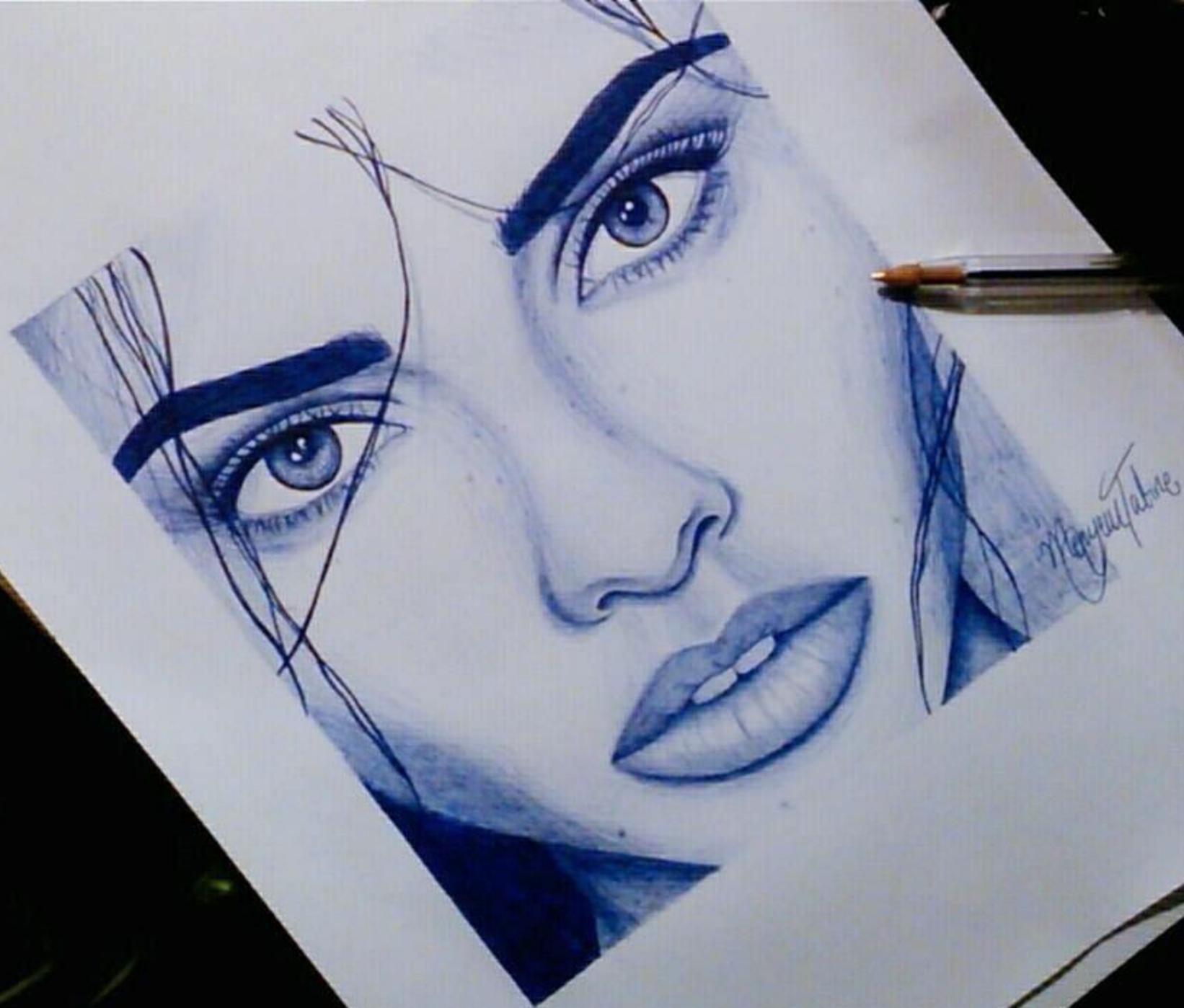
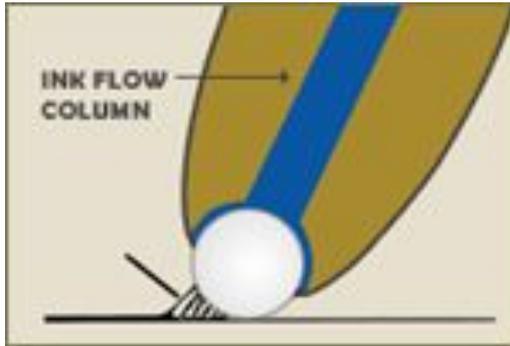


A ballpoint pen

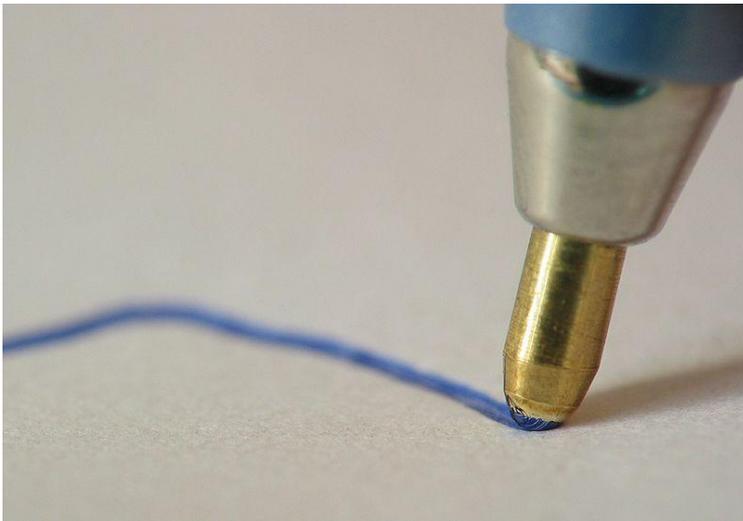




How does it work?



