



# ( Motion Graphics ): Animation Principles by Frank Thomas & Ollie Johnston

[12\\_basic\\_principles\\_animation.pdf](#)

<https://youtu.be/uDqjldl4bF4?si=jmU7yR-yBtyhPEkm>

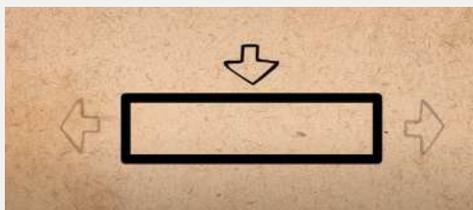
## ▼ Principle No.1: Squash and Stretch

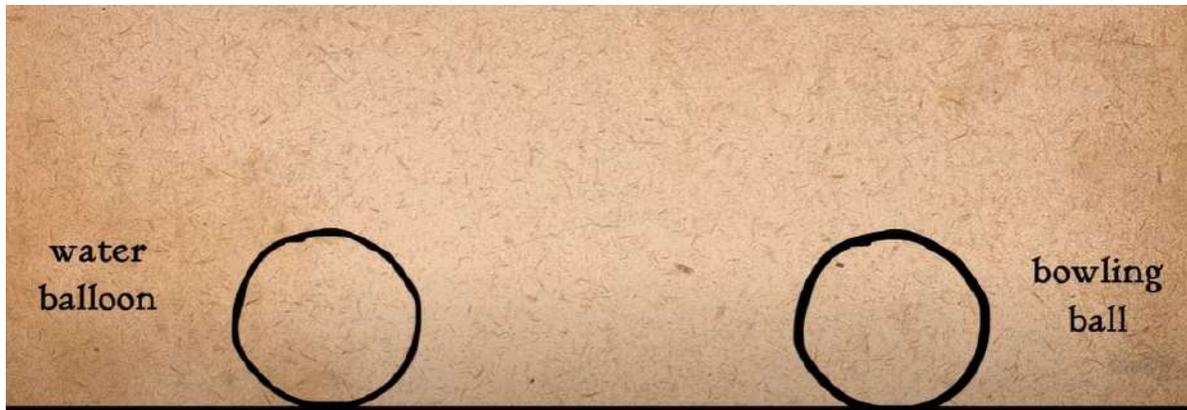


This principle states that the object must get longer and flatter to emphasize its speed, momentum, weight, and mass.

( Squash means to press something so that it is damaged, changes shape, or becomes flat & Stretch means to pull something so that it becomes longer or wider; to become longer or wider in this way ).

Make sure the size of the object is in the opposite direction. If one increases then the other must decrease.



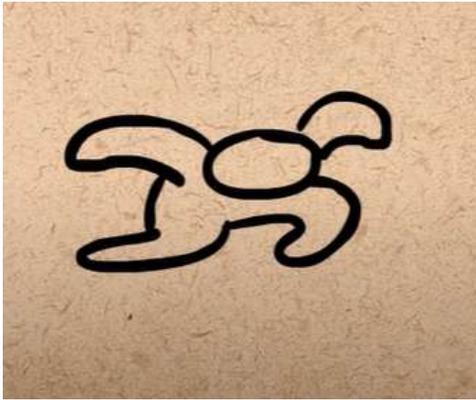


The more smoother and softer the object is; the more it squash and stretch at the time of movement from one frame to another.

The first one is very soft and the second one is a hard object. ( Above two ).

This is another example of an object landing on the land.





▼ **Principle No.2: Anticipation**



Anticipation means the state of expecting something to happen or excited feelings about something that is going to happen.

This can be done by animating the subject in such a way that each frame of the video tells more about some event or activity that might take place.

This makes the action more realistic.

Anticipation helps communicate actions to the audience by preparing them for the next action.

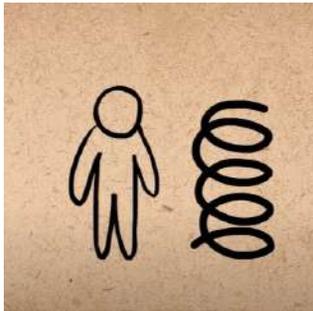




Examples:

