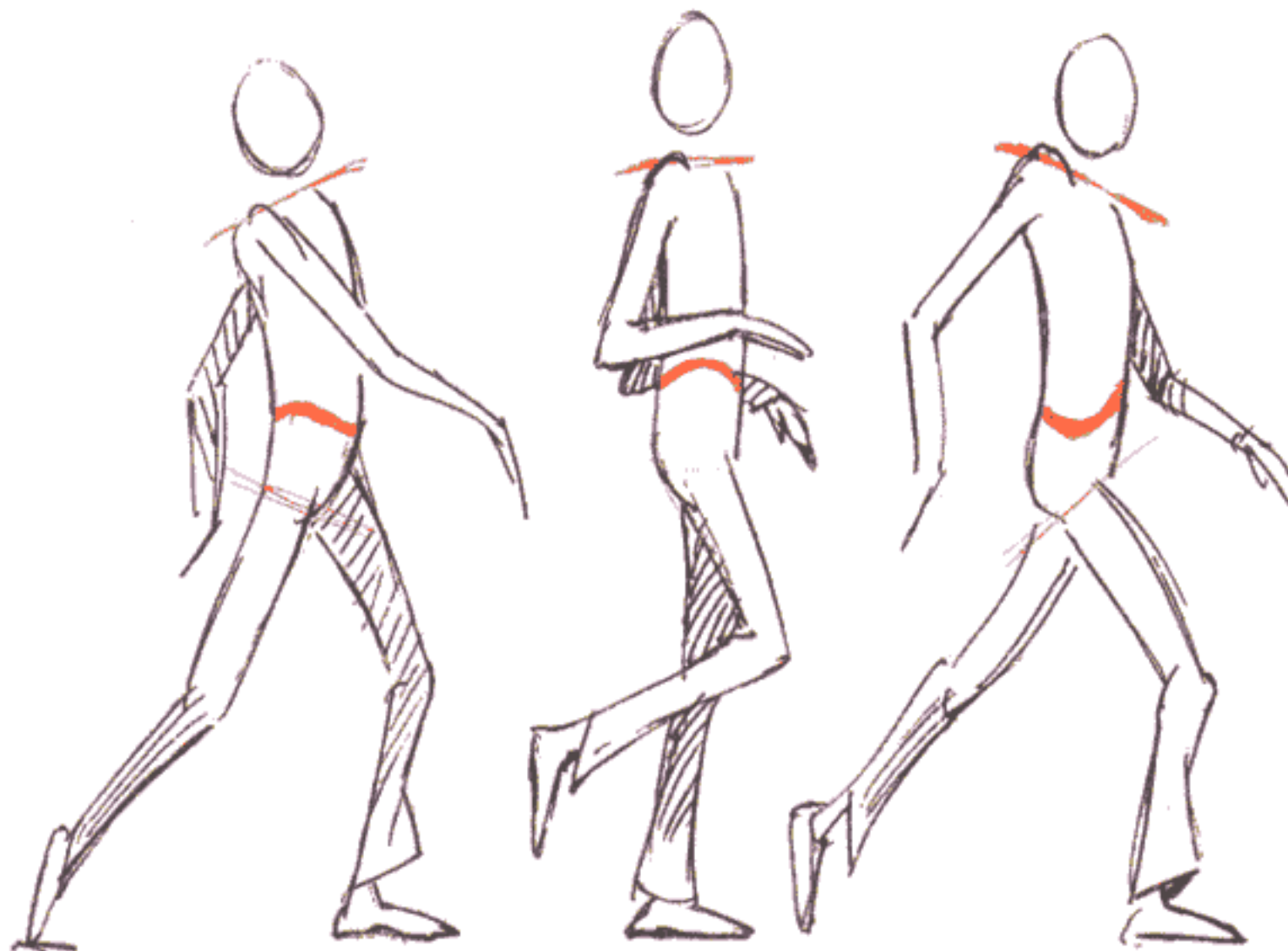
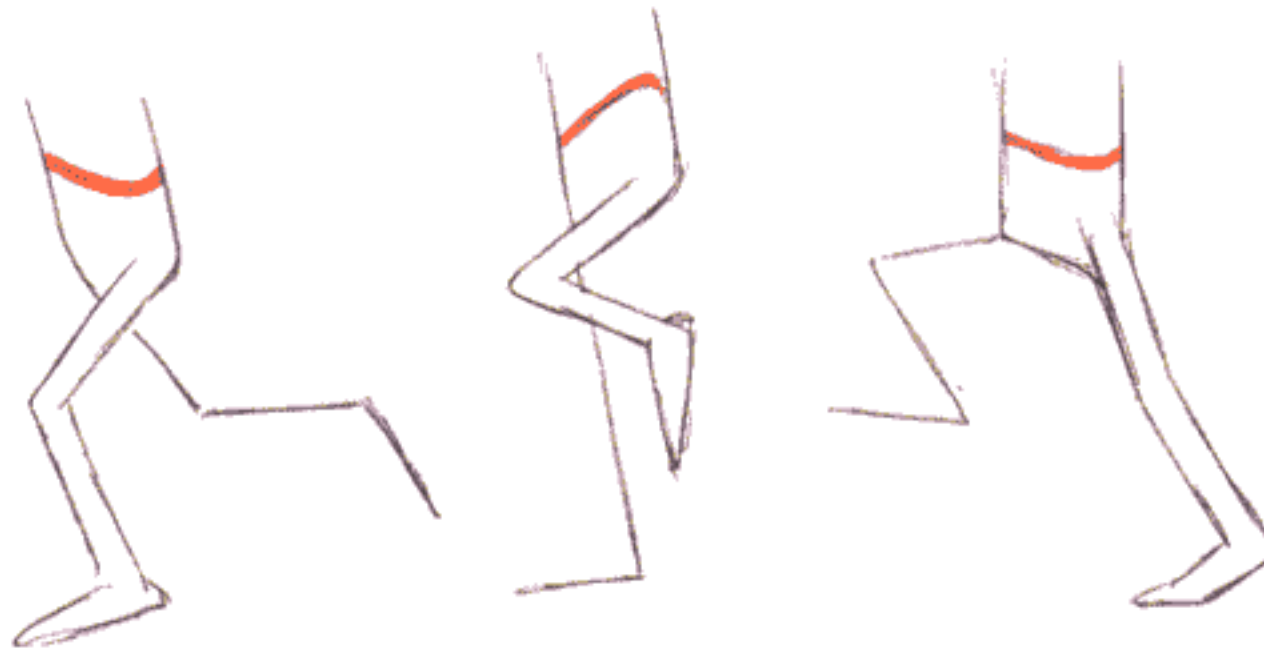
WEIGHT OVER  
HIS LEFT FOOT

WEIGHT OVER  
HIS RIGHT FOOT



## THE BELT LINE

**TILT** the BELT LINE  
BACK AND FORTH  
FAVOURING the LEG  
THAT IS **LOWEST**.

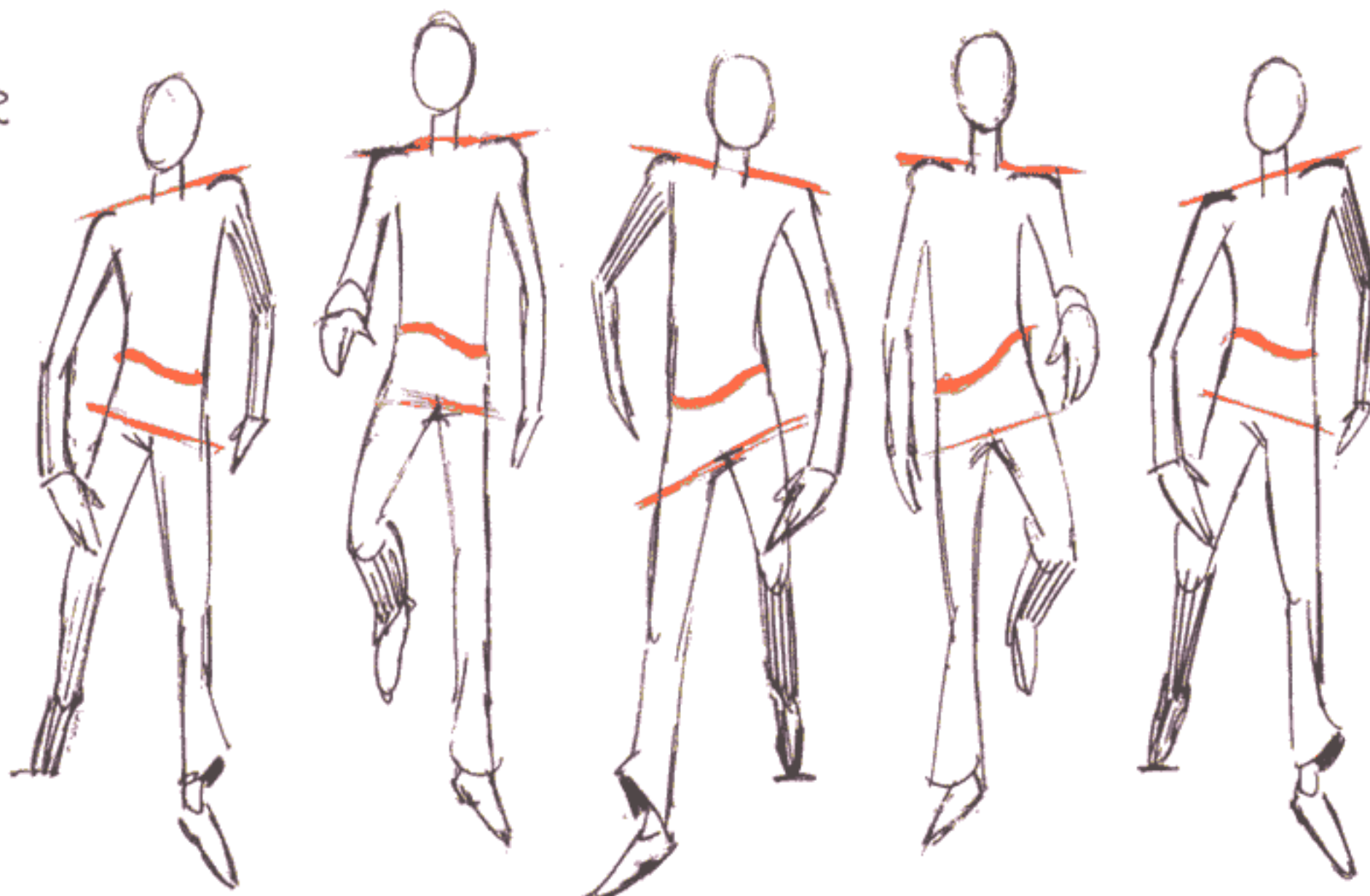


**NORMALLY** the BELT LINE IS **DOWN** WITH THE FOOT THAT IS **DOWN**  
AND **UP** WITH THE FOOT THAT IS **UP**.

AND  
NORMALLY  
the SHOULDER  
OPPOSES

the PELVIS

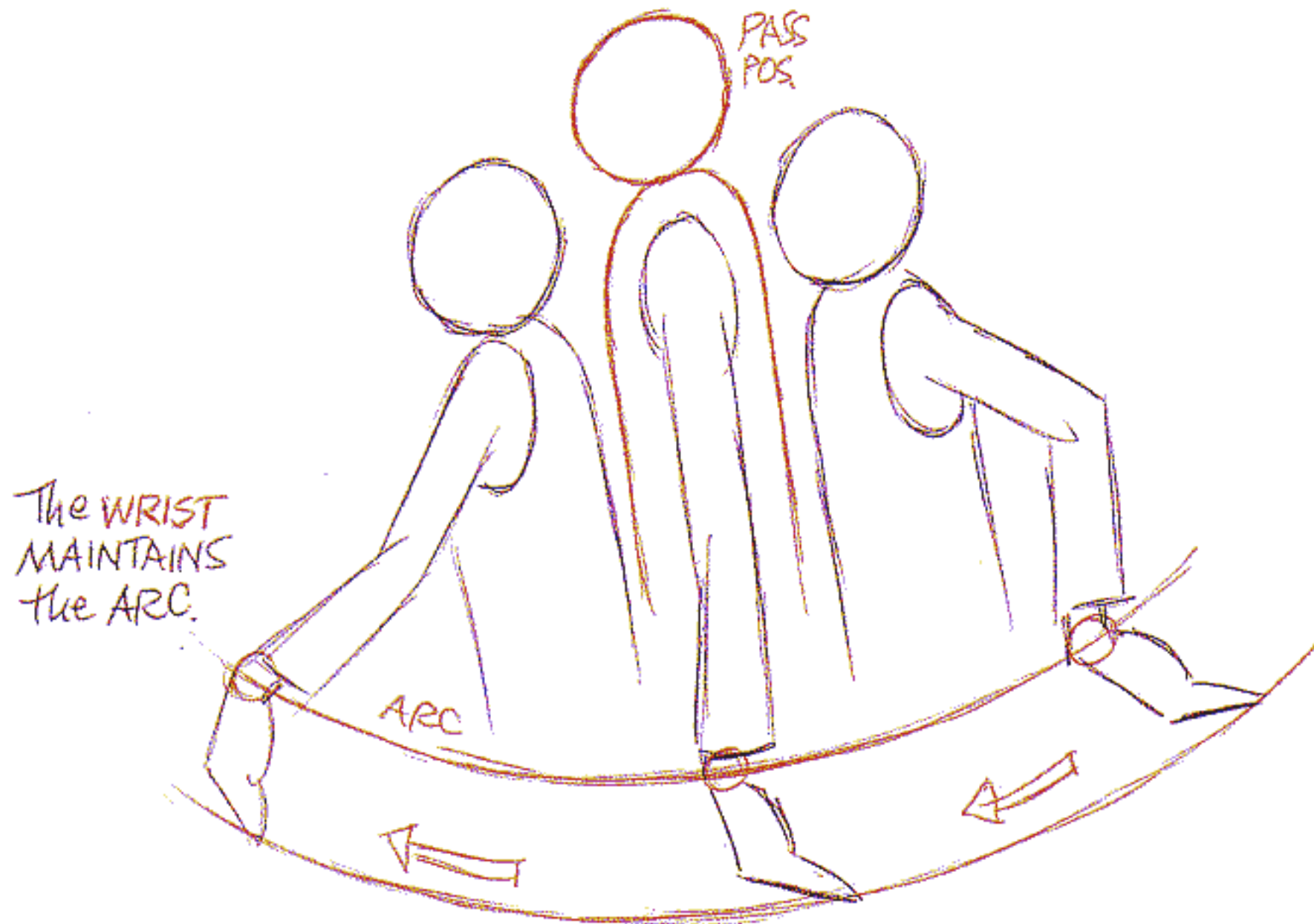
(BUT WE  
CAN DO WHAT  
WE LIKE)



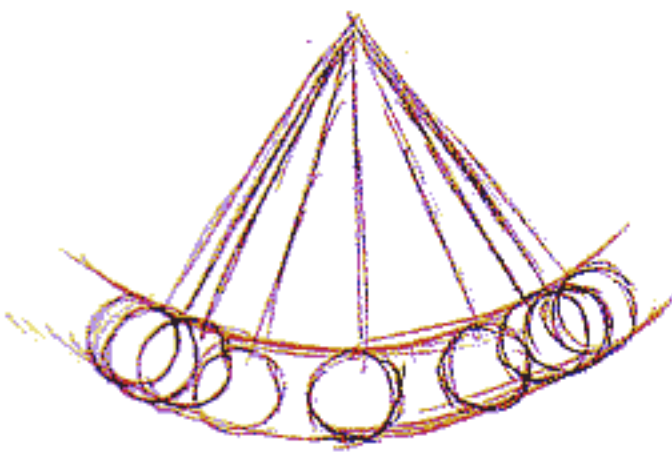


# ARM MOVEMENTS

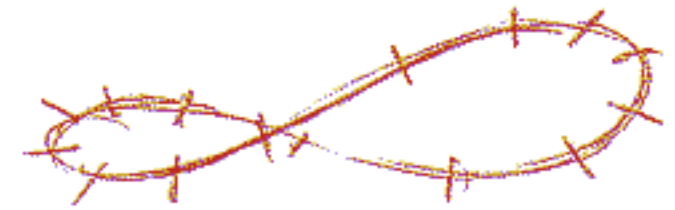
WHILE THE SHOULDER RISES UP  
IN THE PASSING POSITION  
THE HAND IS AT THE LOWEST PART OF THE ARC



MOST ACTIONS  
FOLLOW ARCS  
- GENERALLY  
AN ACTION  
IS IN AN ARC

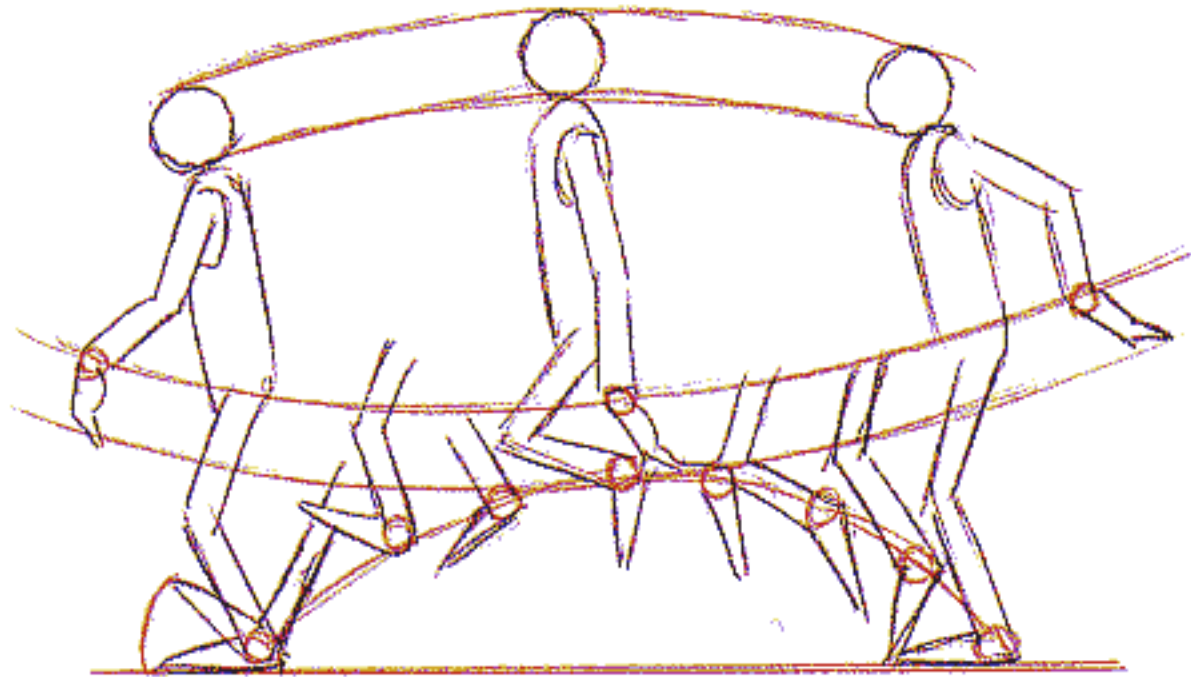


AS THEY SWING TO BALANCE THE THRUST  
OF THE WALK - THE ARMS WILL TEND  
TO BE IN A WAVE LIKE  
PENDULUM - LIKE MOVEMENT.

