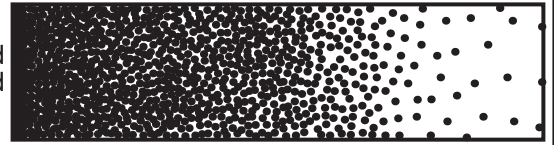
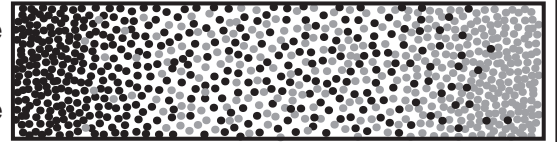


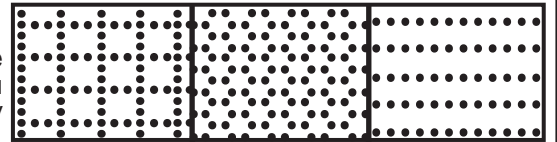
**GATHERING AND SPREADING:** In the box below, gather the dots as much as possible on one side (almost no white from the paper). Spread them gradually to end up on the other side where the dots will be as spread as possible (almost no dots). Use a black or dark color marker.



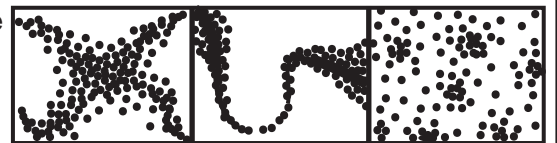
**OPTICAL MIXING:** Use a primary color to fill in one side of the box below with dots, not too spread not too gathered, do it as a medium average in the upper box. On the other side do the same with other primary color. From both sides start gathering the colored dots to obtain in the middle area of the box an optical mix of both primary colors. You have to work little by little covering the white paper and from both sides simultaneously.



**GEOMETRIC ARRANGEMENTS:** On the right you can see three examples on how to arrange dots on a surface in a geometric way. Make up two arrangements or patterns, different to the three shown. Do it in the two boxes below using dark color or black markers. It is important that you use a pattern that sets the dots in a geometrically aware way, that is to say using an order that repeats all over.



**ORGANIC ARRANGEMENTS:** Opposite to the boxes above. In the boxes below arrange the dots so they make look the surface like natural or organic. You can follow certain directions or make shapes, but in this case the dots must be arranged more randomly and intuitively, like with a natural looking. Make two images that show the dots with an organic appearance. You can use two or even three colors if you want.



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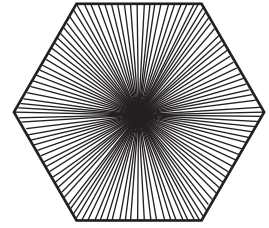
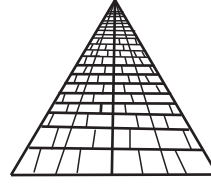
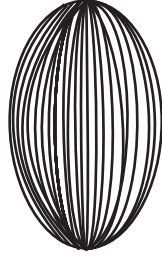
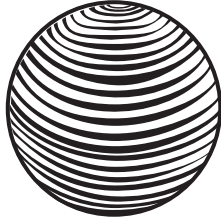
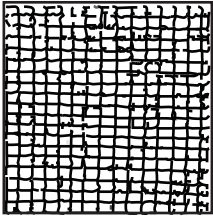
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Título de la lámina

15-THE DOT:  
STIPPLING, OPTICAL MIX AND ARRANGEMENTS

Depending on how we arrange the lines in a surface or in an inner area of a shape these may suggest different things: **space**, **volume**, or flat **surfaces** with a texture.