In the tip of the pen there is a small metal sphere. One internal tube filled with a viscous ink is above the ball. When you move the pen back and forth, the ball get wet by the rolling action, and puts the ink on the paper like a trail.



A ballpoint pen works exactly the same way like an antiperspirant roll-on. The ball is held in a socket, and the back of the ball is exposed to the liquid so it can transfer from the inside to the outside. The ball fits into the socket with just enough space to move freely



- The story begins in 1888 when Jhon Loud an American leather tanner patented a roller-ball-tip marking pen. Loud's invention featured a reservoir of ink and a roller ball that applied the thick ink to leather hides.
- About 1930 an Hungarian called Laszlo Bíró (who worked like an newspaper editor) was frustrated by the amount of time wasted filling fountain pens and the problems with the leakage of the pens.

He got an idea of making a new pen during the visit to a printing press, where the ink dries quickly at the paper, because it was an oil based ink, instead of water based ink like fountain pens. He and his brother George, a chemical professional, began to work on the first commercially successful ballpoint pen. That occurred in 1938.



The brothers Biro emigrated with a friend Jorge Meyne to Argentina in the II World War because they were Jews. They patented their invention and then opened the first ballpoint manufacturing plant there.

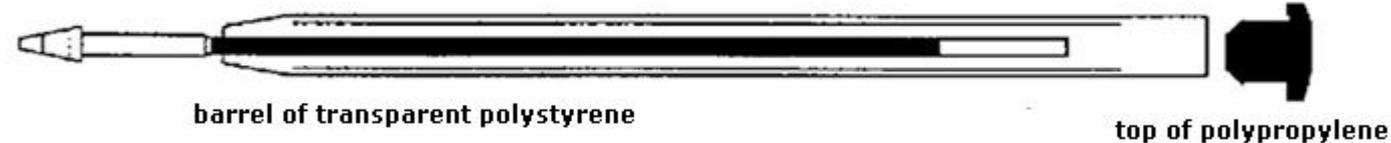
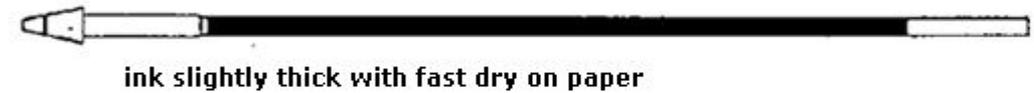
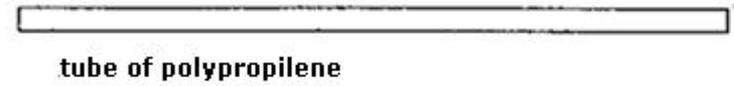
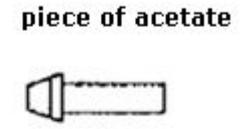
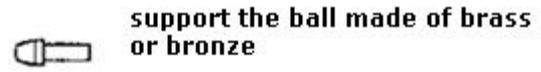
During the War the biro was used by the British Air Force and American flyers because it let write under lower atmospheric pressures, so the biro was introduced in American and European markets.

Some companies, like Eversharp and Parker acquired the exclusive rights to Biro pens and manufactured several models.

But, the invention was renewed at late 1950's by French Baron, Marcel Bich, who developed a simple, disposable and very cheap ballpoint pen, the BIC. Since then, BIC dominate the market and a daily world wide sales figure of 20 millions of pieces.



How many pieces has the biro BIC?



Challenge BIC

- The BIC pen is part of the collection of the MOMA (Museum of Modern Art) in New York
- Drawing demonstration;

This reproduction of "The Girl with a Pearl Earring" by Johannes Vermeer, took artist James Mylne approx 90 hours to complete, but thanks to its long writing ability and oil based ink, just one **single pen** was needed to finish the work.

- <http://www.youtube.com/watch?v=R6r9LhbQxvk>

Do watch this video - it's jolly impressive!