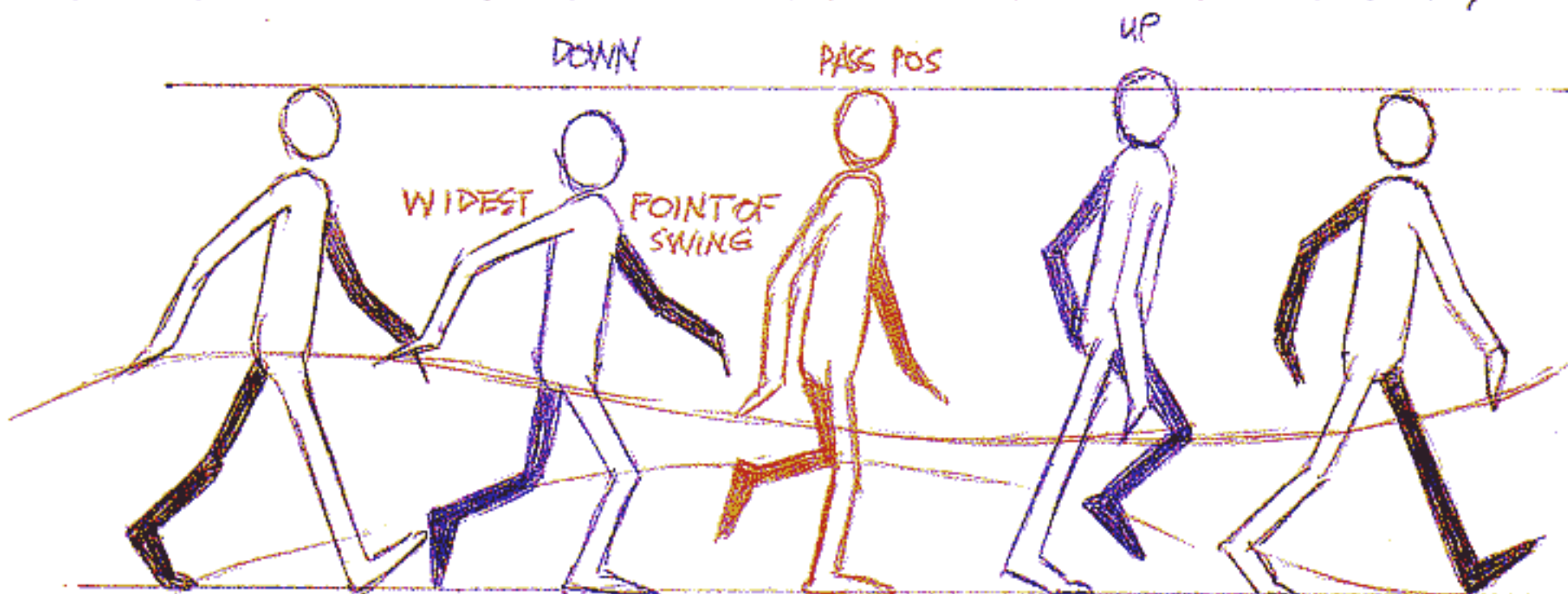


MOST OF THE TIME THE  
PATH OF ACTION IS EITHER  
AN ARC OR A SORT OF  
FIGURE 8  
- BUT SOMETIMES  
ANGULAR OR STRAIGHT

WITH THE LEG  
THE HEEL  
MAINTAINS  
THE ARC



AND JUST TO MAKE LIFE DIFFICULT, WE SHOULD REMEMBER THAT: 'NORMAL' - THE GOVERNMENT-  
ISSUE WALK - THE ARM SWING IS AT ITS WIDEST ON THE DOWN POSITION, NOT ON THE CONTACT POSITION.



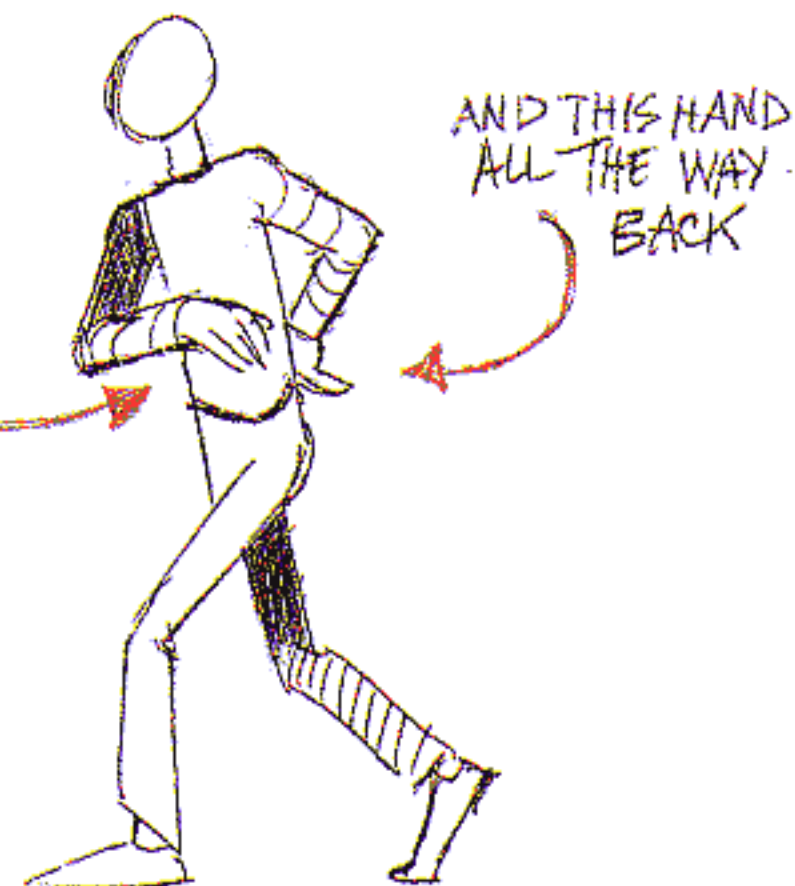
BUT  
OF COURSE  
WE'RE NOT  
STUCK  
WITH  
THIS -



ARM MOVEMENTS  
CAN BE BROAD  
OR PRACTICALLY  
NON-EXISTANT -



TO GET MORE  
FLEXIBILITY  
BRING THIS  
HAND ALL  
THE WAY  
ROUND



AND THIS HAND  
ALL THE WAY  
BACK

TAKE THE FEET  
OFF THE  
PARALLEL -

**TWIST**  
THE FEET  
and  
**TWIST**  
THE HANDS -

NOT IN  
PROFILE



OR

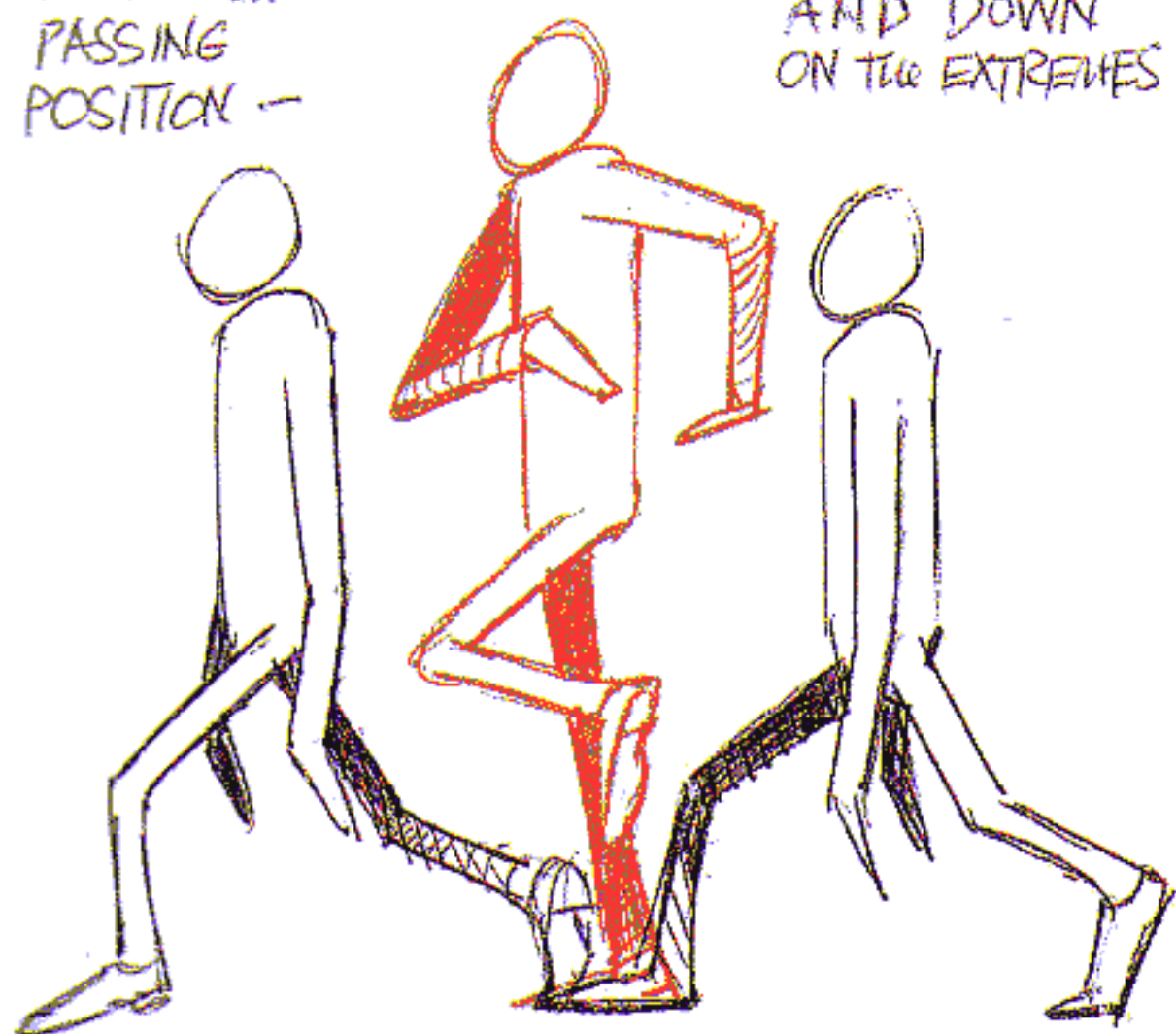
DON'T MOVE  
THE HANDS  
MUCH

MAYBE JUST FROM  
HERE TO HERE

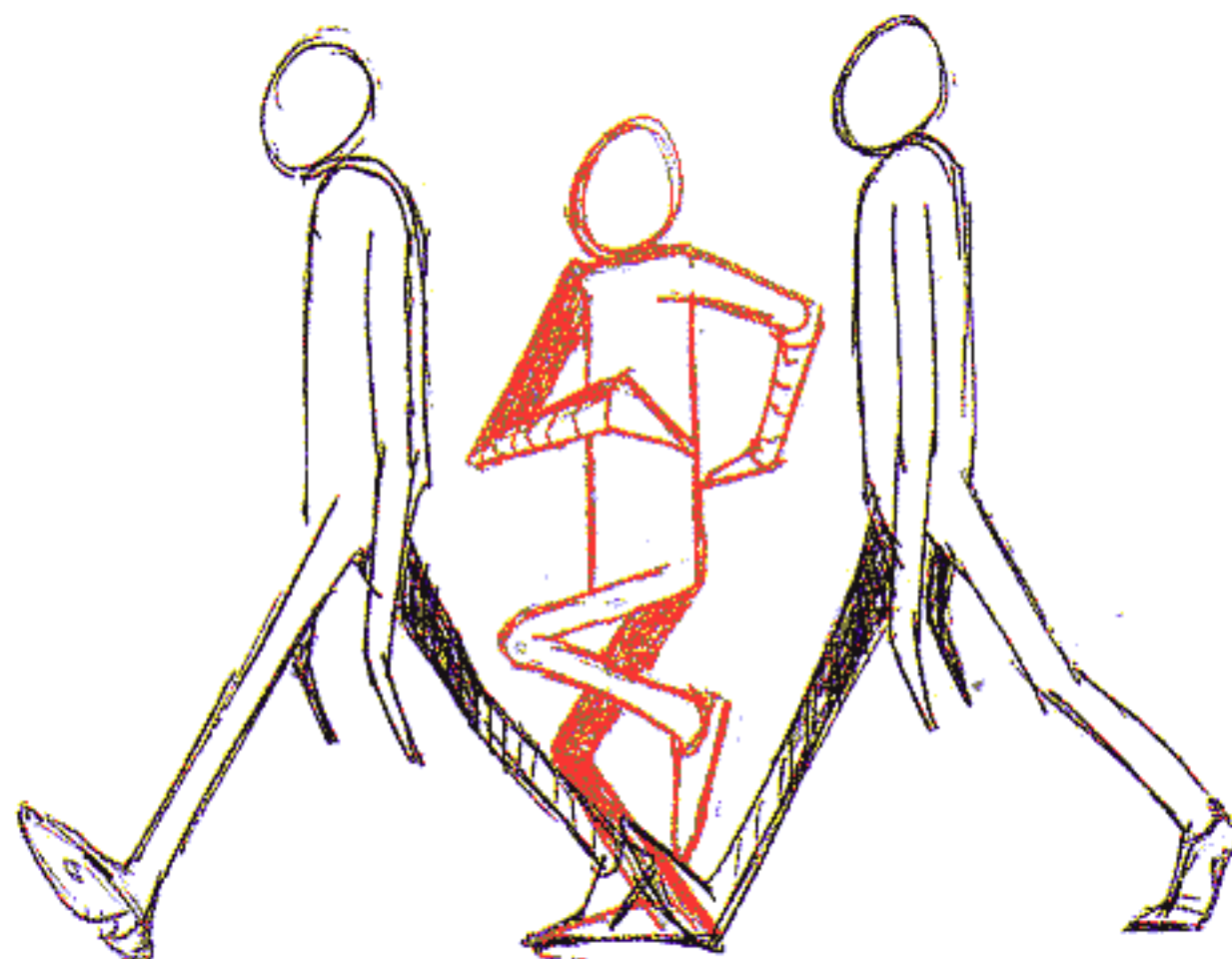


HOW ABOUT THE ARMS  
UP LIKE THIS  
ON AN UP  
PASSING  
POSITION -

AND DOWN  
ON THE EXTREMES.