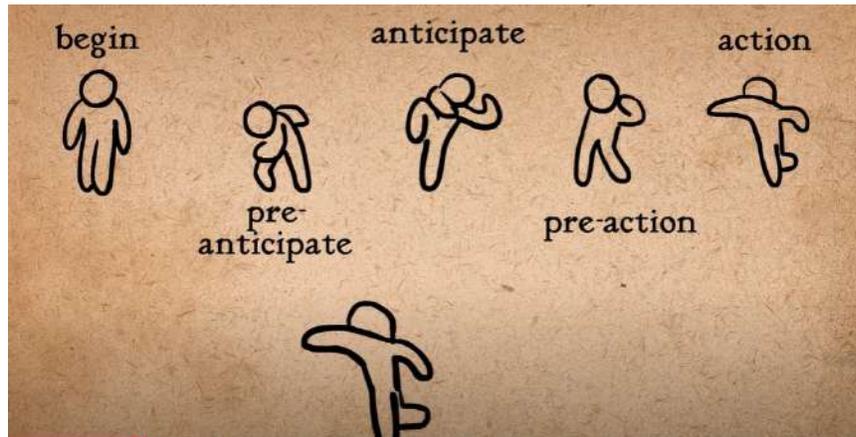
**1. *When a man is jumping.***





**2. A man is punching. When we are punching someone; we move back our hand to generate more energy.**





▼ **Principle No.3: Staging**



Staging is the presentation of any idea so that it is completely and unmistakably clear.



**It has more to do with the camera setting and the angles of the camera which enables us to move the attention of the audience in the direction we want to.**

**Basically do everything to convey what we want to convey and remove all the other distractions from the screen to help understand the audience what is going on.**

***Example: A man who is very lazy and a foodie and when he goes to grab the drink; he falls down due to weight.***



▼ **Principle No.4: Straight Ahead & Pose to Pose**



Straight Ahead method means to draw the animation frame by frame.



Pose to Pose means to draw the first and the final stage of each main pose of the object and then work backward to fill the other actions.



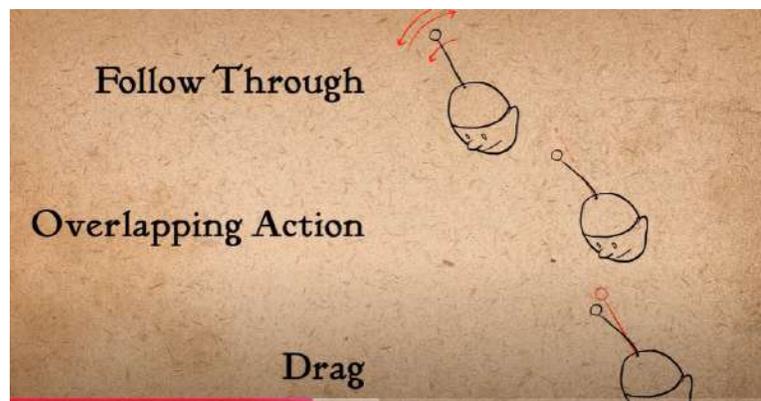
( This is more useful for the proper character animation and not much usefull to us ).

### ▼ Principle No.5: Follow Through & Overlapping Action



This principle is useful when we have the other objects with the main characters and when the characters move so that objects with them; also move.

To animate this we use this principle of follow through ( means to follow the main subject ) and overlapping action ( because the different objects are overlapped with the main one ).



### ▼ Principle No.6: Slow-in and Slow-out



This states that the action must start slowly and end slowly.

We are using this principle in AE with the ease-ease option.

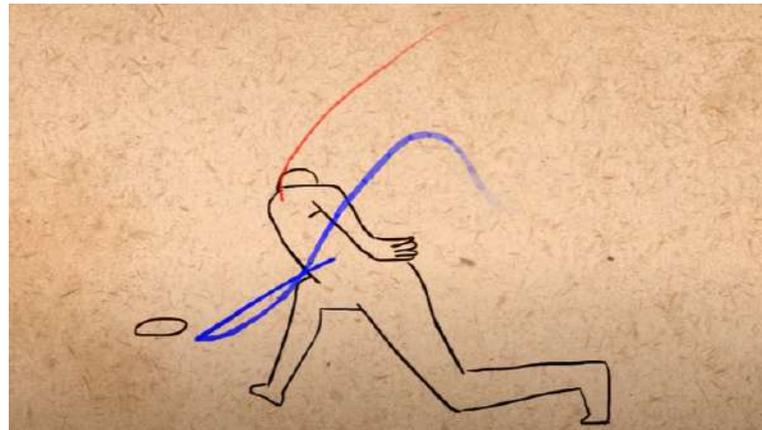
Do not add this when the ball is about to hit the ground ( law of gravity; because ball comes at a very fast rate towards the ground ) but add it when it was bouncing off.