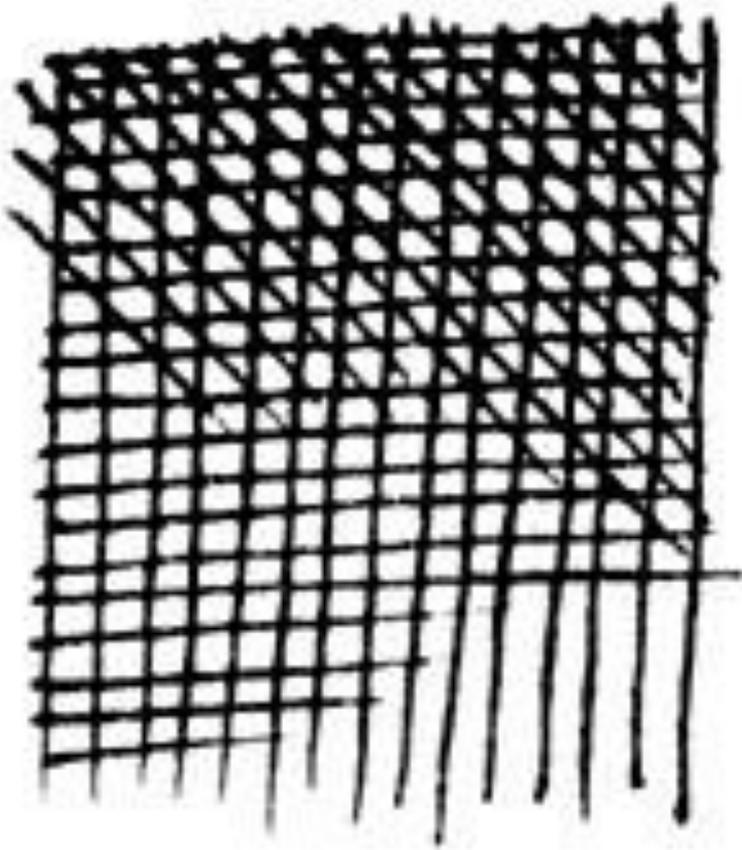
Basic Pen Strokes for Pen Drawing

Hatching



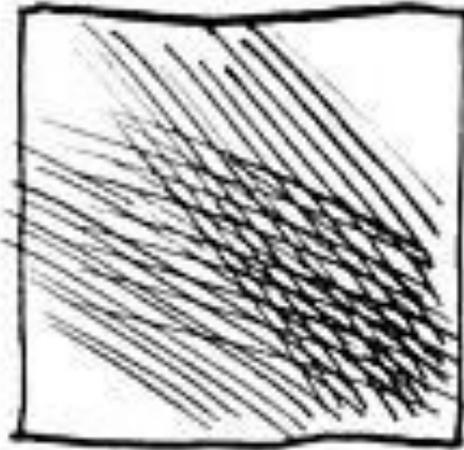
The most basic method of creating **value** in ink drawing is linear hatching. Fine parallel lines fill an area, so that from just a slight distance, we have the illusion of value. The closer the lines are, the less white paper shows, and the darker the value appears. Heavier line weight (pressing more firmly or using a bigger nib) also gives a darker appearance.

Crosshatching



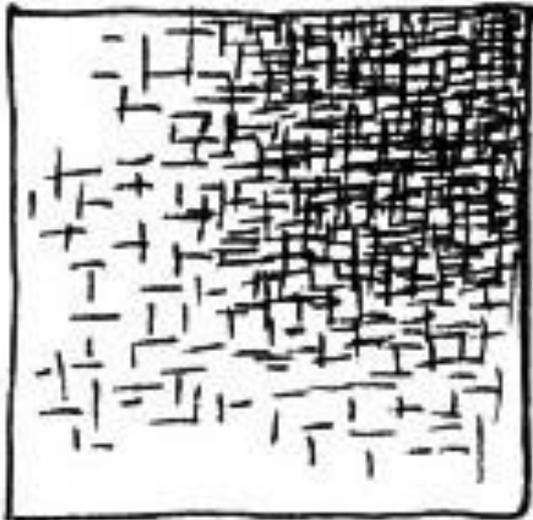
Crosshatching uses layers of hatching placed at an angle. Usually, the first layer would be vertical, the next horizontal, the next at forty-five degrees, and so on. This methodical approach can look a little mechanical, so artists often use variation in direction to add interest.

Contour Hatching



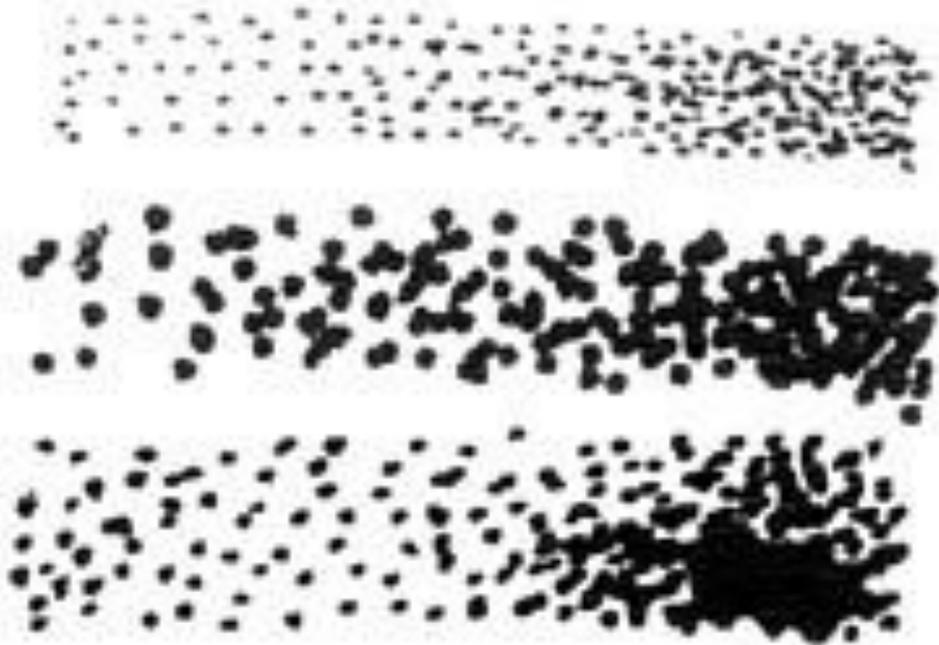
- Hatching placed at a slight angle creates a moiré like effect, the diamond-shaped fragments of white paper enlivening the denser areas of value. This technique is often used in figure drawing, with the direction of line helping to suggest the cross-contours of the body. Hatching which follows a contour can also help to make objects appear more three-dimensional.