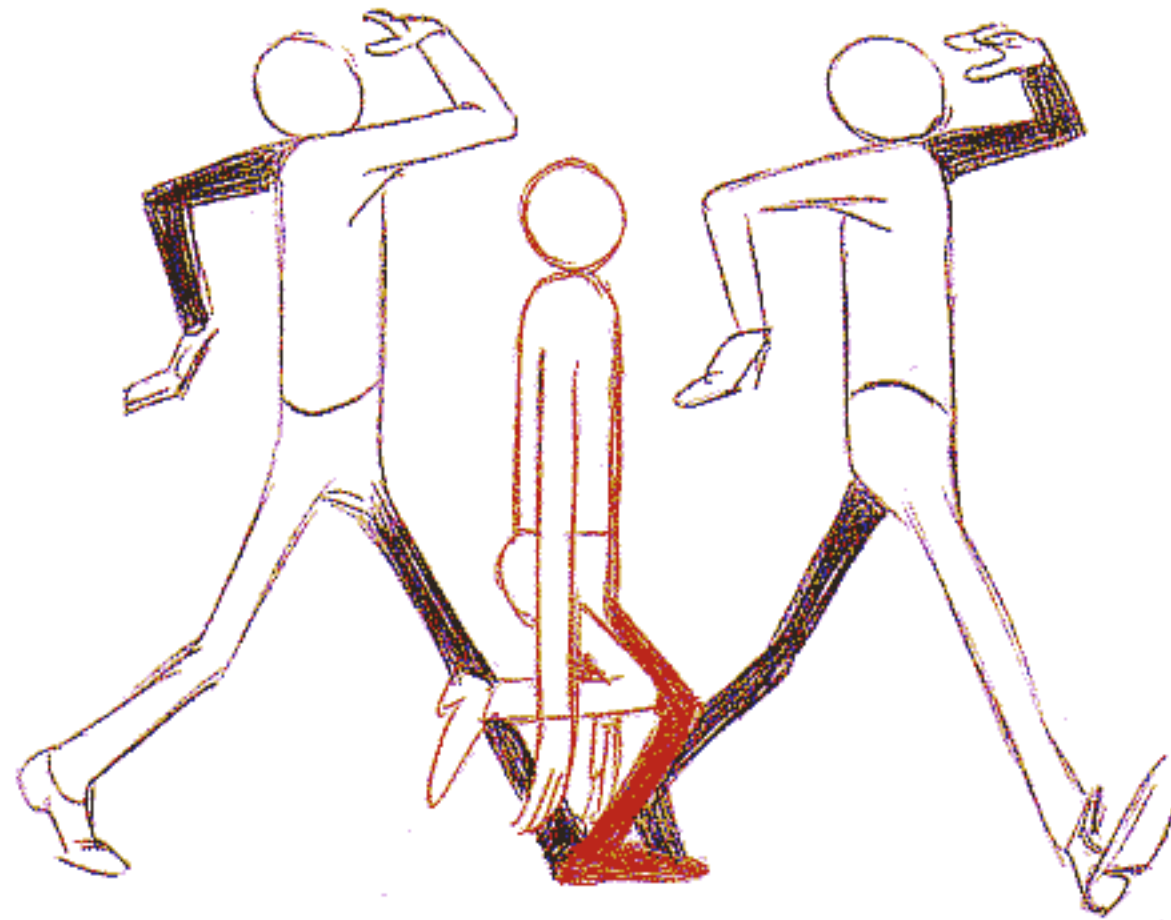


OR SAME THING  
WITH A DOWN  
PASSING  
POSITION -





HOW ABOUT HAVING  
THE ARMS RIGHT UP  
ON THE EXTREMES  
and the  
ARMS RIGHT DOWN  
on the  
PASSING  
POSITION  
(WHICH IS  
ALSO DOWN)



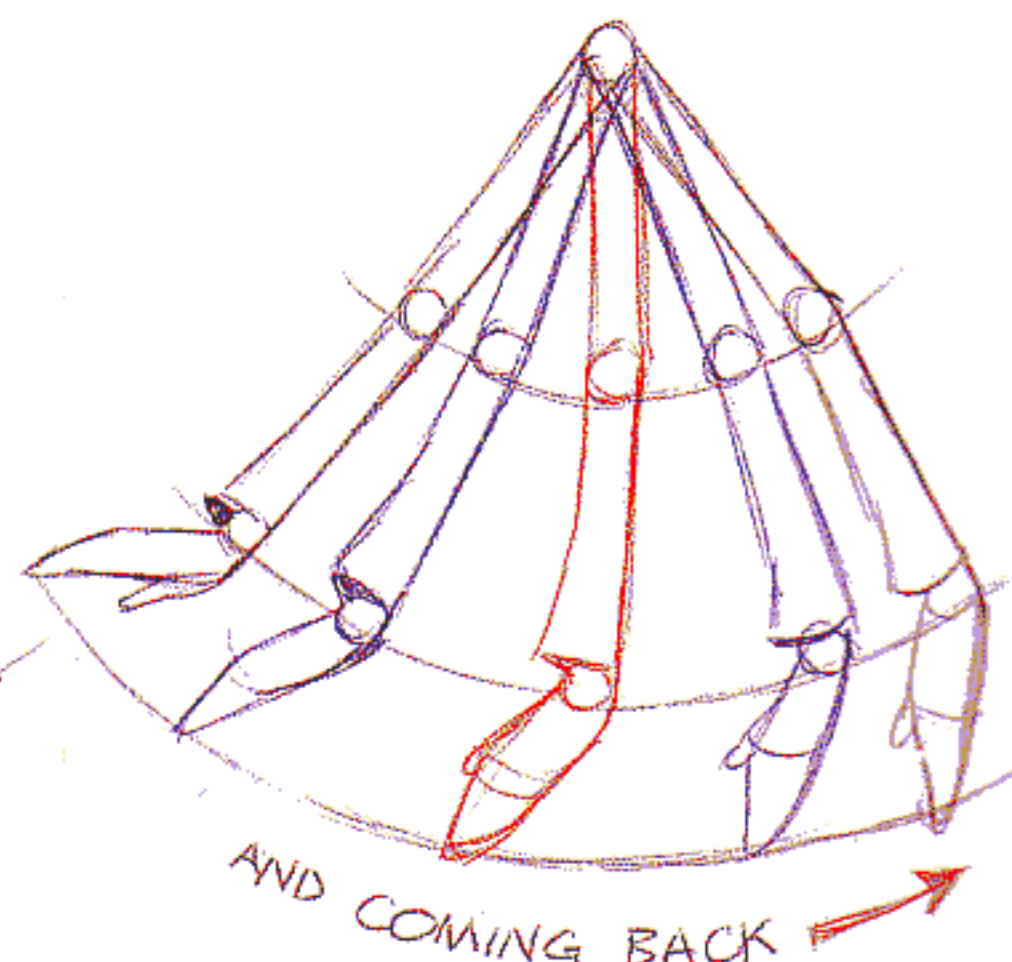
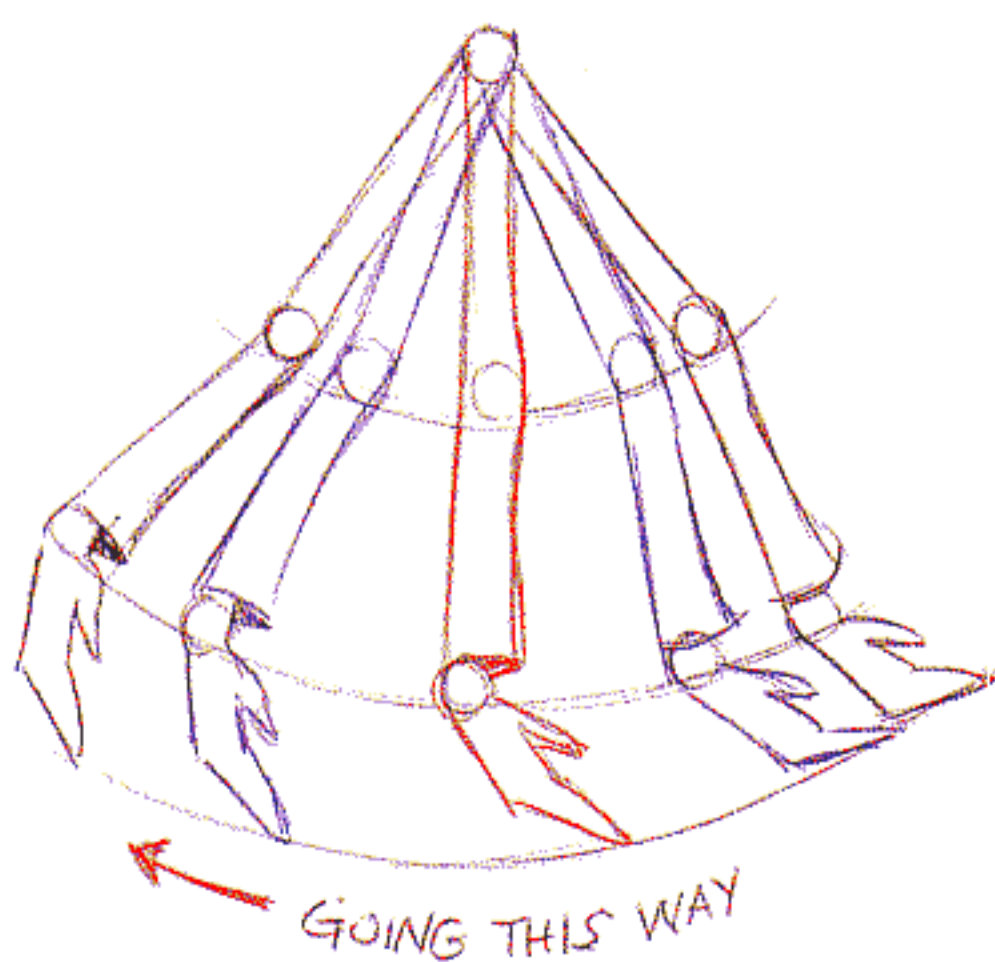
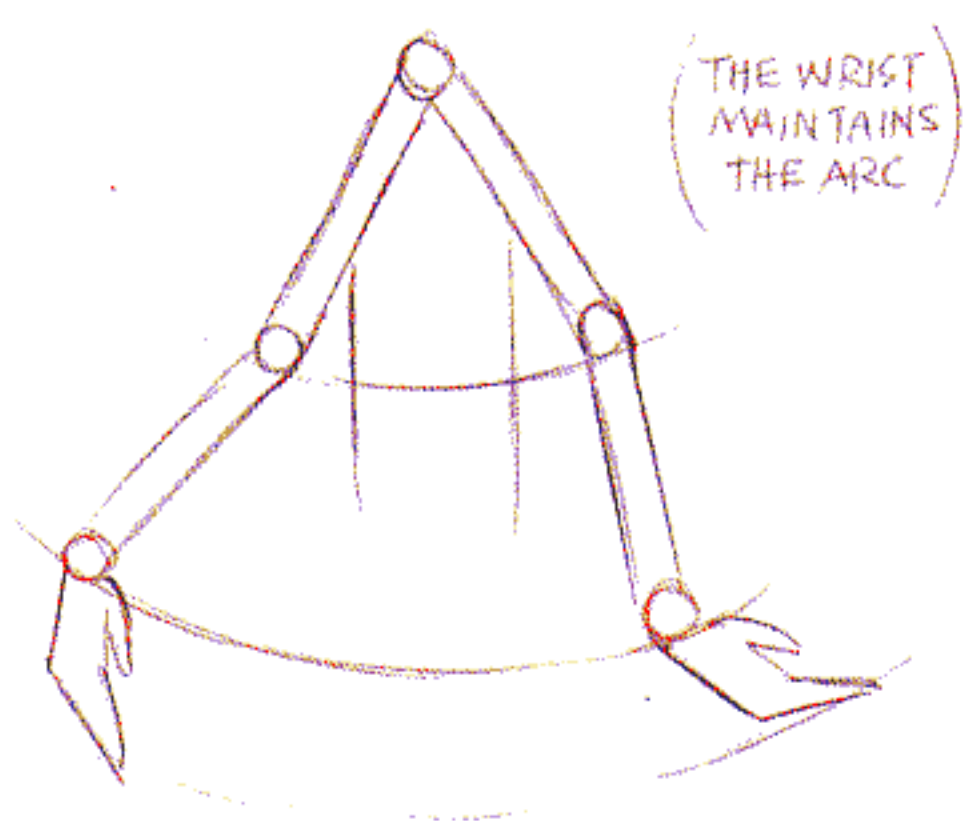
HERE'S A JAUNTY WALK

DOING JUST THAT - AND A LOT OF THE THINGS WE'VE BEEN TALKING ABOUT: BELT LINE, SHOULDERS OPPOSE HIPS -  
TILTING and DELAYING HEAD, TWISTING FEET - REVERSING BODY.