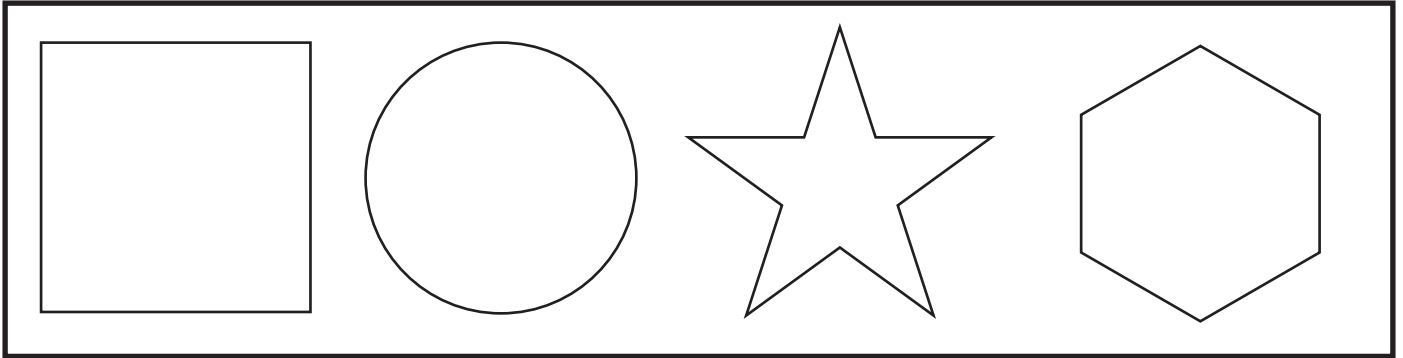
**Label** the following figures with one of the three names (surface, space or volume) depending on the features of their inner lines. Mostly these lines are straight or curved and converging in one or several points or not.



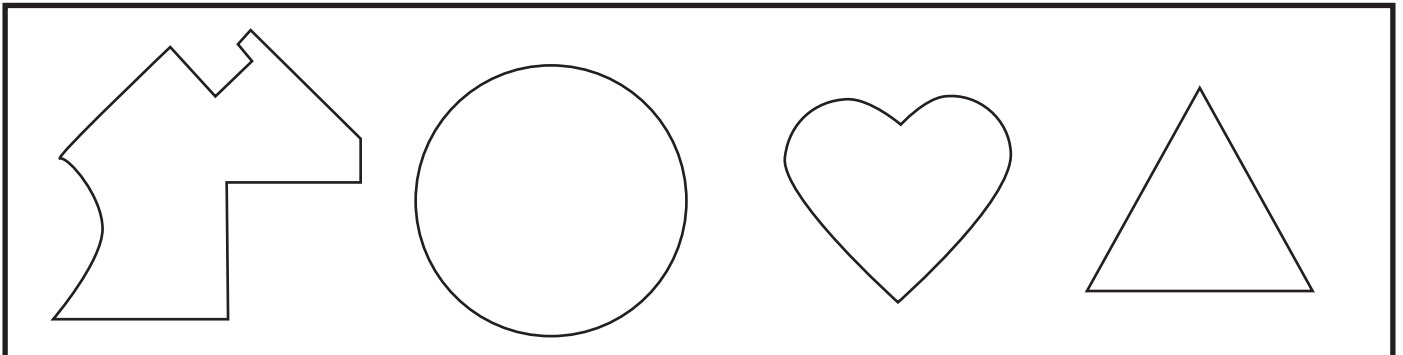
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Trace inner lines to the empty figures in the boxes below so they help depict each of the three spatial conditions.