Scumbling & Random Hatching

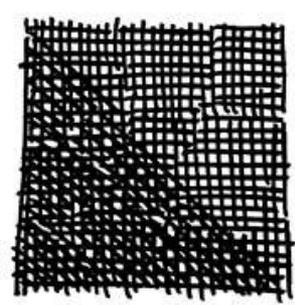


- Scumbling, often called the 'brillo pad' technique, uses layers of small **calligraphic**, scribbled marks to build up value and **texture**. Varying the direction and **shape** adds more interest than a simple circular scribble. Random hatching uses layers of short, straight marks. Various textures result depending on whether these short hatches are applied vertically, at right angles, following a contour or at random angles.

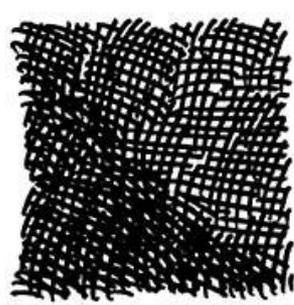
Stippling



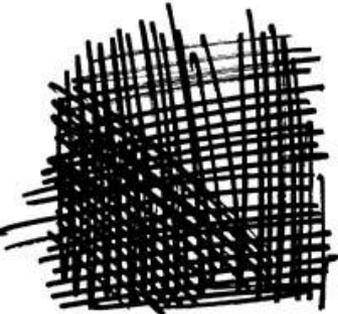
- Stippling uses tiny dots to create value. The closer together the dots, the darker the tone. Larger dots create a denser **tonal value** more quickly, but can look **coarse**.



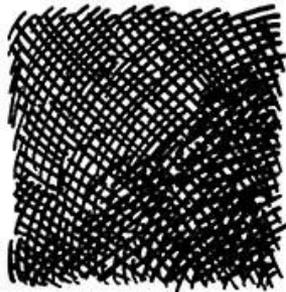
TIGHT



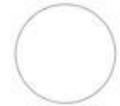
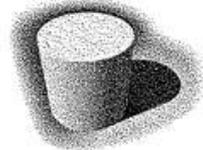
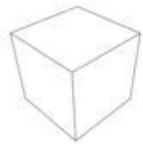
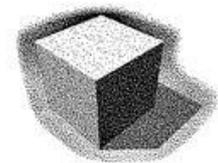
ORGANIC



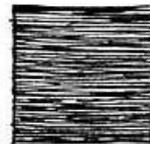
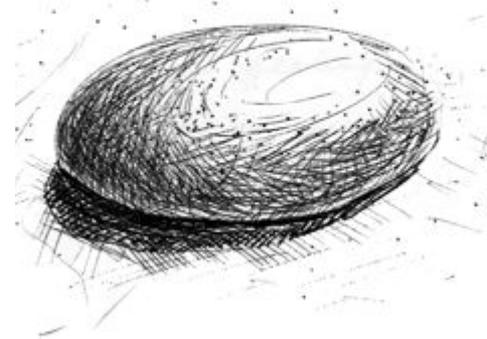
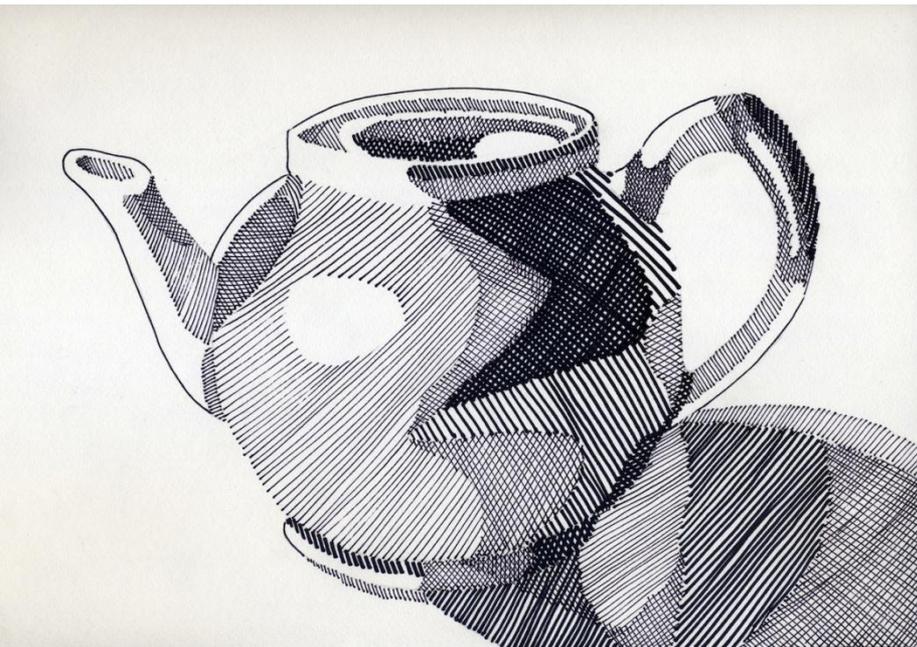
WILD