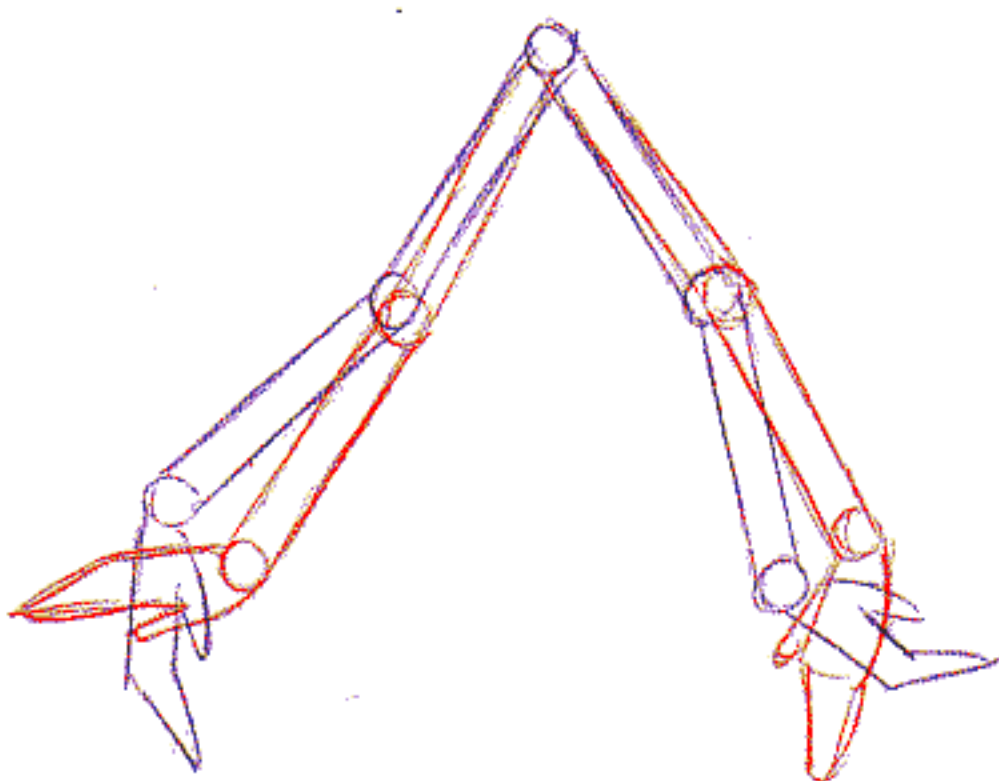




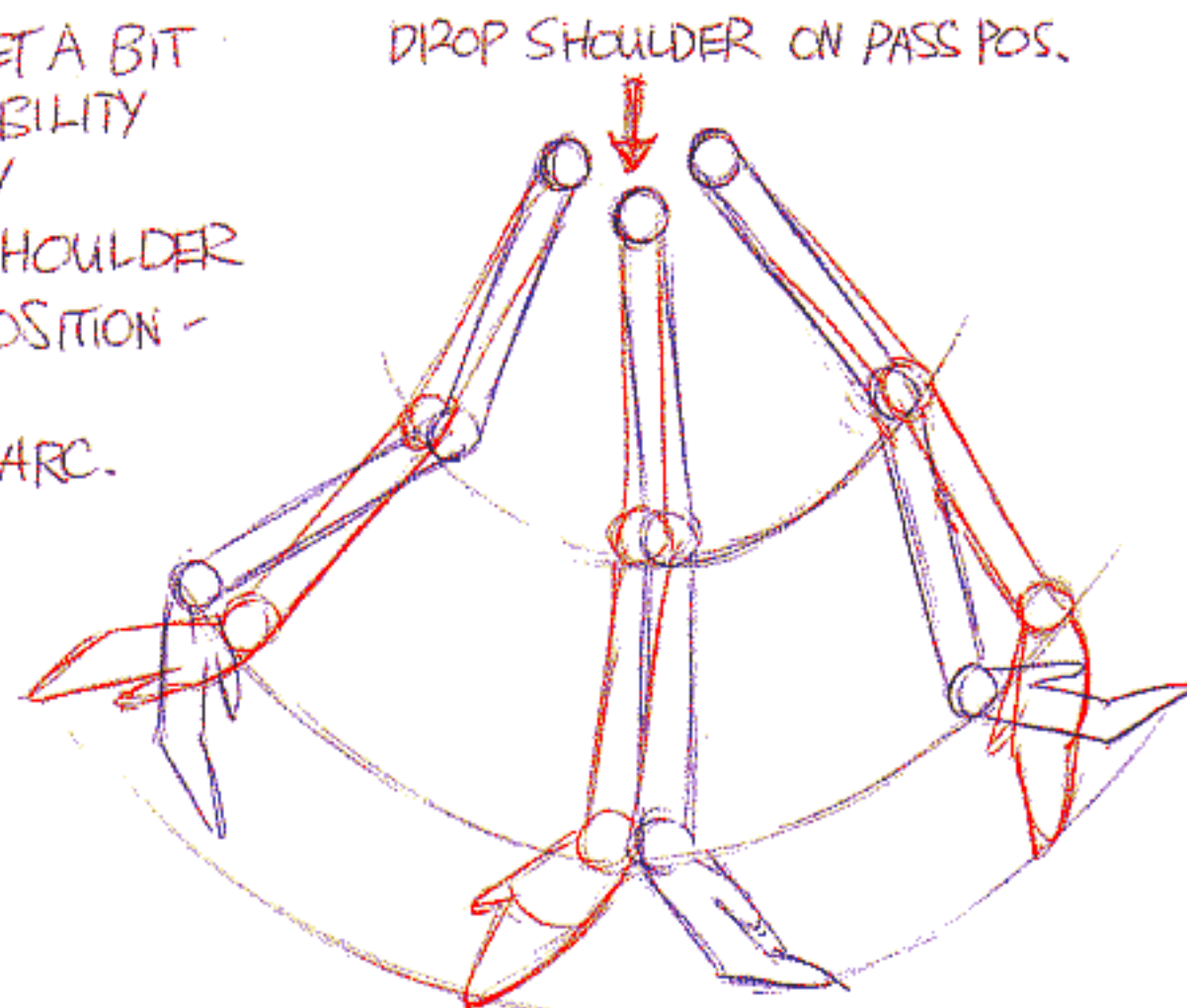
TO GET SOME FLEXIBILITY IN AN ARM SWING  
WE'D DRAG THE HAND -



AND THIS WILL GIVE US A NICE  
LITTLE OVERLAP OF THE HANDS  
AT EACH END OF THE SWING -

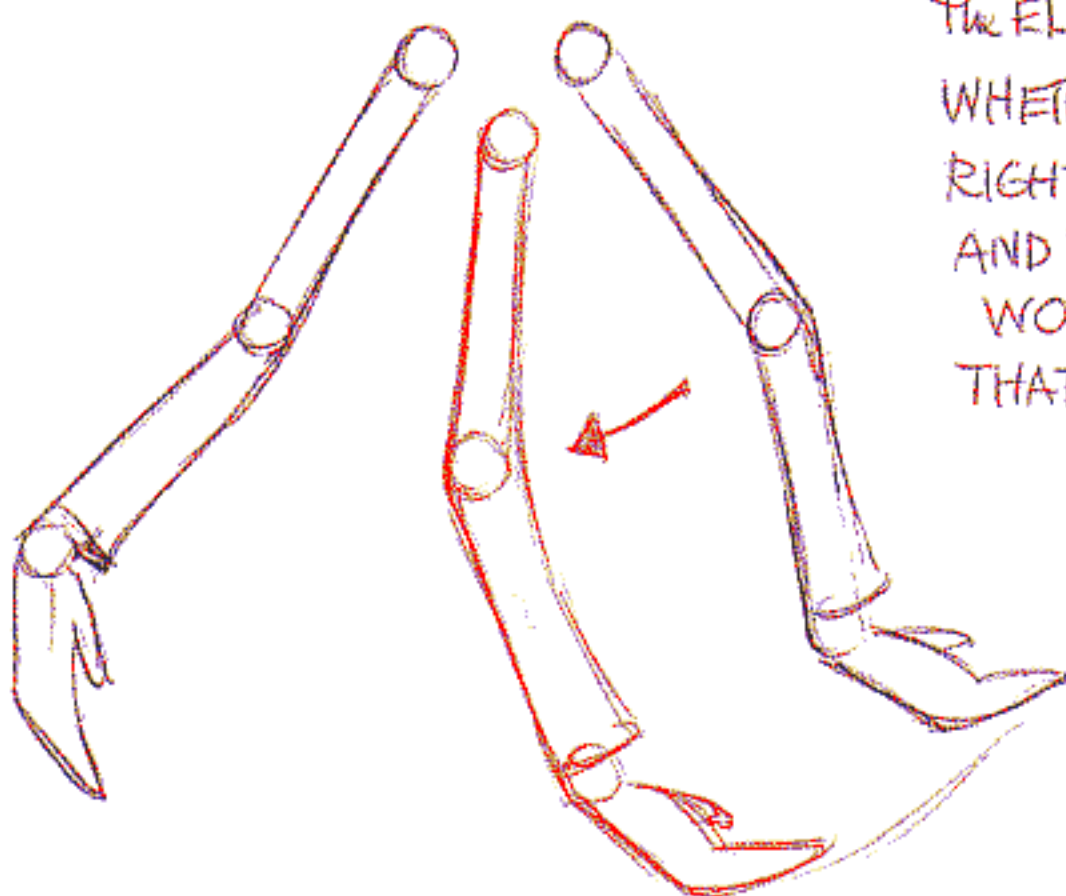


AND WE CAN GET A BIT  
MORE FLEXIBILITY  
INTO IT BY  
DROPPING THE SHOULDER  
ON THE PASS POSITION -  
MAKING  
A DEEPER ARC.

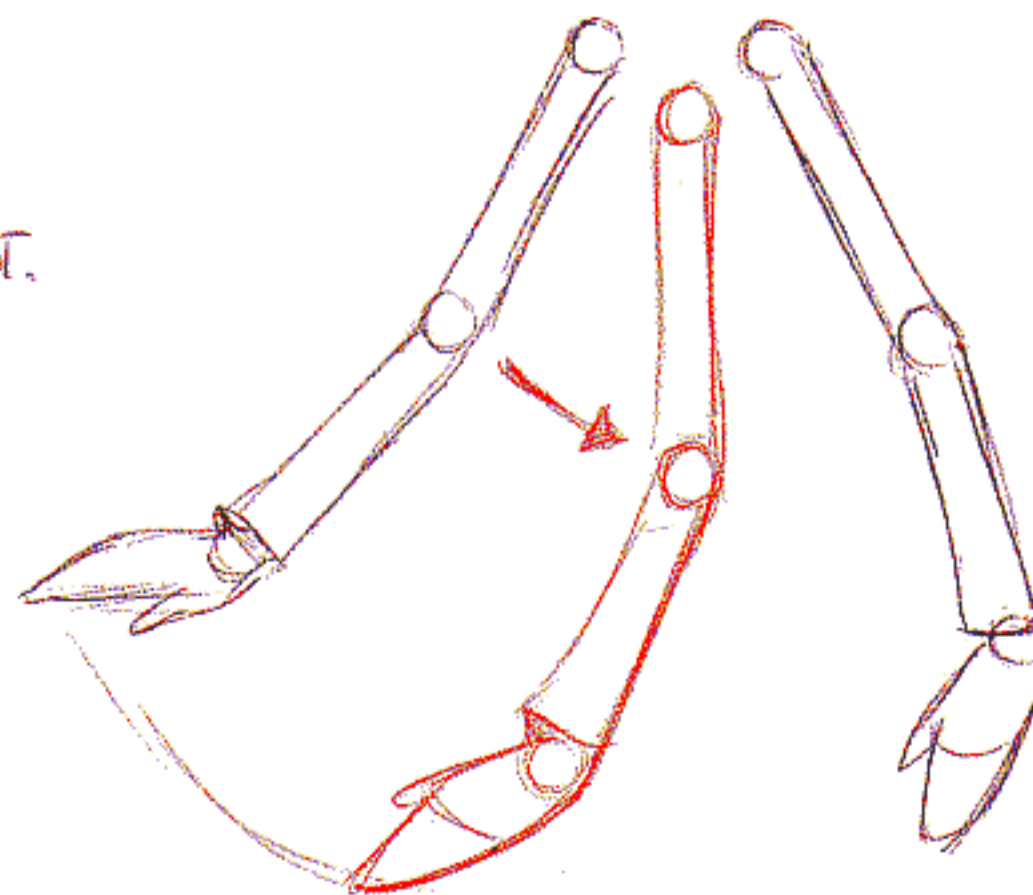


BUT HERE'S THE SECRET -

WHEN WE GO  
FORWARD WE'LL  
'BREAK' (BEND)  
THE ELBOW JOINT  
WHETHER IT LOOKS  
RIGHT OR WRONG  
AND WHETHER IT  
WOULD BEND  
THAT WAY OR NOT.

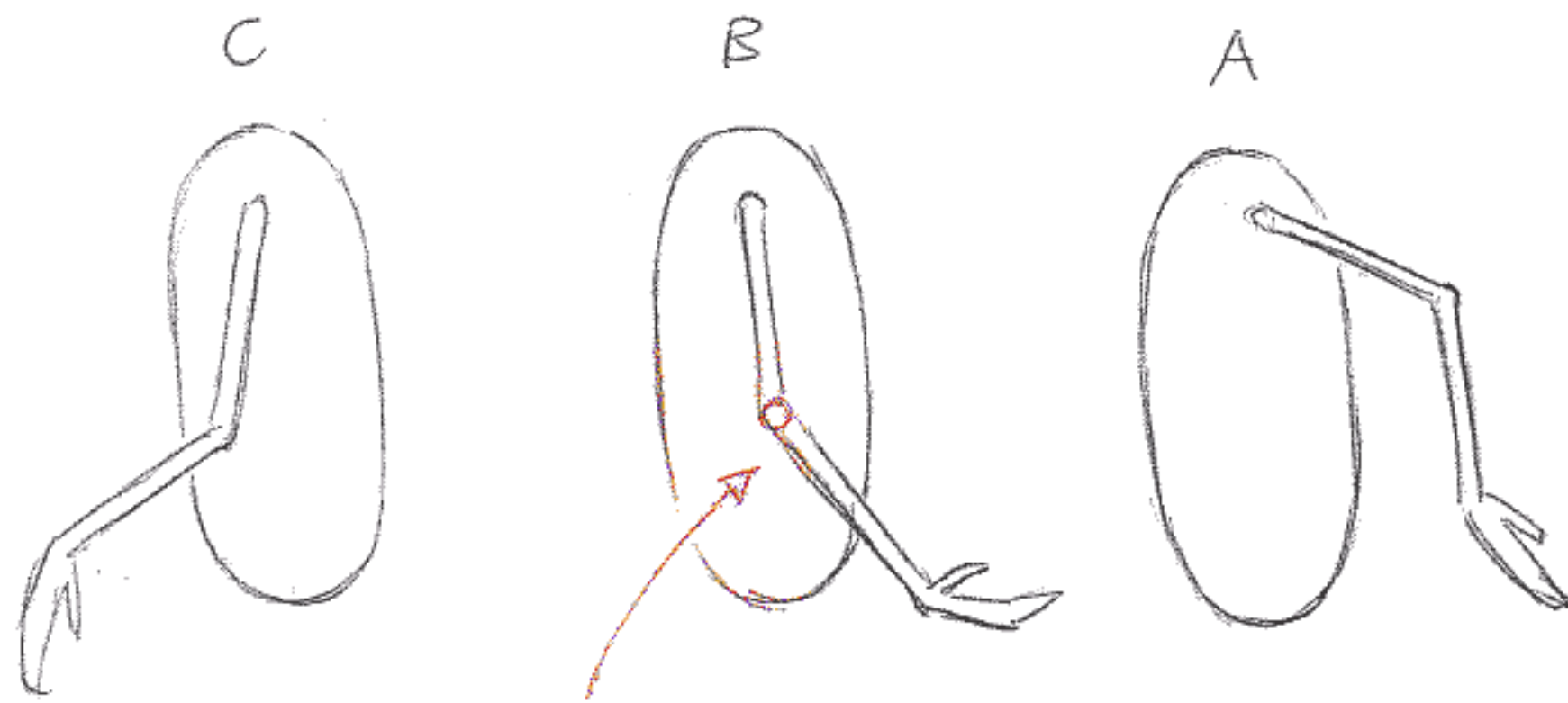


AND WHEN WE COME BACK, WE'LL 'BREAK'  
(BEND) IT AGAIN - ALTHOUGH GOING THIS WAY  
IT LOOKS QUITE  
NORMAL -  
A NATURAL  
'BREAK' OR  
BEND.





SO, FOR GREATER FLEXIBILITY-

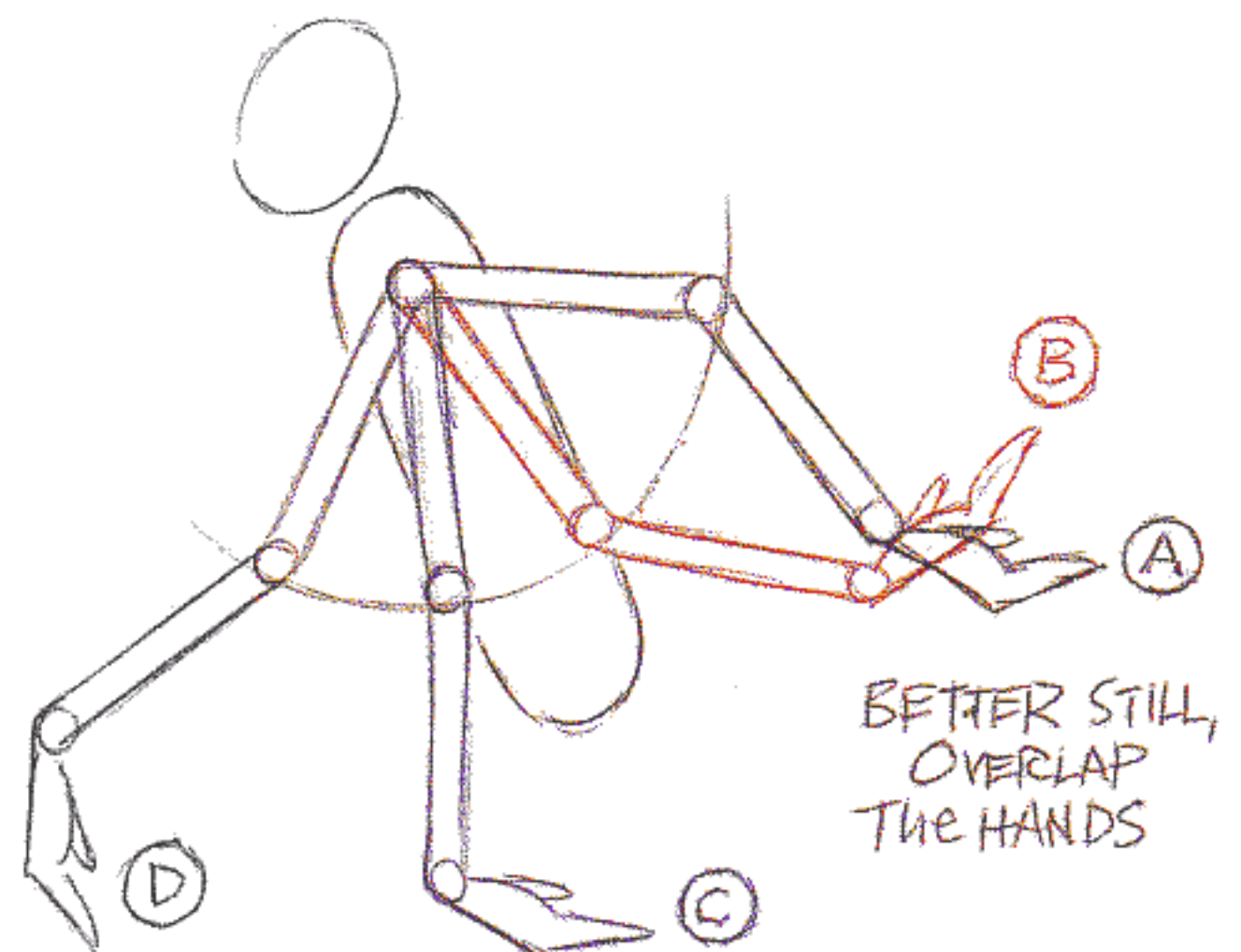
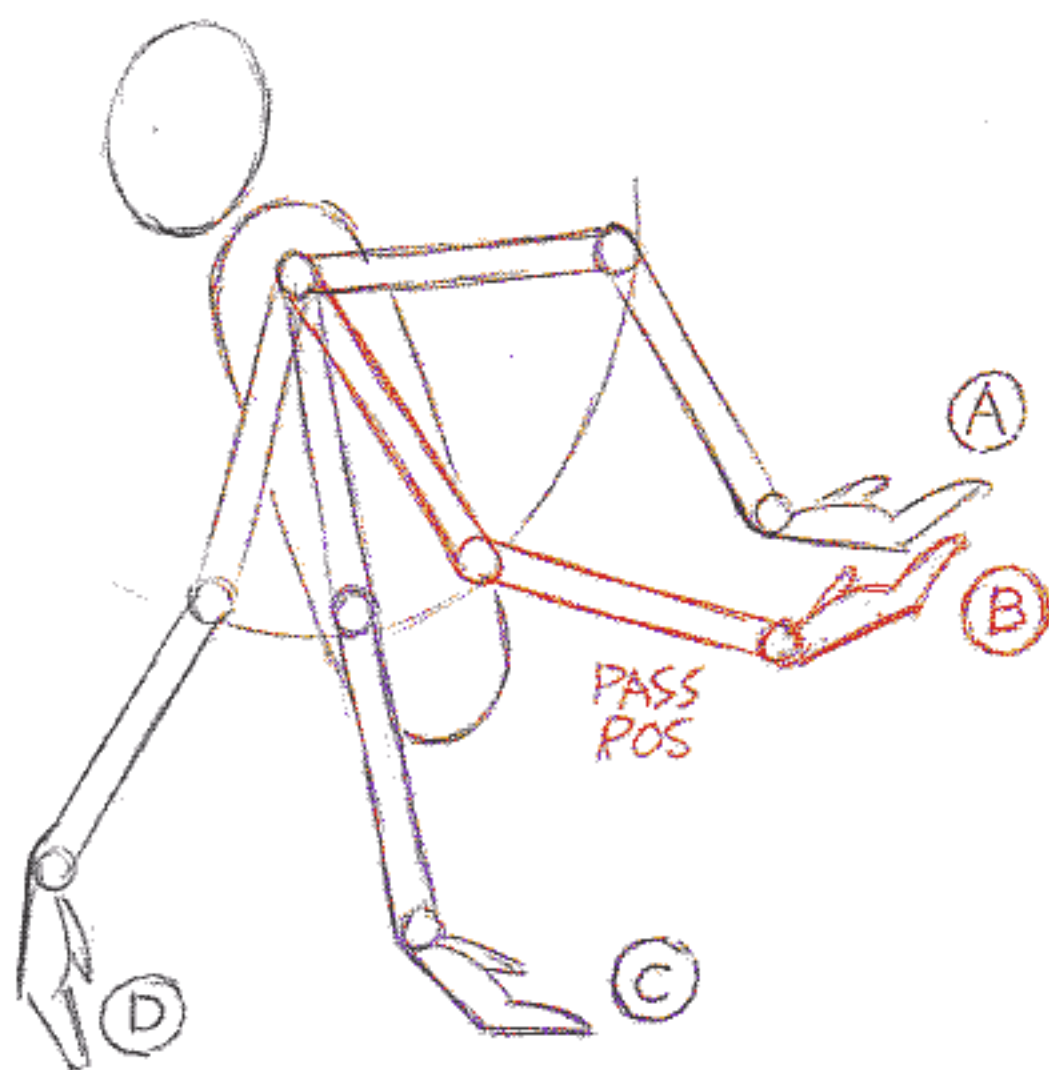