### ▼ Principle No.7: Arcs



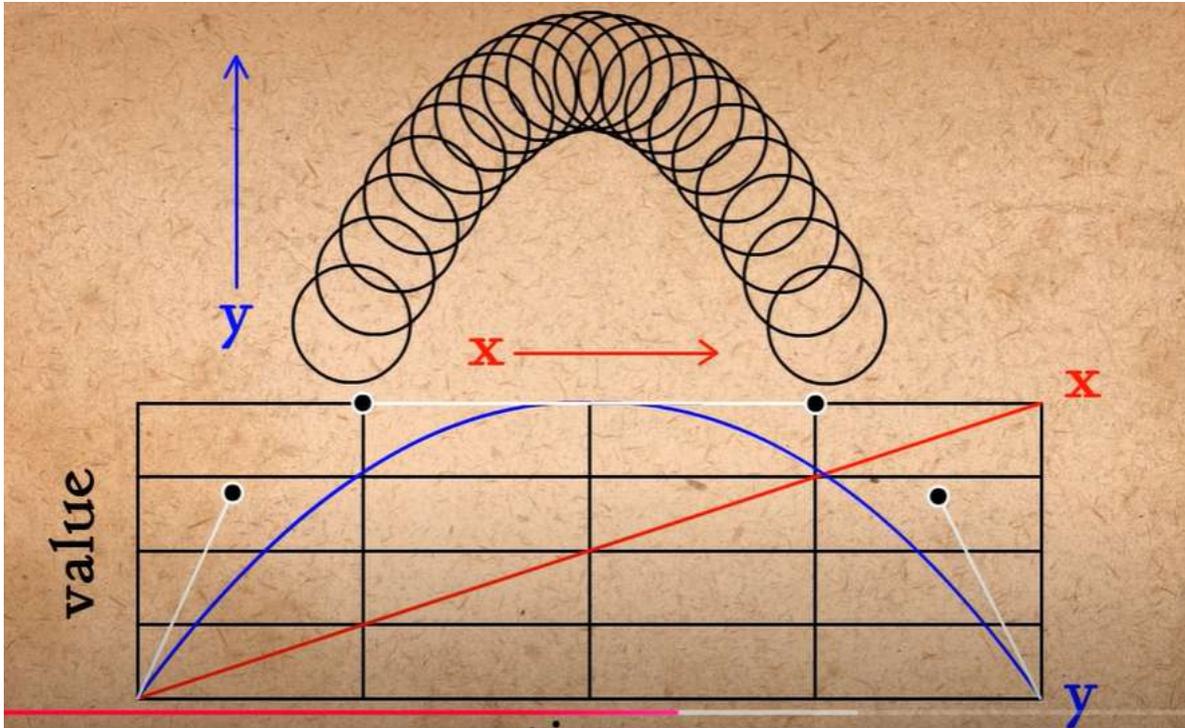
All the actions that are done by any object or any character; do not go in the straight path but follow the arc path.

So don't forget to add the arc path while animating that particular action.



For example a man is throwing a dish, in this case his arms and head follows the arc principle.

This one is to give motion to the 3D object in AE.



▼ **Principle No.8: Secondary Action**



This is not the same as the overlapping action or follow-through principles.

**Secondary Action:**  
**Gestures that support the main action to  
add more dimension to the character  
animation**

1. A man walking in a very angry state on the road. In this case, the main action is walking on the road, and the secondary action is the anger emotion on the face.



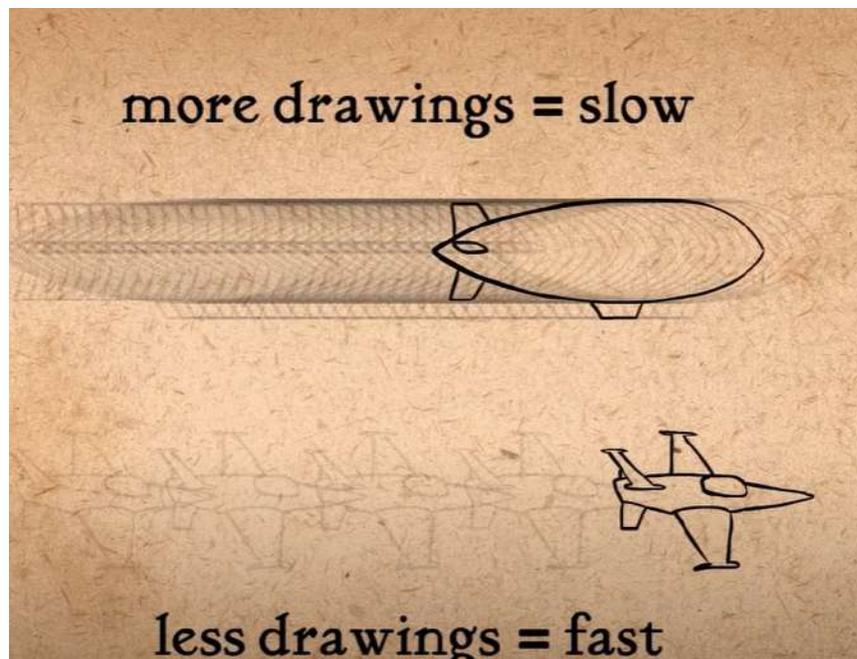
2. A boy is eating a burger and he is very hungry, also the burger is very tasty and after eating he is very happy. In these case, eating is the primary one.