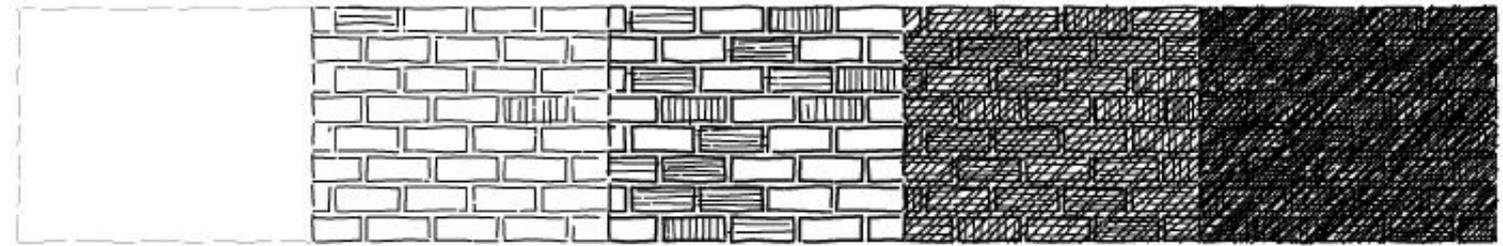
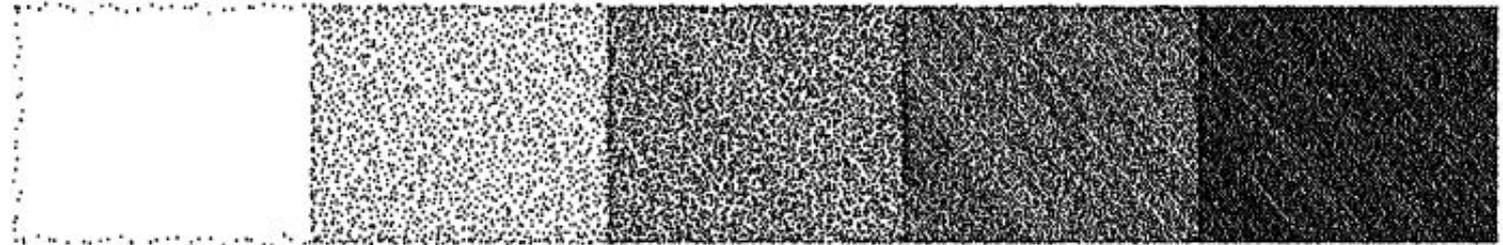
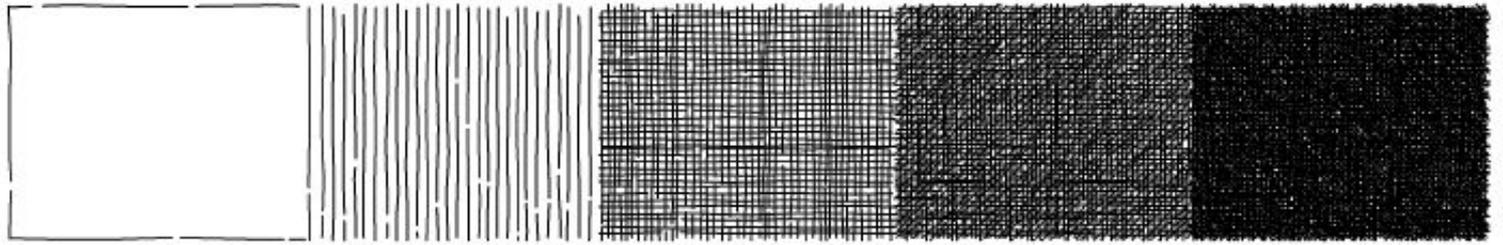


CONTOUR

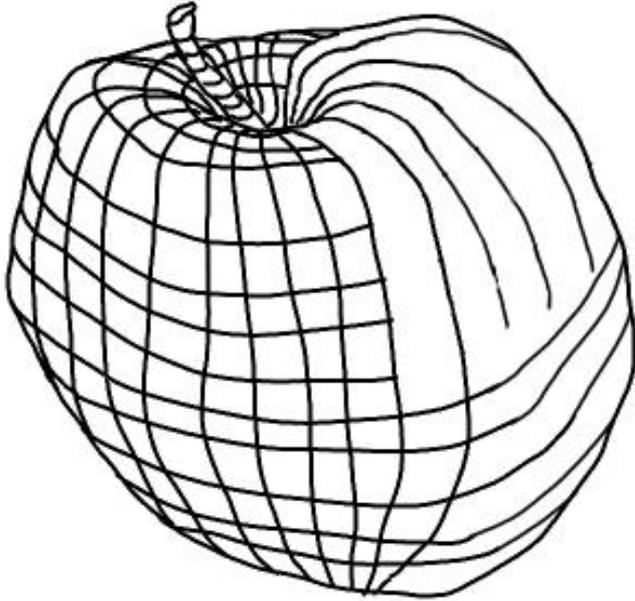


Copy the drawings on the left to improve your stippling technique.