BY BREAKING THE JOINT

WE CAN GET LIMBER MOVEMENT FROM STRAIGHT LINES.

WE WON'T HAVE TO DRAW IN A RUBBERY CARTOONY WAY TO BE LIMBER.

LET'S MAKE THIS REALLY CLEAR - AS WE'RE GOING TO HAVE A LOT OF THIS...



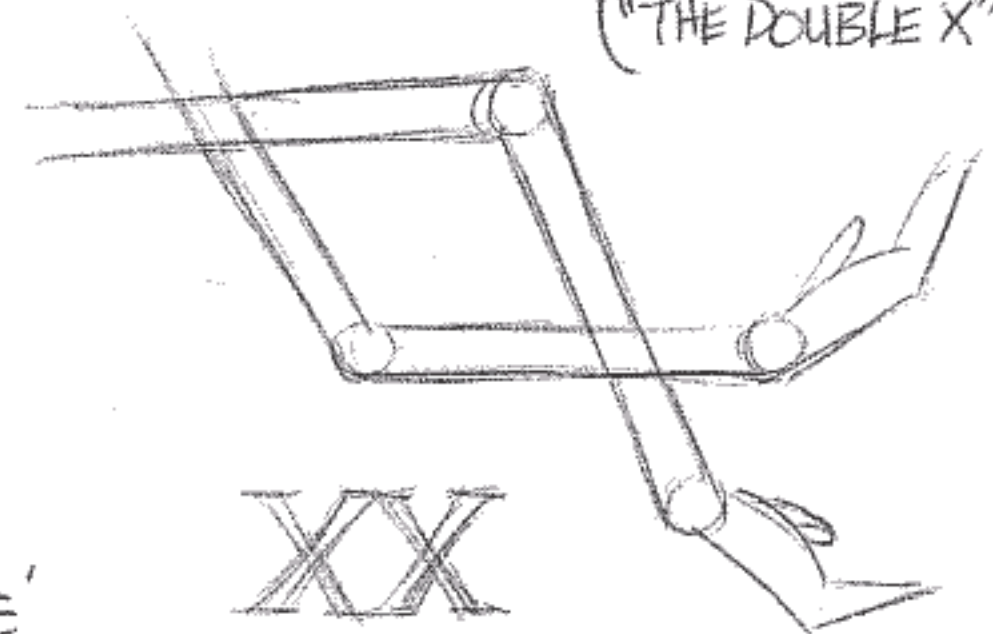
BUT WON'T IT LOOK STRANGE? NOT ON THE SCREEN. WHEN IN BETWEEN IT'S PROBABLY GOING TO BE FOR 4 FRAMES OR SO,  $\frac{1}{6}$  OF A SECOND. TOO QUICK TO 'READ.' BUT WE'LL 'FEEL' IT - WE'LL FEEL THE INCREASED FLEXIBILITY - INCREASED 'CHANGE'.

(I THINK OF IT AS "THE DOUBLE X")

SOMEONE ASKED FRED ASTAIRE HOW ON EARTH HE COULD DANCE AND MOVE LIKE THAT - AND HE SAID, 'OH, I JUST START BY PUTTING BOTH FEET IN THE AIR.'

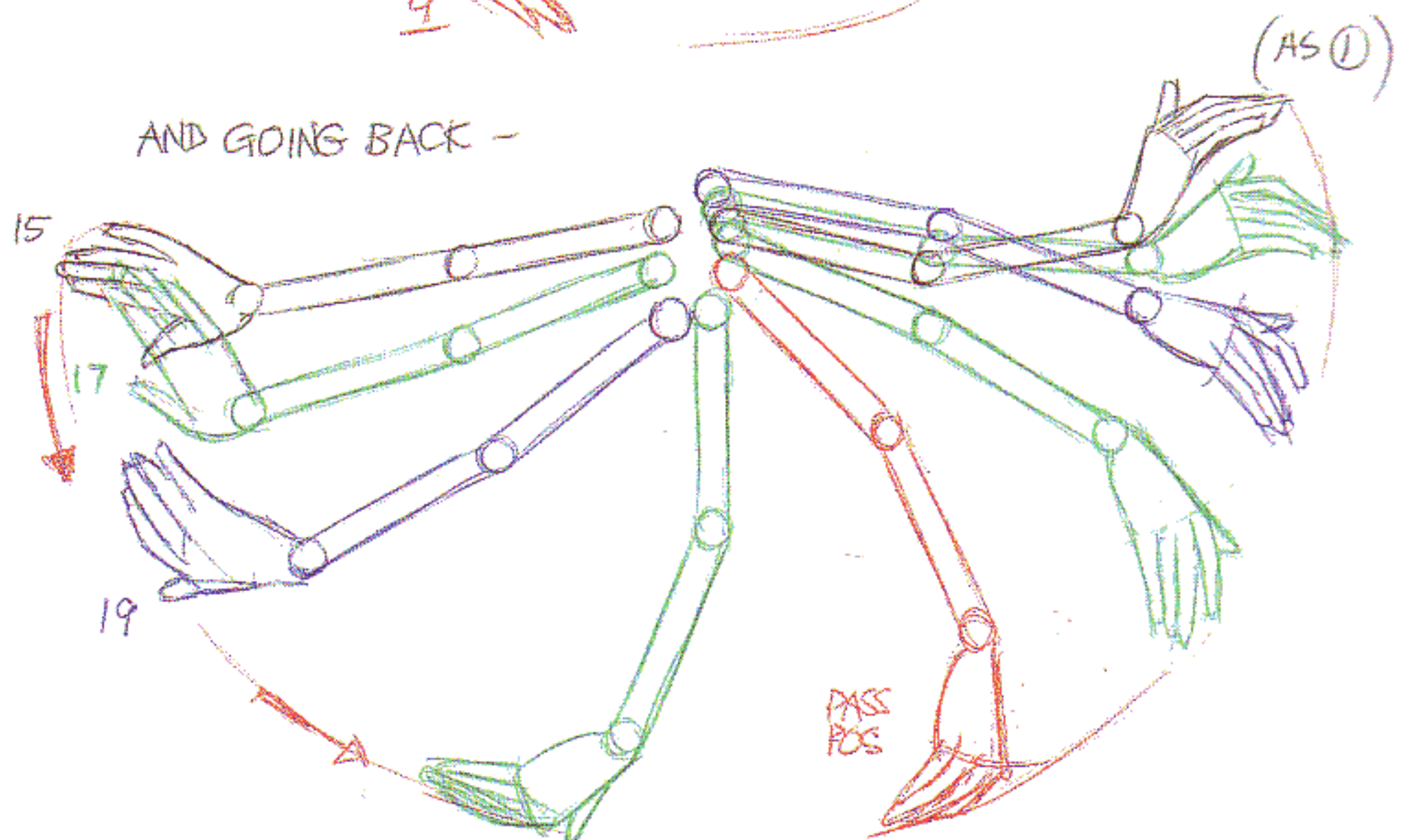
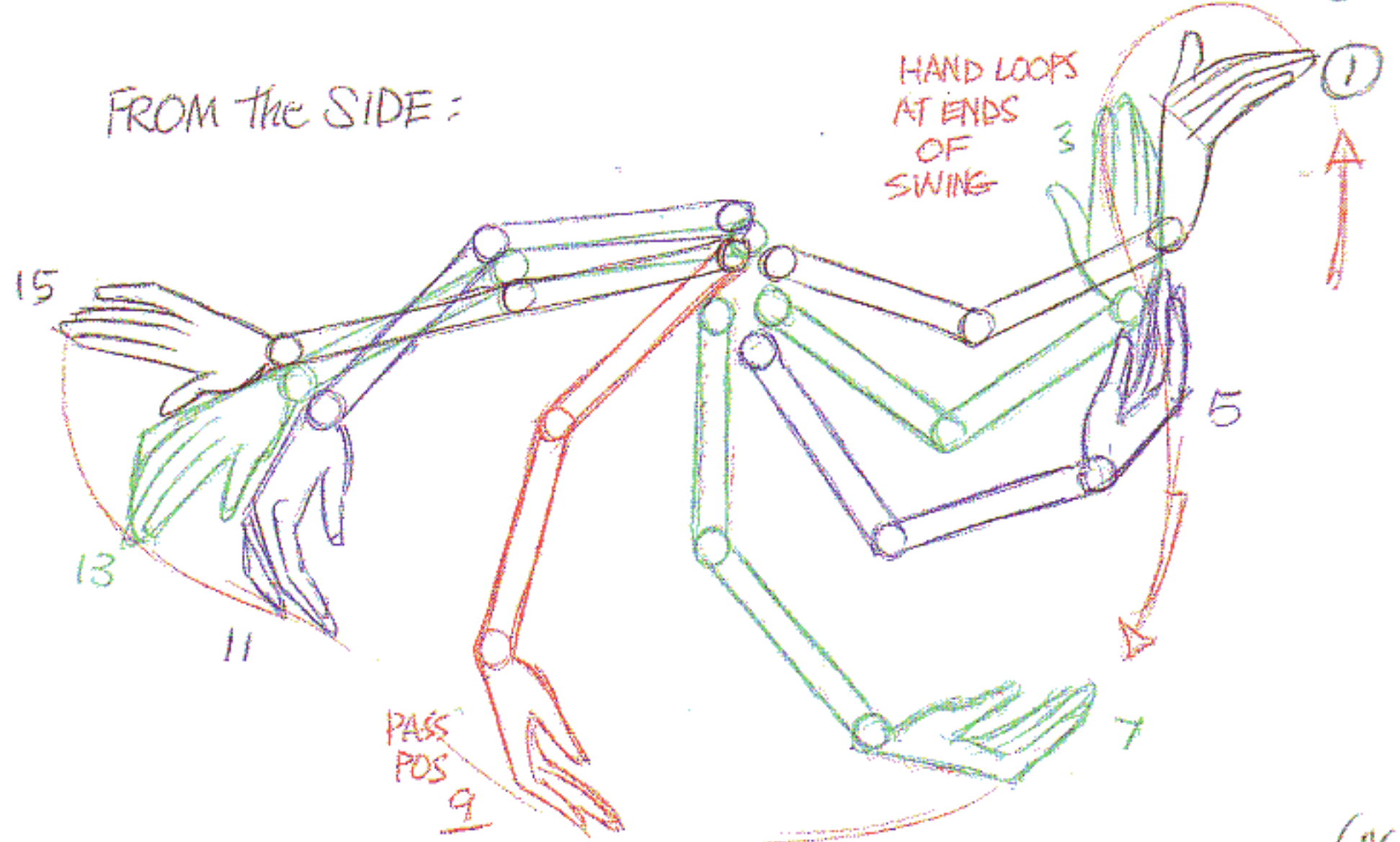
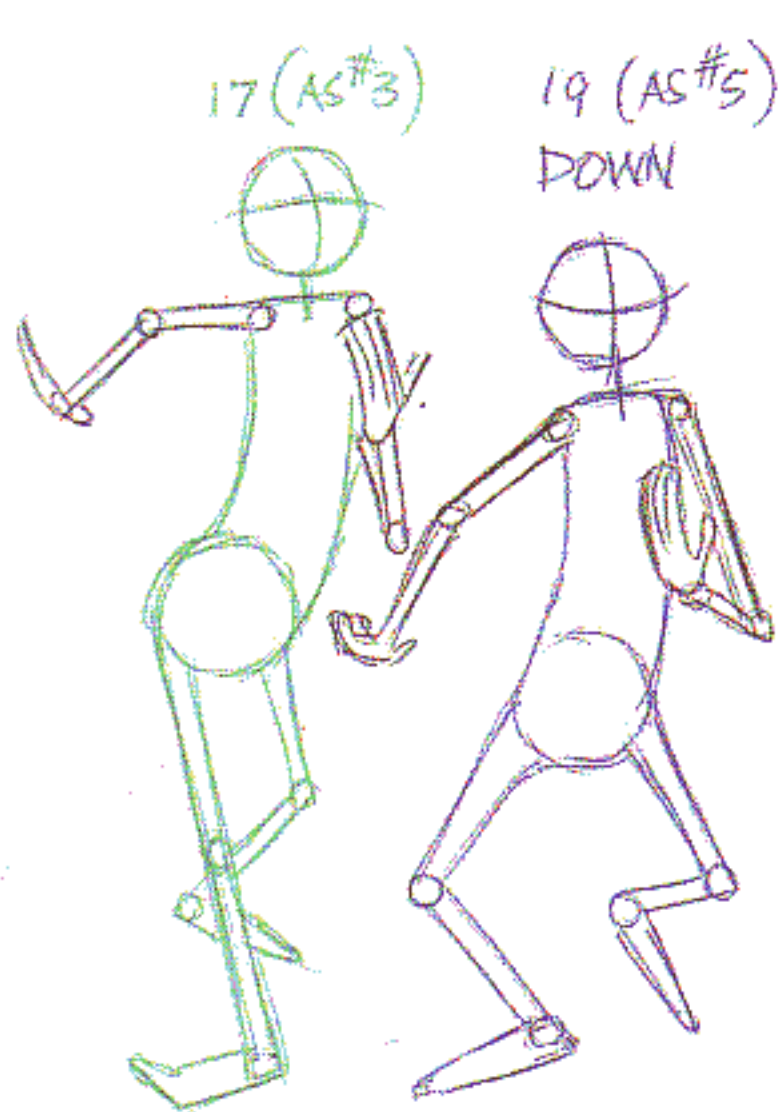
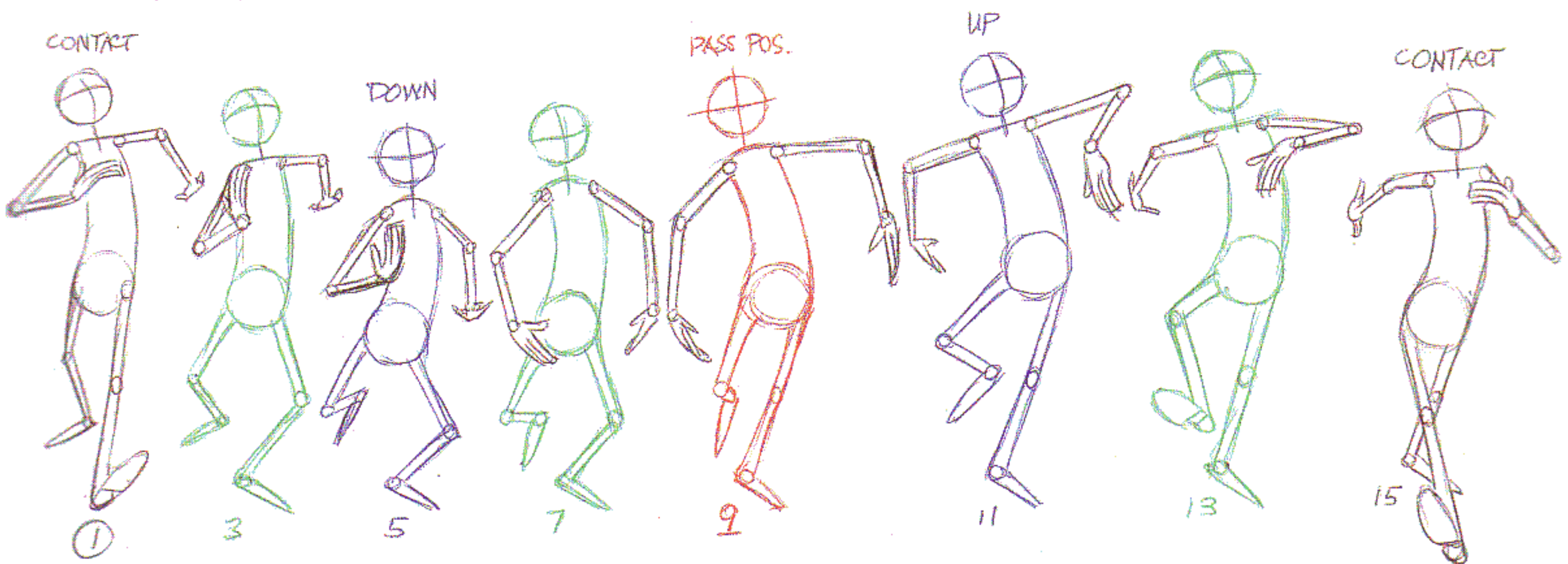
BUT IF YOU ANALYSE FRED ASTAIRE FRAME BY FRAME YOU'LL SEE THAT HE'S BREAKING JOINTS ALL THE TIME ALL OVER THE PLACE.