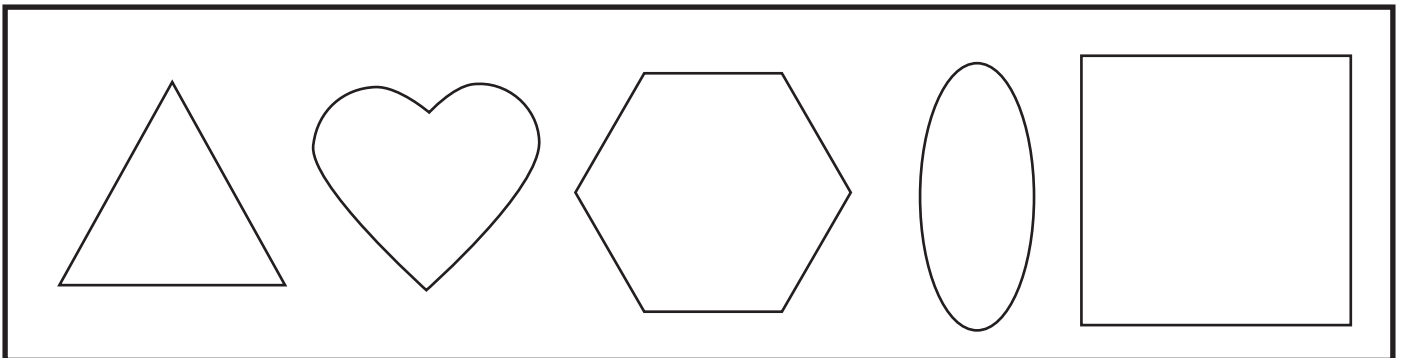
### SURFACES



### SPACES



### VOLUMES



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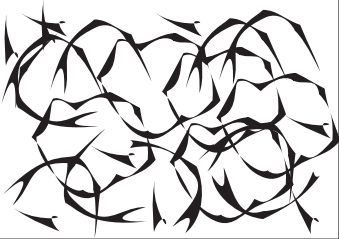
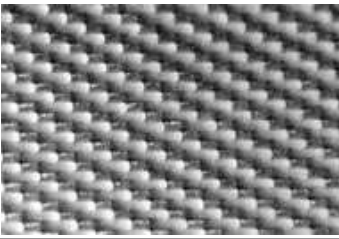
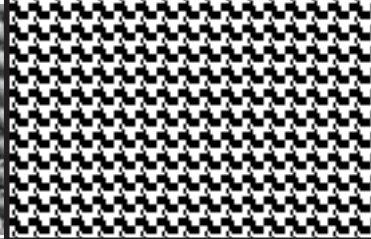


**Texture is the visual and tactile feature of the surfaces.** In this worksheet you are going to collect real textures from daily life, both types, natural and artificial. You must carry out a **"translation" from tactile (3D) to visual or graphic (2D).**

1st -**Collect** the two types (natural and artificial) **of textures, cut out little pieces AS BIG AS THE BOXES BELOW** (fabric, plastic bags, leaves, bark, etc.) they must show different sensations to the sense of touch (color is not important in this case).

2nd-**Choose the five most representative** and different from each type and divide them into two groups: natural and artificial. Glue them in two columns of boxes. Natural textures are more random and irregular while artificial are more tidy and geometric.

3rd-**"TRANSLATE"** (draw) **the textures** with differently sharpened **pencils or markers** with **different thicknesses** It consists of **observing** very well **and drawing** the textures as accurately as you can. Color is not the most important here in this worksheet

NATURAL TEXTURES		ARTIFICIAL TEXTURES	
Tactile or real (3D, Glued)	Visual (2D, drawn)	Tactile (3D, Glued)	Visual (2D, Drawn)
			

Goup	Last names, Name	Date

Grupo	Apellido Apellido, Nombre	Fecha



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Título de la lámina

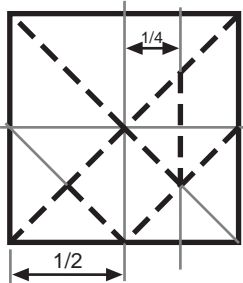
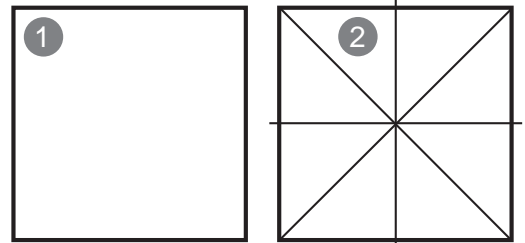
18-RUBBED TEXTURES COLLAGE

Tan gram is an ancient Chinese game. It is a square split into polygonal pieces: Five isosceles triangles, a square and a parallelogram. The game consists on getting schematic geometric figures or shapes using all its pieces without overlapping them. Tan Gram construction is simple:

1st- Build a square.

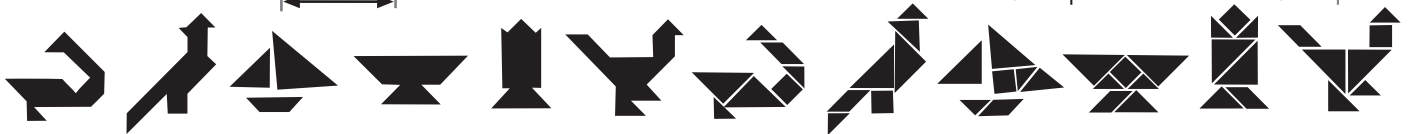
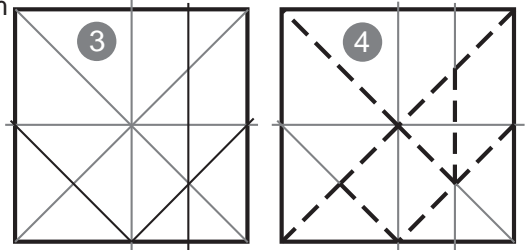
2nd- Draw its diagonals and, through the point where they both meet, draw two parallel lines to the square sides.