What are Cross Contours?



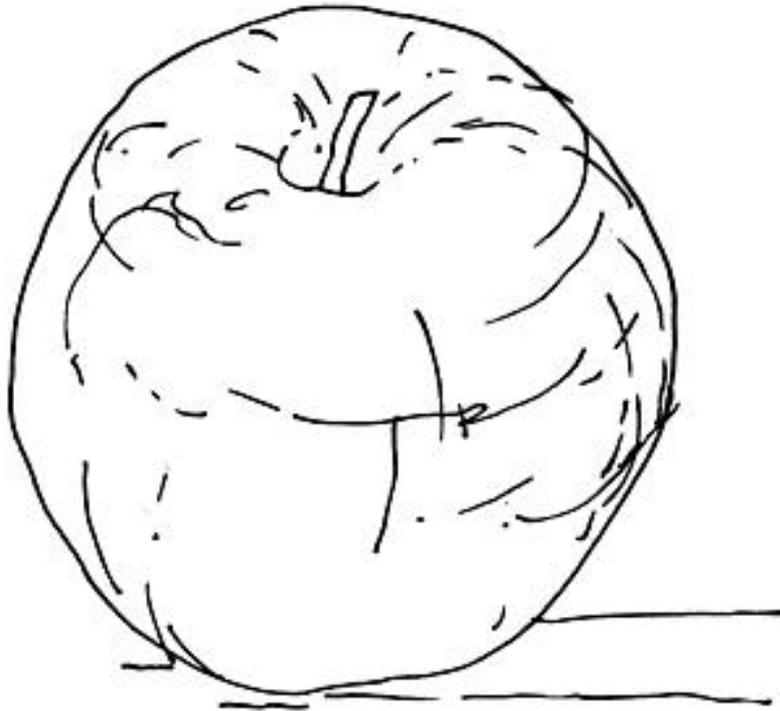
- Cross contours are lines which travel, as the name suggests, across the form. They may be horizontal or vertical, as on the right side of the example, or both. Often, in more complex forms, cross-contours will be drawn at varying angles. In this rather lumpy example, the grid of cross-contours looks a bit like the gridlines on a globe or a diagram of a Black Hole in space.

Cross Contours on a Complex Surface



- Often cross-contours look like the contour lines on a map of rough terrain. Usually, we don't draw them this mechanically, but use the understanding of cross-contours to help us describe the **form** with more subtle line or shading. They help us understand the three-dimensional form and describe it on a two-dimensional surface. Contours wrap around a form and obey **linear perspective**.

Applying Cross Contours in **Line Drawing**



- In this example, the basic contour drawing is developed with some hints of cross-contour to suggest the form. The brain needs surprisingly little information to create a three-dimensional image from a simple drawing.

Using Cross Contours Expressively



Cross-contours don't need to be mechanical unless you are drawing a topographic map - you can use your understanding of the cross contour to create **expressive** marks. This interpretation of the subject using contour and cross-contour is more free and expressive, using a relaxed line but still paying attention to the observed form.