SENSING THIS, THEY PERCEPTIVELY CALLED HIM 'THE HUMAN MICKEY MOUSE'.





HERE'S AN ADAPTATION OF A SUPERBLY ANIMATED FLAMBOYANT ARM SWING -  
BREAKING THE JOINTS LIKE MAD -



BREAKING  
THE JOINTS  
(OR WHATEVER YOU  
WANT TO CALL IT)  
IS SECOND NATURE  
TO THE EXPERTS.

"OH, YOU HAVE TO DO THAT!  
EVERYBODY KNOWS THAT."

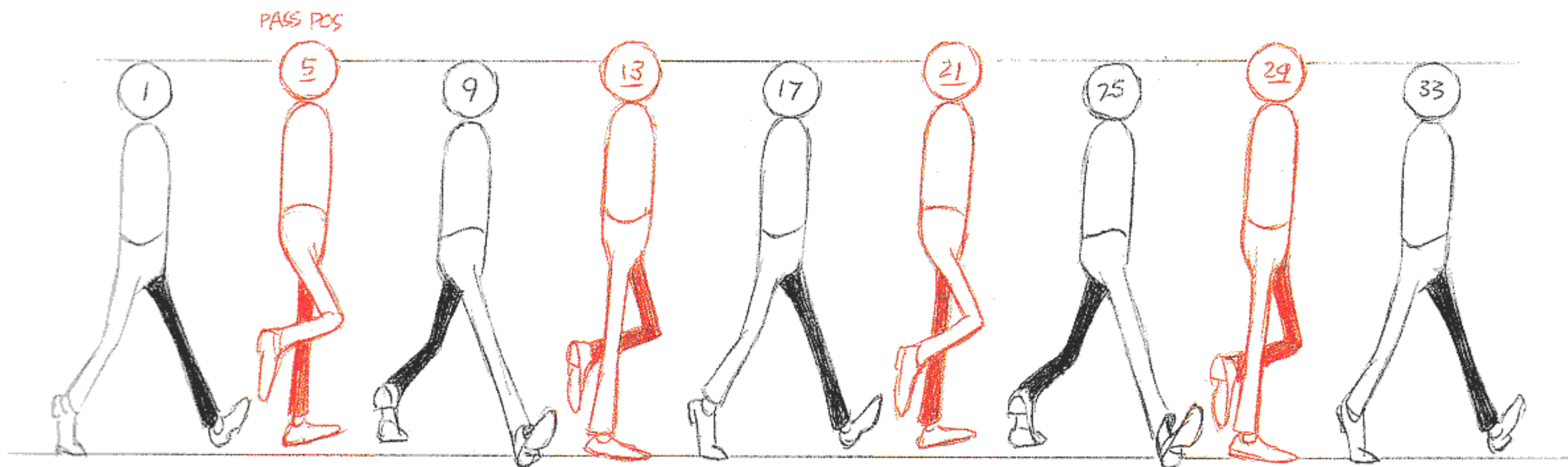


## KEEPING TO STICK FIGURES

I FIND THAT ONCE THE DRAWINGS ARE EVEN REMOTELY INTERESTING - IT'S HARDER TO SEE PAST ANY CHARM OR STYLE AND SEE THE STRUCTURE OF THE UNDERLYING MOVEMENT CLEARLY. EVEN ADDING AN EYEBALL SEEMS TO CREATE CHARACTER AND THROW ONE OFF THE CHASE FOR THE STRUCTURE. AND ITS THE STRUCTURE WE'RE AFTER HERE, ACTING and PRETTY DRAWINGS OR DESIGNS CAN COME LATER.

WE CAN ALTER THE **TIMING** OF AN ARM SWING -  
SAY WE MAKE THE ARMS SWING **SLOWER** THAN THE FEET...

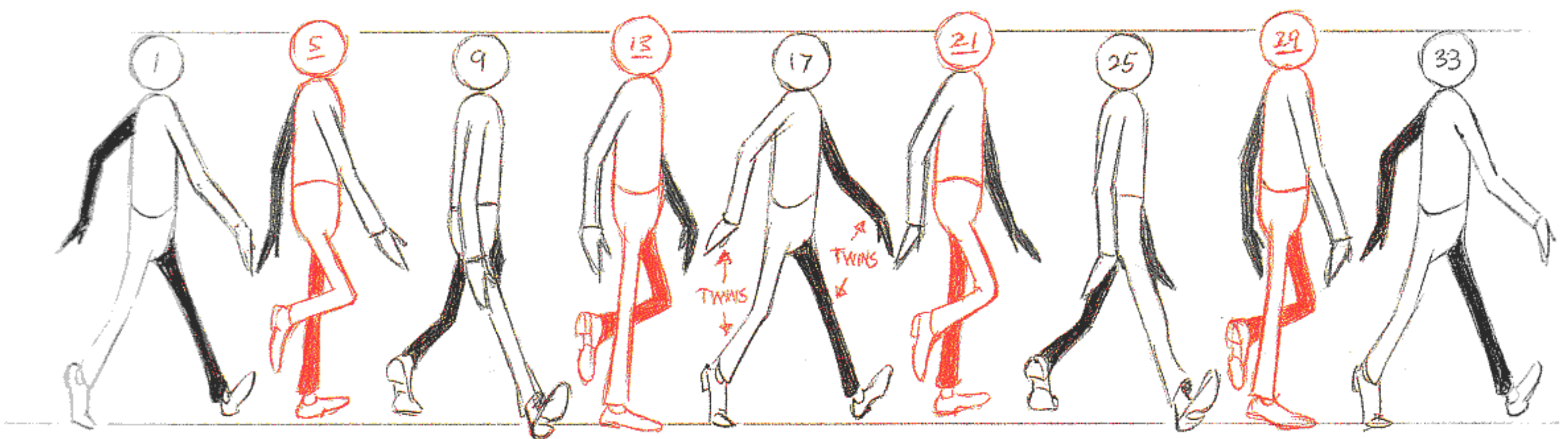
WE ANIMATE THE WALK ON 8'S - TAKING 4 STEPS (PULLED APART)



NOW WE'LL ADD THE ARMS BUT WE'LL PUT THEM ON **16'S** -

SO WITH THE FEET ON **8'S** AND THE ARMS ON **16'S**, THE ARM SWING TAKES **TWICE** AS LONG AS THE FEET.

THE ARM EXTREMES ARE ON THE SAME DRAWINGS AS THE FEET BUT ON #17, THE ARMS '**TWIN**' UNNATURALLY ON THE SAME SIDE AS THE FEET



THIS SORT OF THING IS VERY EFFECTIVE ON A RUN!



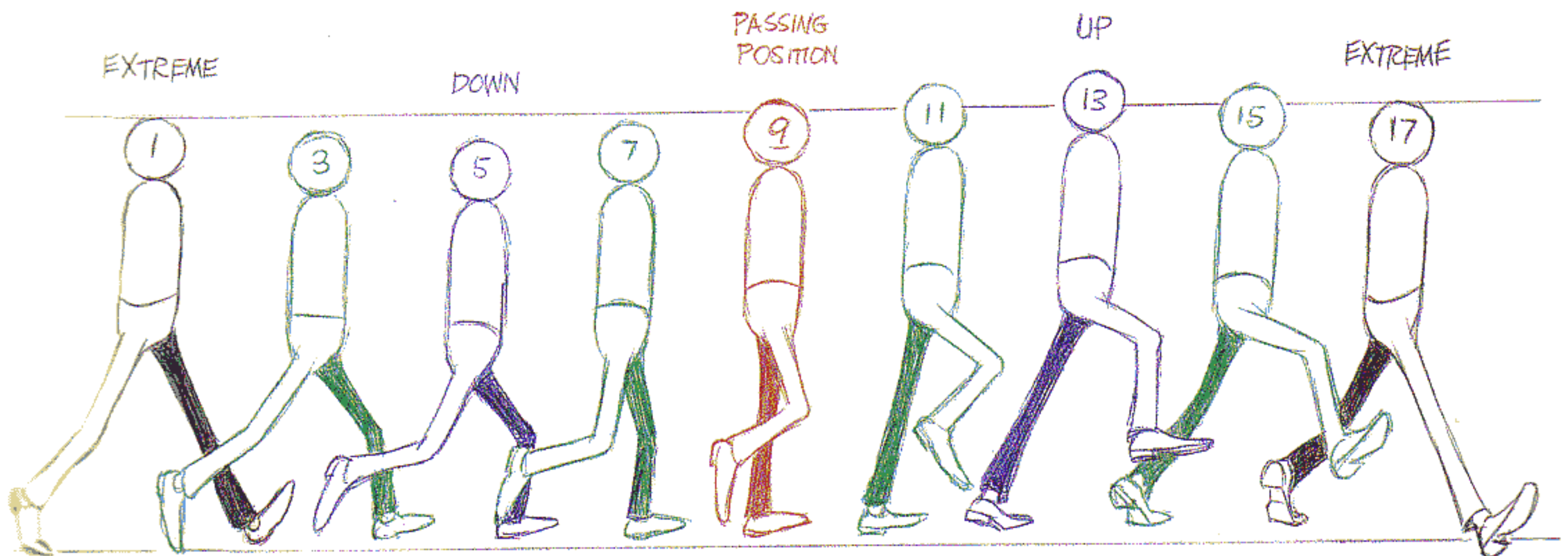
NOW LET'S DO THE CONVERSE -

WE'LL HAVE THE ARMS PUMPING AWAY TWICE AS FAST AS THE LEGS.

WE'LL MAKE THE WALK ON 16'S AND WORK THE ARMS ON 8'S.

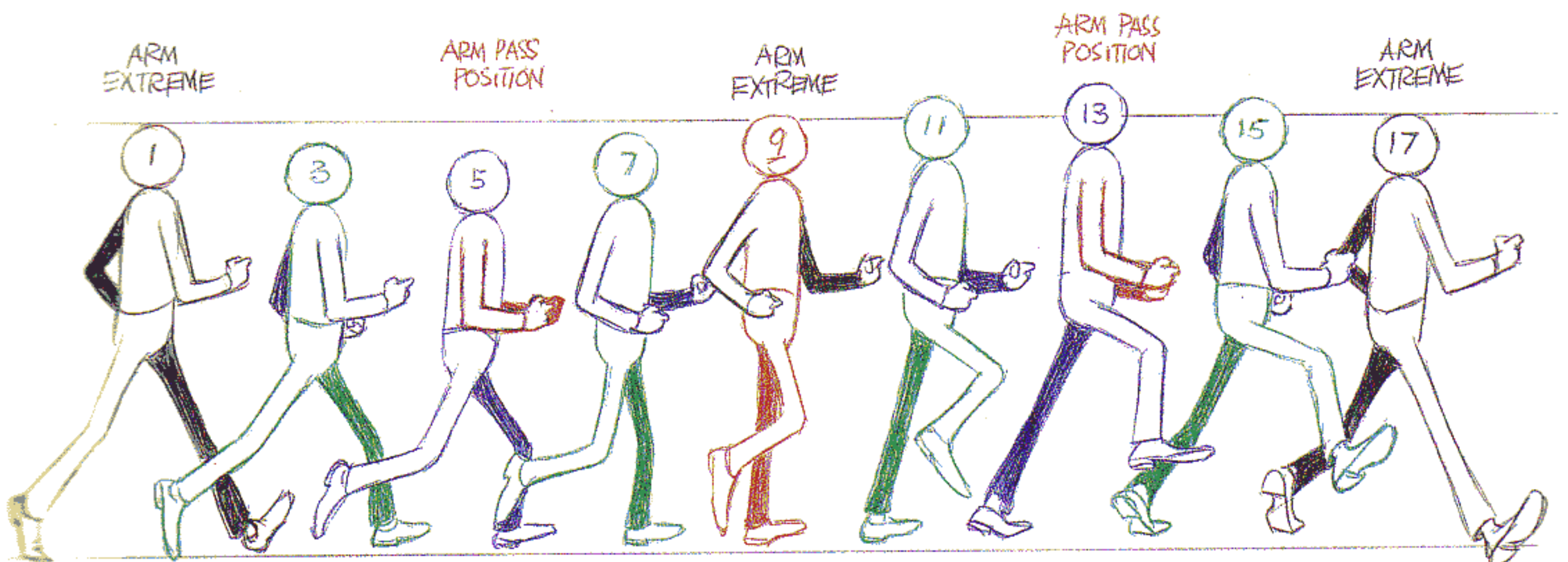
TAKE ONE STEP - (SPREAD FAR APART FOR CLARITY)

WE'LL NEED MORE INBETWEENS TO SHOW THIS.



NOW ADD THE ARMS -

THE EXTREME POSITIONS ARE ON 1, 9, and 17.