3rd- Draw the missing diagonals to the squares (two quadrants) below. Draw a parallel to a vertical side, through the diagonals intersection of the bottom right quadrant.



4º- Cut out following the diagram in the forth step illustration

Below you can see six examples of the game. The six on the left are examples of figures and on the right you can see their solutions.



With a pencil, ruler, scissors and colored paper, better to use cardboard, build a Tan Gram out of a 110 mm square. Make up four to six figures on your own. Draw their silhouettes. Draw their solutions in another paper so you don't forget. Play the game with a partner: Show the silhouette so your partner needs to find out how to build it, and then opposite. In the end, draw the silhouette and the solution of the best figure you made up in the empty area of this worksheet.

Goup	Last names, Name	Date





**OUTLINE:** Or contour, It is the line surrounding a shape. An outline drawing only has one line that defines the shape with no infill.

**SILHOUETTE:** It is a figure filled in with a **solid color**, like the cast shadows, but a silhouette can have any color.

**INFILL:** Or just fill, it is the content of a figure inside its outline, it can contain dots, lines, textures and any kind of colors or ranges, etc.

On the left we see Rene Magritte's artwork called "The large family" in which the author changed the pigeon's infill by a partly cloudy morning sky, in contrast with a dark starry sky in the background.

In this exercise you must draw two simple objects, only with their outlines. Next to each other you will draw the figures as silhouettes (you can help yourself cutting out some coloredcardboard). And in the third box you will do the same trick as Magritte's artwork, You'll change the figure's infill by some other background that you choose. Do not forget to draw also a background for the changed infill figure. Be original and creative!!!

OUTLINE 1	SILHOUETTE 1	INFILL (and background)1 Change original infill by a background
OUTLINE 2	SILHOUETTE 2	INFILL (and background)2 Change original infill by a background

Goup	Last names, Name	Date



Tempera paint main feature is the thickness (it is not much liquid), It must not be mixed with a lot of water. Only add water if the paint is getting dry, or way too thick, because that's other of its main features, tempera paint gets dry very fast.

If you mix it with a lot of water you may make the paint too transparent, so you add white (from the paper) to the color mix, making colors less saturated and more softened.

Here you can see a simple scheme of the color wheel. It is a hexagon, so our wheel will only show six colors, the three primary and the three secondary.