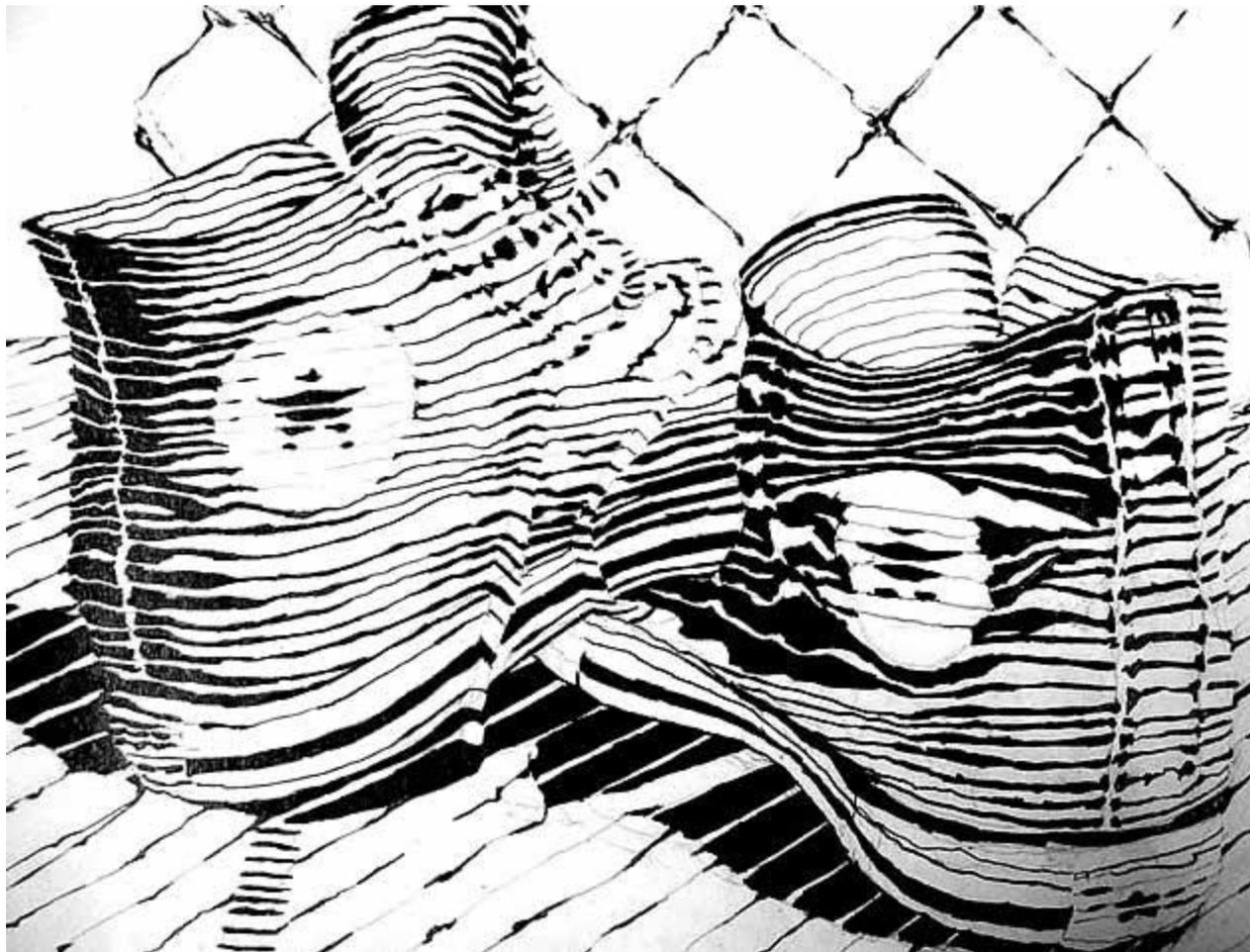
Using Cross Contours in Hatching and **Shading**



Cross-contours are often used when hatching. They may be carried all the way around the form, or used in small sections, curved, or straight, as in this example. The angle of the hatching as it moves around the form changes.

Even if you are using shading, and attempting to create a smooth surface, being aware of the flow of cross-contours as you draw can help you create a shaded surface that follows and enhances the three-dimensional form, rather than fighting against it.