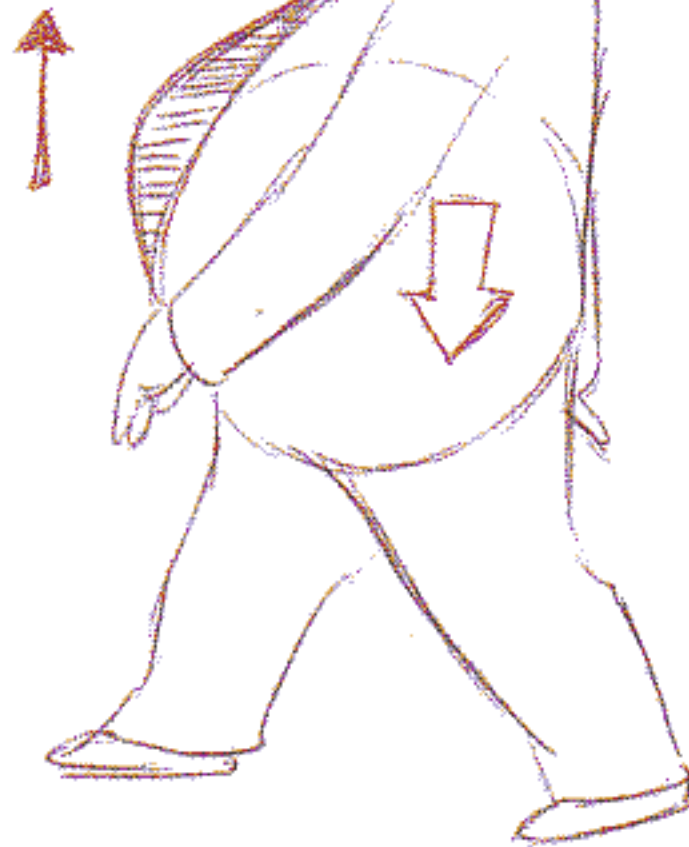
THIS NEEDS SINGLE INBETWEENS - MUST BE ON ONES BECAUSE OF SO MUCH ARM ACTION IN A SHORT SPACE OF TIME. (THIS WON'T WORK ON A RUN, FOR THE SAME REASON)



# COUNTERACTION

EXAGGERATED COUNTERACTION - AS IN A FAT MAN'S WALK

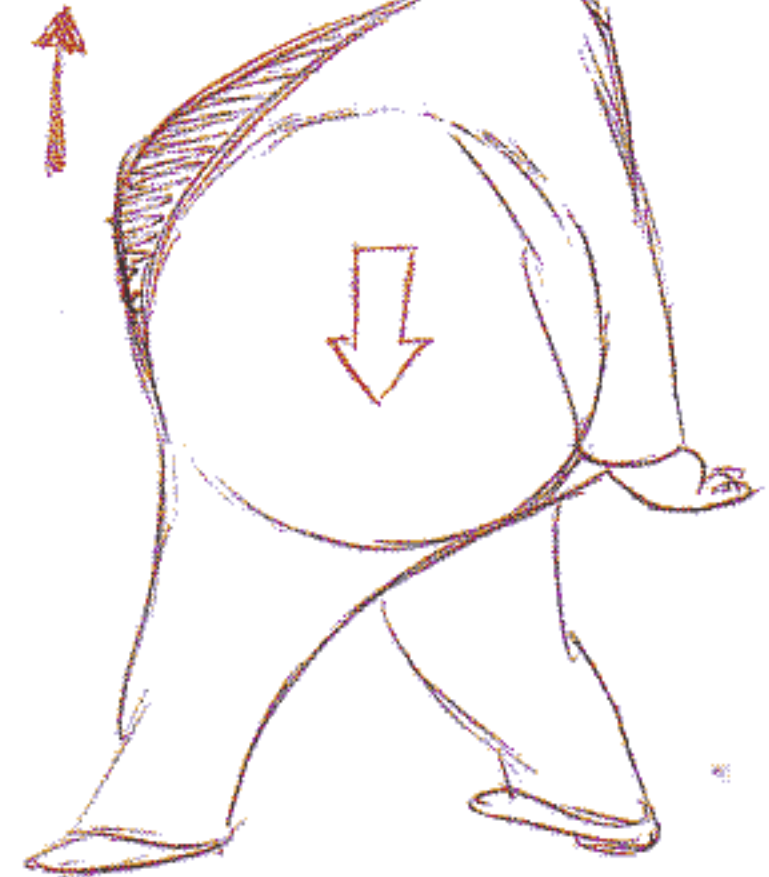
THE STOMACH MASS  
MOVES UP  
AS THE BODY MASS  
MOVES DOWN



STOMACH MASS  
MOVES DOWN  
AS BODY MASS  
MOVES UP



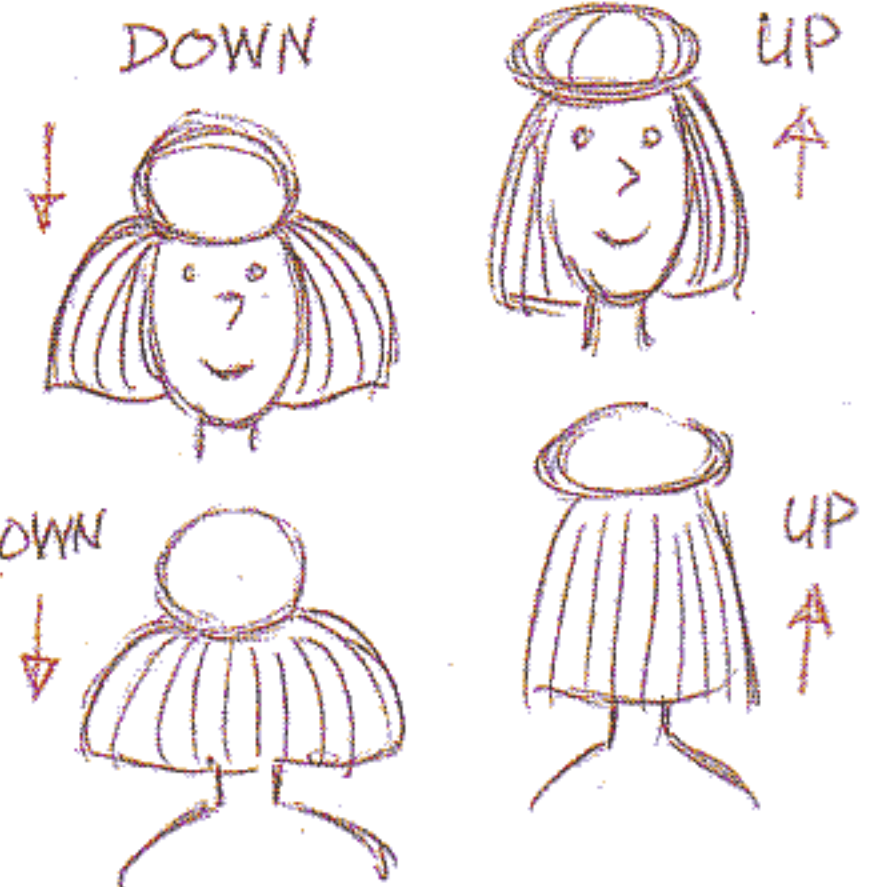
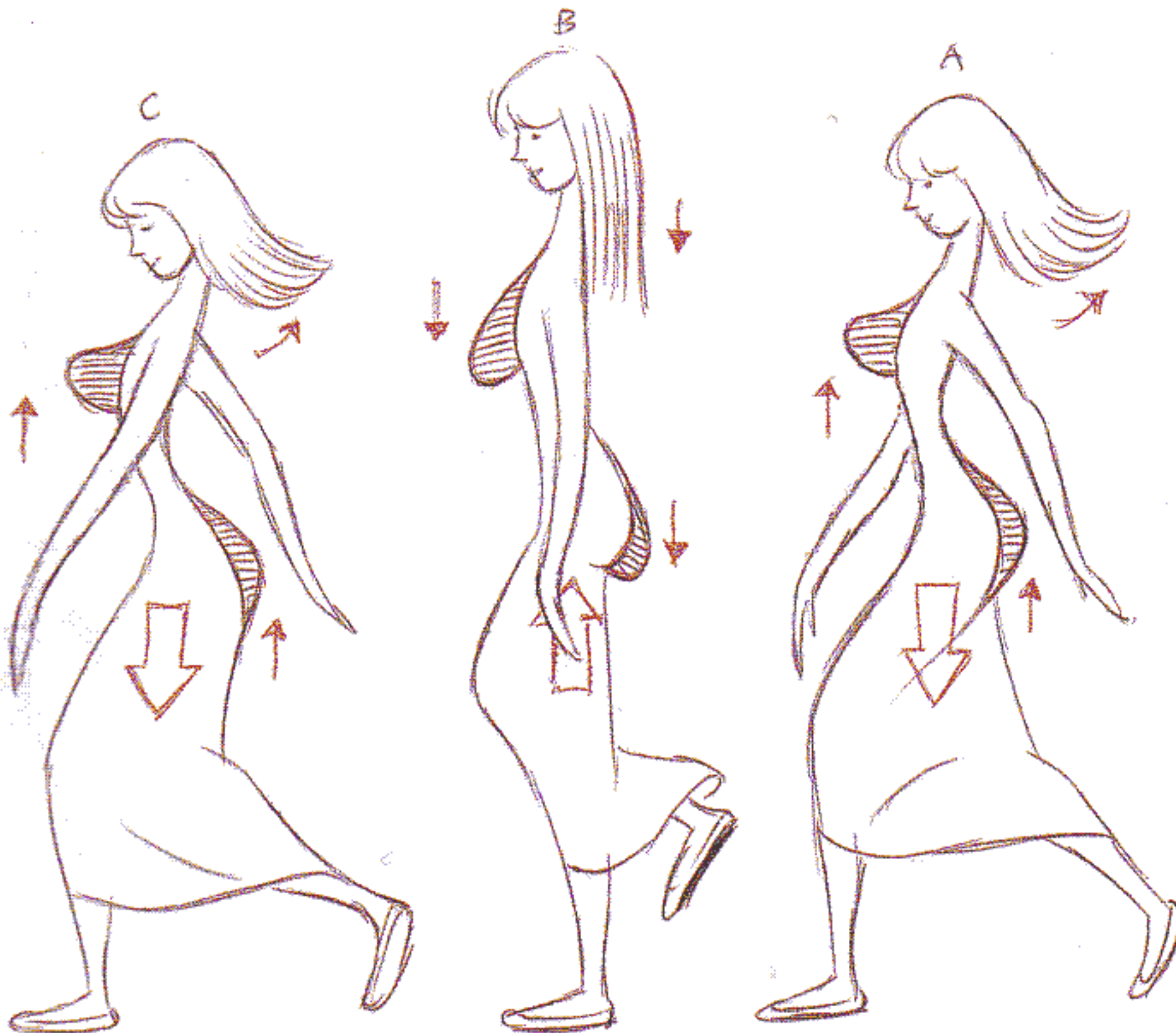
STOMACH  
UP  
AS BODY  
DOWN



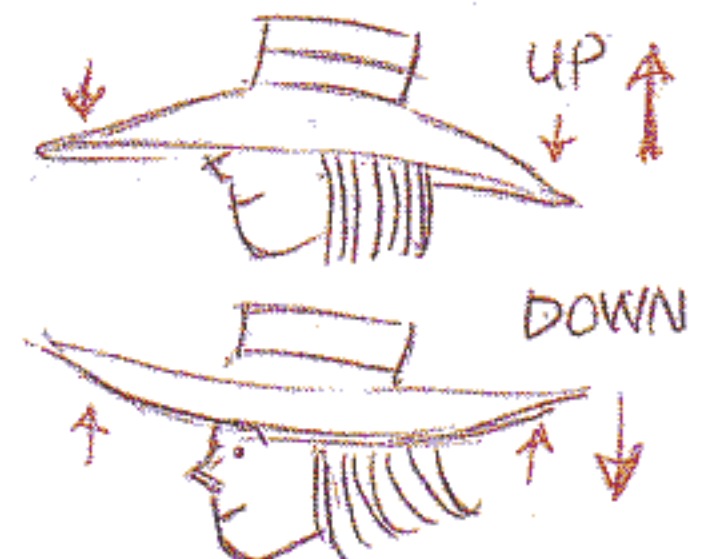
RULE

WHEN THE CHARACTER GOES **UP** - THE DRAPERY OR HAIR OR SOFT BITS GO **DOWN**.

AGAIN, EXAGGERATING - BUTTOCKS AND BREASTS AND HAIR  
COUNTER THE BODY UPS AND DOWNS -



BUT RESTRAIN THESE ACTIONS  
JUST GIVE SOME MOVEMENT.



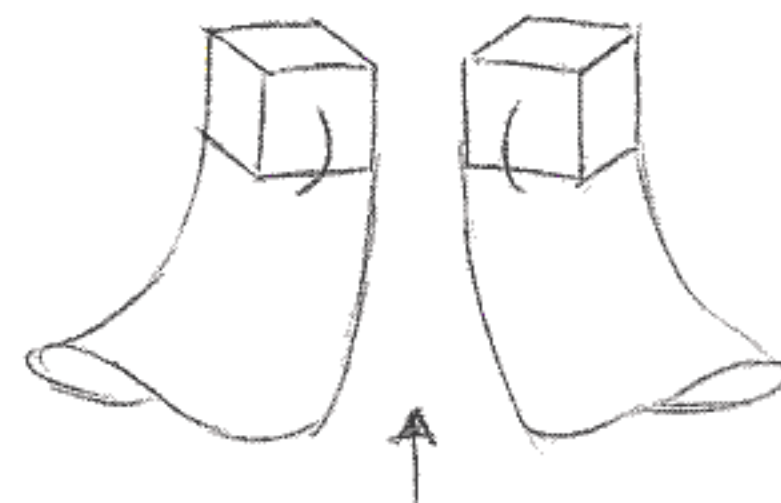


AS WE NEAR THE END OF THESE WALKS LET'S LOOK AT WHAT THE END IS DOING...

TAKE A WOMAN WALKING -

THE BUTTOCKS  
MOVE IN THE  
DIRECTION  
OF THE  
FORWARD  
FOOT -

THE BUTTOCKS WOULD NORMALLY BE  
CENTERED ON THE PASSING POSITIONS  
BUT (DELAY) THEM.

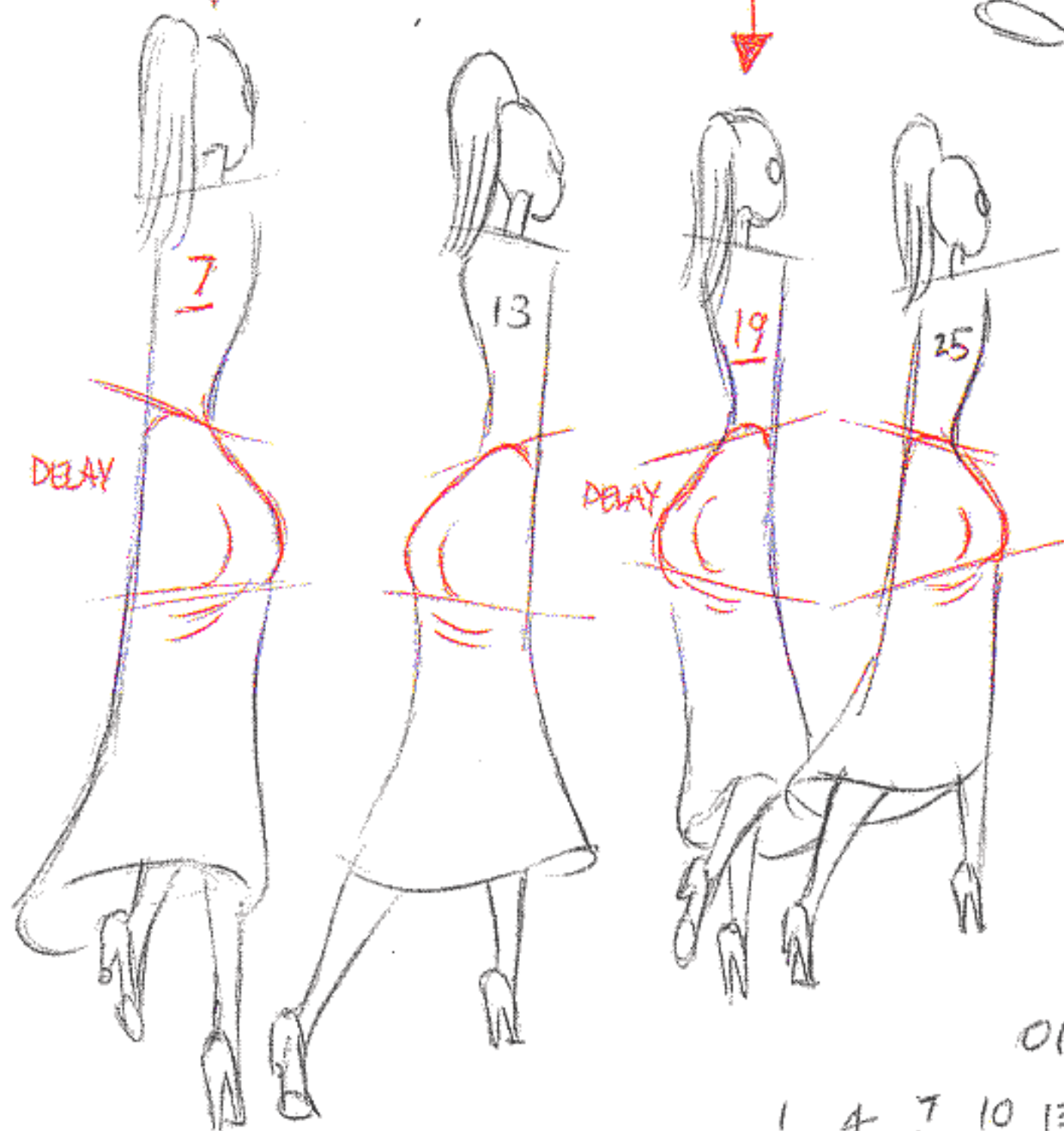
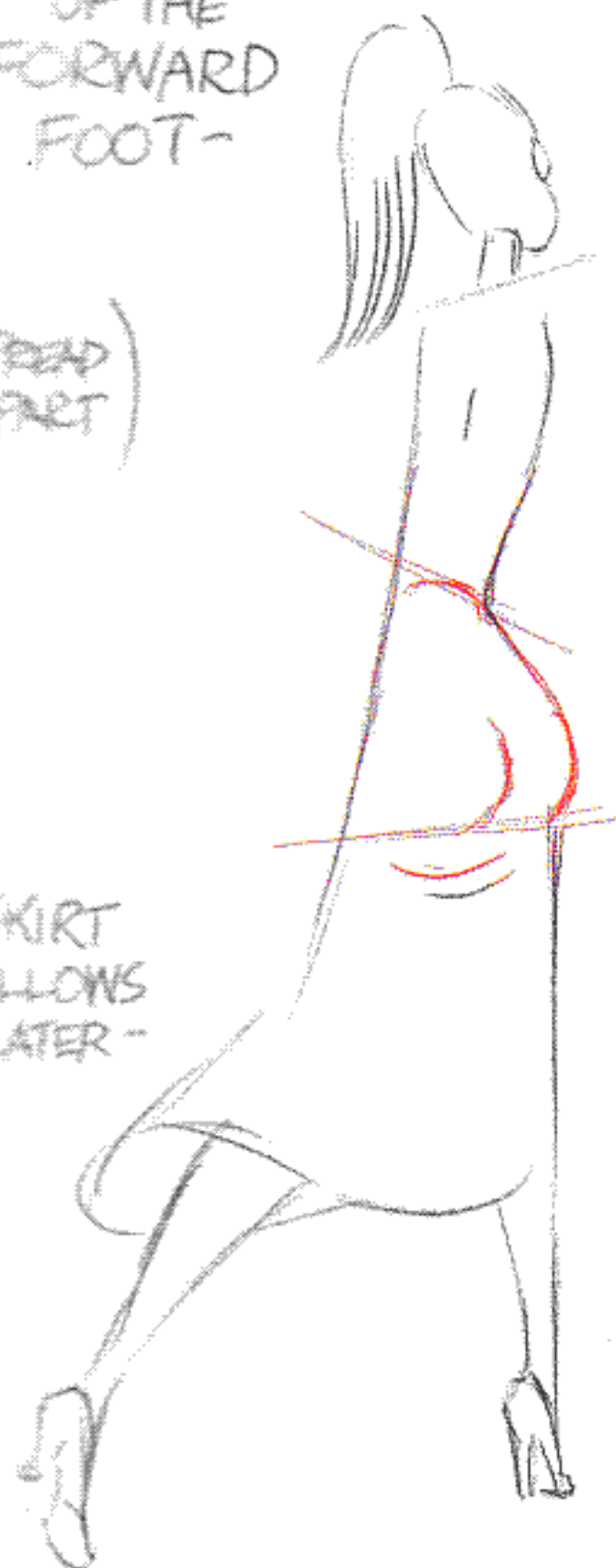


THE MOVEMENT  
OF THE DRAPERY  
MOMENTARILY  
OPPOSES THE HIPS.  
WHEN THE HIPS  
MOVE - THE  
DRAPERY  
MOVES THE  
OTHER WAY.