### ▼ Principle No.9: Timing



The personality and nature of an animation is greatly affected by the number of frames inserted between each main action.

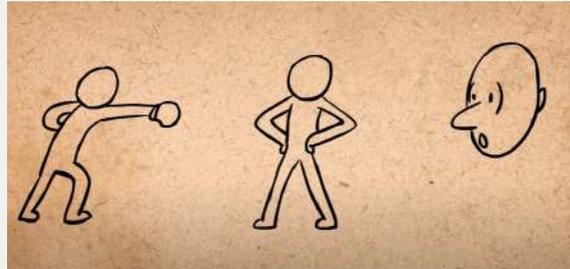


▼ Principle No.10: Exaggeration

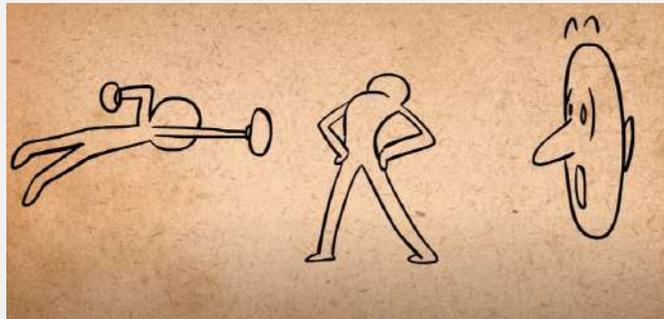


We can increase the size of the image or object to create a greater impact of a particular scene on the audience.

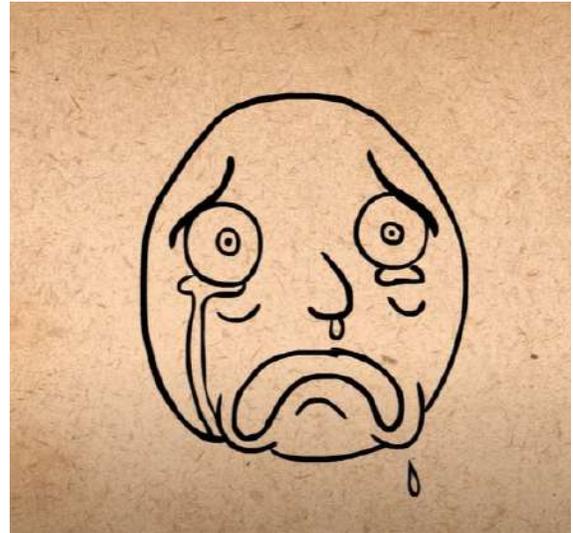
Without Exaggeration:



With Exaggeration:



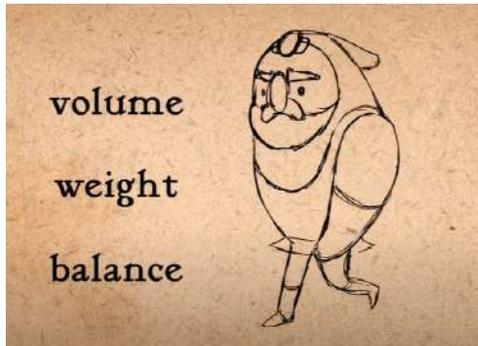
If we want to make a particular scene sad or happy then add more exaggeration to it.



▼ **Principle No.11: Solid Drawing**



This principle tells that while drawing something; make sure it has a 3D look means height, weight, and depth.



### ▼ Principle No.12: Appeal

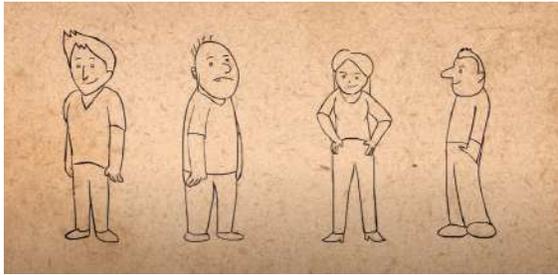


All the characters and drawings; that we have created must be very realistic, and convey an idea or meaning to an audience.



Here are the 3 ways to achieve that:

1. Create characters of different shapes:



2. Create different proportions as well:



3. Keep it simple. ( Do not use too much information in the characters ).



'ALL THE PRINCIPLES ARE JUST TO MAKE THE ACTIONS OF THE CHARACTERS MORE REAL.

While animating something; if we forget the principles then make sure to repeat the action that we want to animate in our mind.

( Make sure to think about that action; with as many details as possible ).