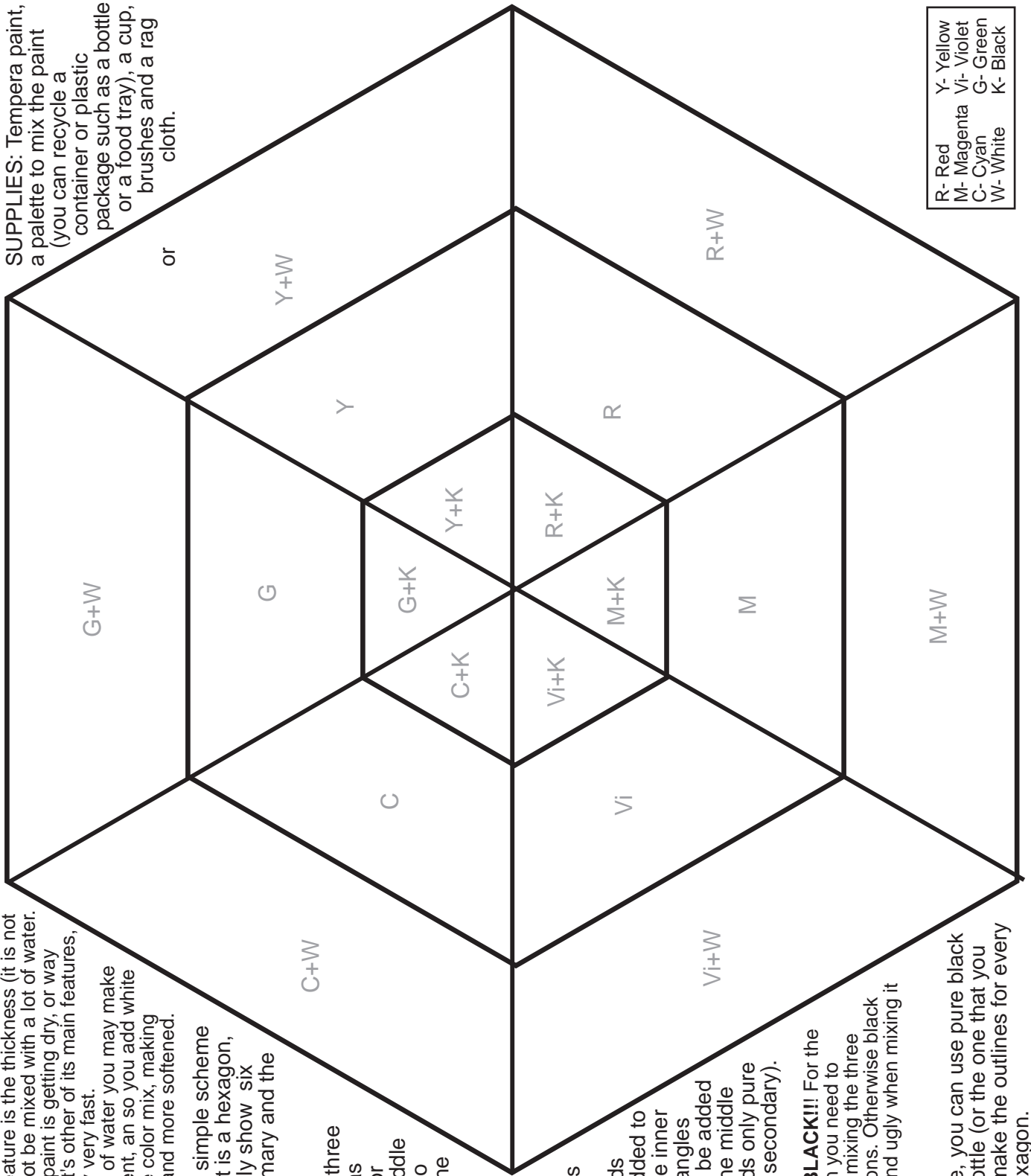
You must place the three primary as spread as possible in the "color hexagon". In the middle triangles you need to mix in a 50% ratio the two colors on the sides.

Our hexagon contains two more concentric hexagons inside. The outer hexagonal ring needs some white to be added to every color mix. The inner smaller hexagon triangles need some black to be added to their color mix. The middle hexagonal ring needs only pure colors (primary and secondary).

**WATCH OUT WITH BLACK!!** For the inner smaller hexagon you need to make your own black mixing the three primary in equal portions. Otherwise black gets the colors dirty and ugly when mixing it with them.

When you are done, you can use pure black from the tempera bottle (or the one that you mix if you want) to make the outlines for every color and the full hexagon.

**SUPPLIES:** Tempera paint, a palette to mix the paint (you can recycle a container or plastic package such as a bottle or a food tray), a cup, brushes and a rag cloth.



R- Red	Y- Yellow
M- Magenta	Vi- Violet
C- Cyan	G- Green
W- White	K- Black

Grupo	Apellido Apellido, Nombre	Fecha

Watercolor's main feature as a painting technique is that white from the paper is used to make colors more clear and less saturated or with more brightness. To get the paint more transparent you just need to add more water and so the white from the paper comes out with the color.

Another feature is that this paint can be mixed on the paper as long as the paint is still wet . While the paper is wet you can still modify the color mixing it with others. Once it is dry there is not much to do.

For these two reasons it is a perfect technique to make color ranges.

With basic pure colors you must make "metamorphosi" with colors that will end up becoming other colors or fading away to black or white. Try to get 10 tones or steps from one color to the other.

You can also use other techniques such as colored pencils, tempera paint or even markers for this worksheet.

GRAY SCALE									
	Black								White

WARM RANGE									
	Red or Magenta								Yellow

COLD RANGE									
	Violete (blueish)				Blue				Green (blueish)

SPECTRUM/ RAINBOW									
	Red			Yellow		Green		Blue	Violete

COMPLEMENTARY RARE COLORS	Choose a color								complementary color of the first chosen one
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Goup	Last names, Name	Date






Using the technique you prefer, or even using several techniques in the same depiction, make two compositions. In the first one use only analogous colors. In the second one use colors that give strong contrasts to your depiction.

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Goup	Last names, Name	Date

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	23-ANALOGIES AND CONTRASTS