(DO THE  
HAIR  
LATER  
OR  
LAST)

(SPREAD  
APART)

SKIRT  
BILLONS  
LATER -



ON 12'S

1 4 7 10 13 13 16 19 22 25  
+++++ +++++ +++++ +++++ +++++

AGAIN, WE'RE SHOWING THESE THINGS IN EXAGGERATED  
FORM. IT'S ACCORDING TO TASTE HOW BROADLY OR  
HOW SUBTLY WE USE THESE DEVICES...

AND REMEMBERING THAT WOMEN  
TEND TO WALK ON A STRAIGHT  
LINE - 'TIGHTROPE WALKING.'

WHEN  
FOOT  
CROSSES  
OVER  
= MORE  
FEMININE  
WALK



'NORMALLY'



FASHION  
MODELS  
CROSS  
RIGHT  
OVER



AS DO  
STRIPPERS

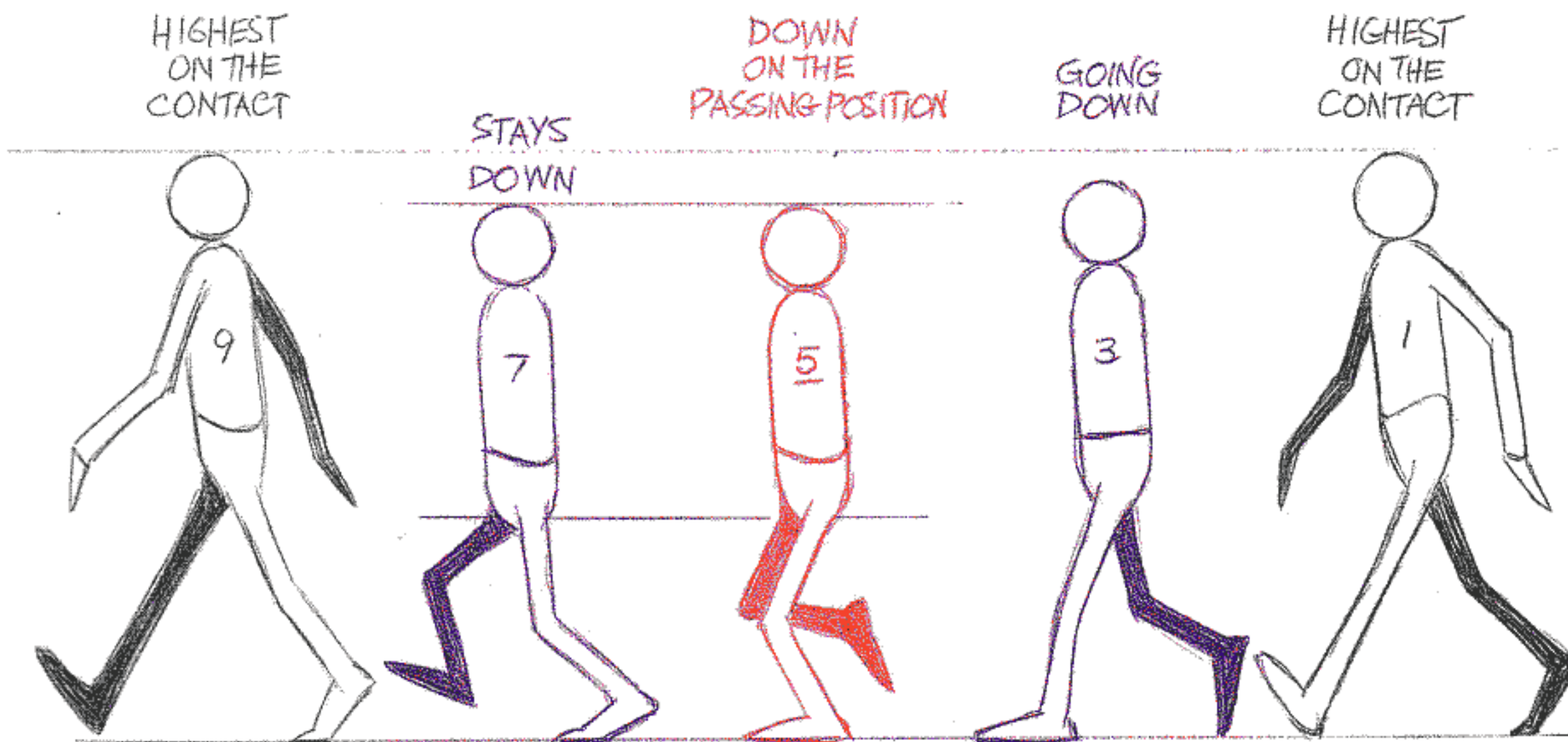


AND  
BALLERINAS



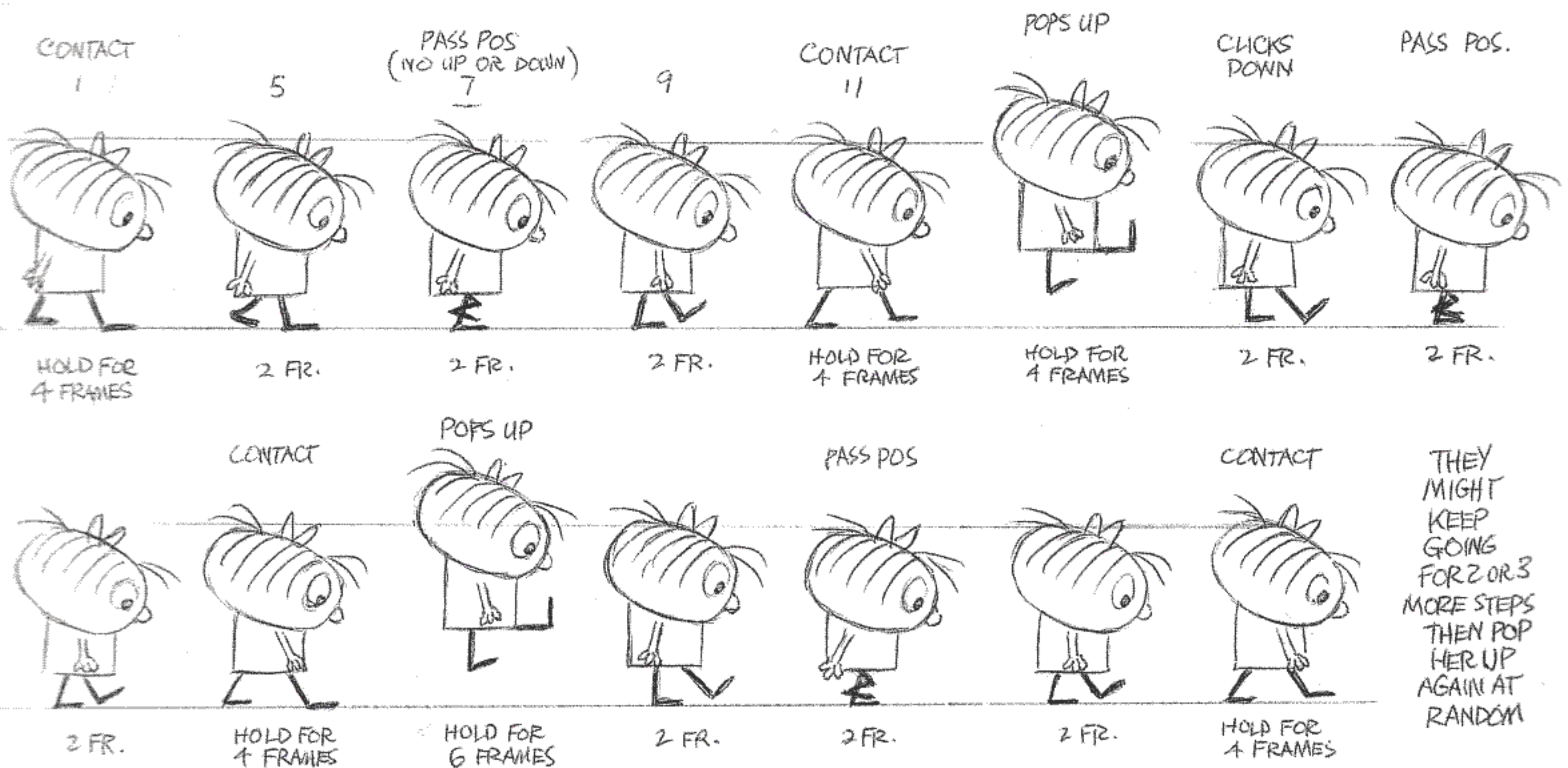


# HERE'S A FORMULA FOR A BOUNCY WALK - ON 8'S



THE REST ARE STRAIGHT INBETWEENS

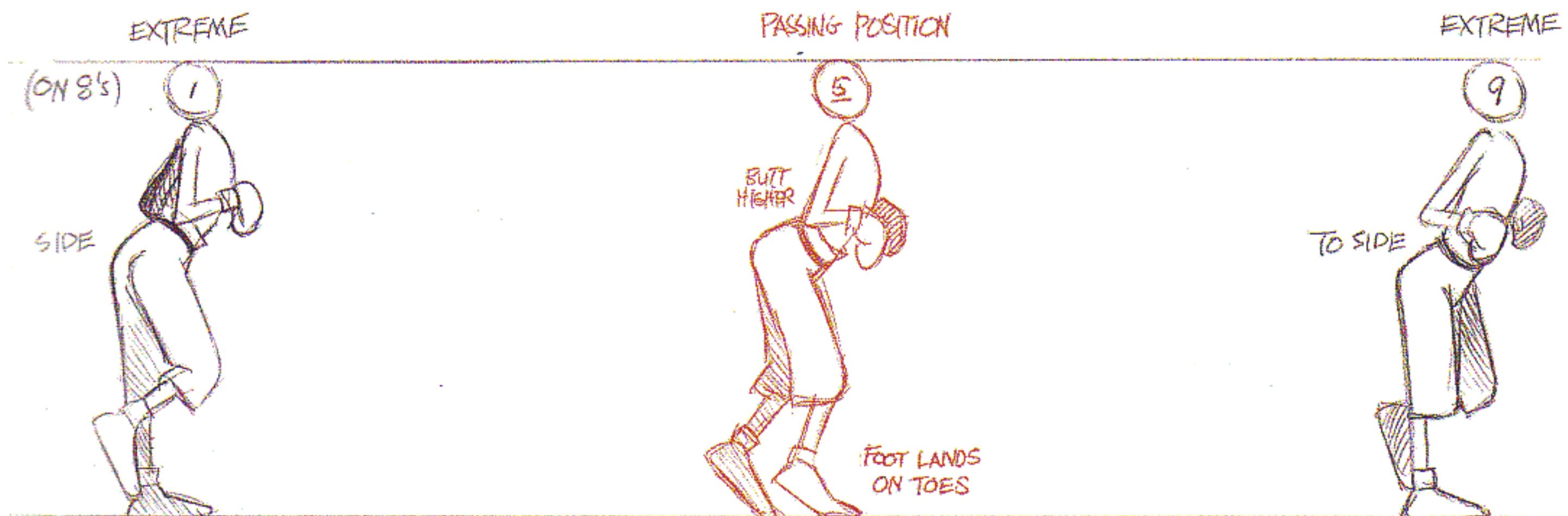
IN THE 50'S WHEN THEY SWUNG RIGHT AWAY FROM 'NATURALISM' THEY INVENTED SOME CHARMING WALKS - ESPECIALLY WITH CHILDREN. THEY OFTEN DID THIS - THE CHARACTER WOULD TAKE A STEP - THEN POP UP IN THE AIR FOR 4 TO 6 FRAMES OR SO, THEN CLICK DOWN AGAIN AND TAKE ANOTHER STEP.



THE CHARM OF THIS IS ITS 'STYLISTED STIFFNESS'. INVENTIVE THOUGH IT IS, IT'S HARD TO EXTEND ON THIS APPROACH. IF WE DON'T STRETCH AND OVERLAP AND DELAY PARTS, THINGS JUST LOOK LIKE A PIECE OF PASTEBOARD OR A PAPER CUT-OUT MOVING AROUND.

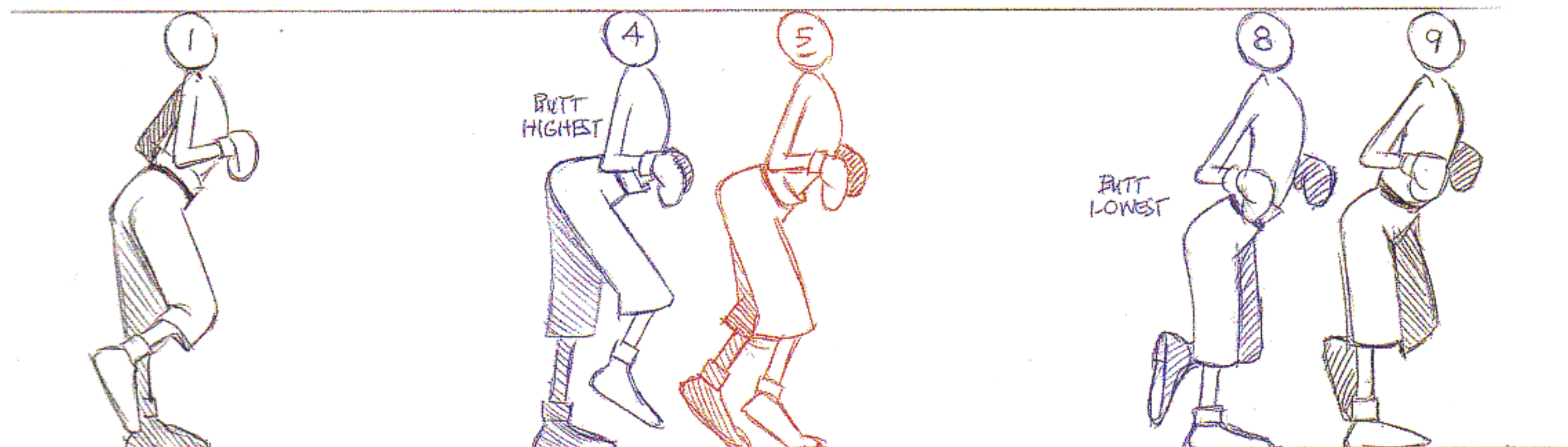


HERE'S A BOXER'S WALK WITH THE HEAD FLOATING LEVEL and the BUTT and PELVIS ACTIVELY MOVING UP and DOWN and FROM SIDE TO SIDE AS THE MAIN FEATURE. The BUTT ACTION GIVES IT THE WEIGHT. BUT JUST TO COMPLICATE THINGS WE'VE MADE THE EXTREMES WITH WHAT WOULD NORMALLY BE OUR PASSING POSITION - and the 'CONTACT' IS NOW THE PASSING POSITION. OF COURSE THERE ARE NO RULES. WE CAN BUILD FROM ANY POINT.



NOW WE MAKE ANOTHER EXTREME HERE WITH THE BUTT AT ITS HIGHEST.

THEN WE MAKE ANOTHER EXTREME HERE WITH THE BUTT AT ITS LOWEST AND THE ARMS AT THEIR WIDEST.



NOW THAT WE HAVE THE HIGHS and LOWS WE JOIN IT ALL UP and EFFICIENTLY GET THE RESULT WE WANT.