<http://www.studentartguide.com/articles/line-drawings>



Vertical Line



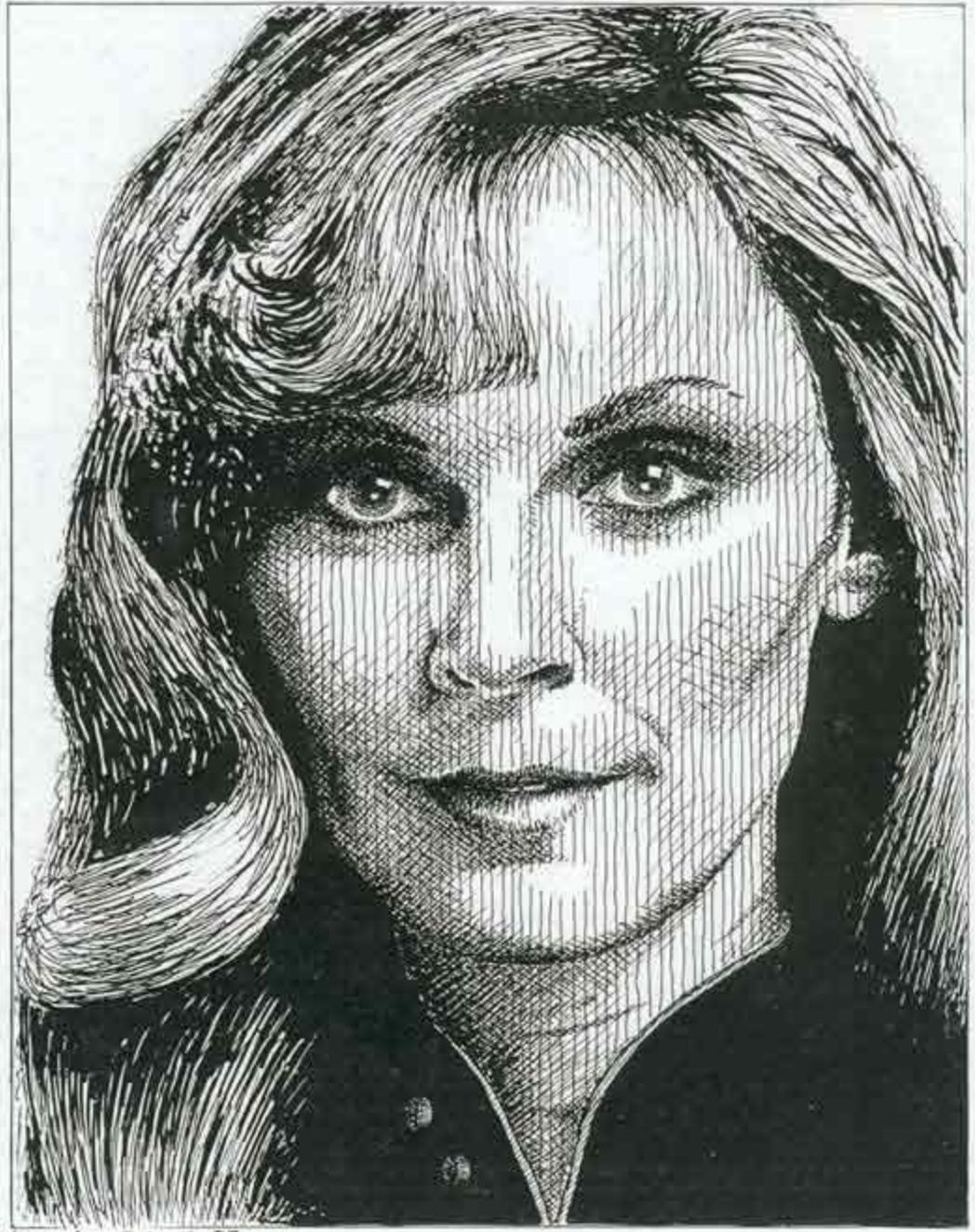
Contour Shading

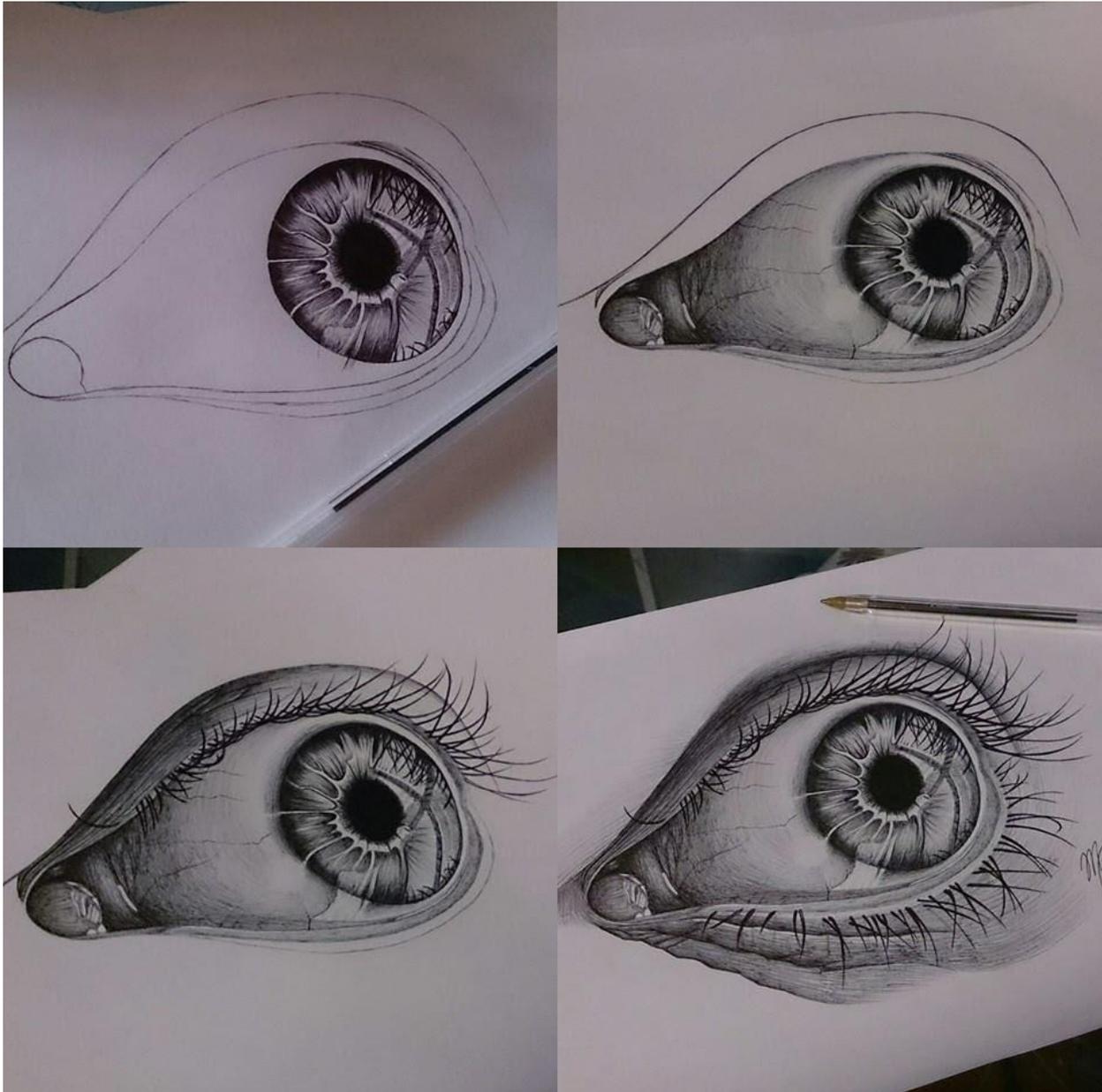


Heavier
Shading
and Face
Bordering



Final Touches
using contrast

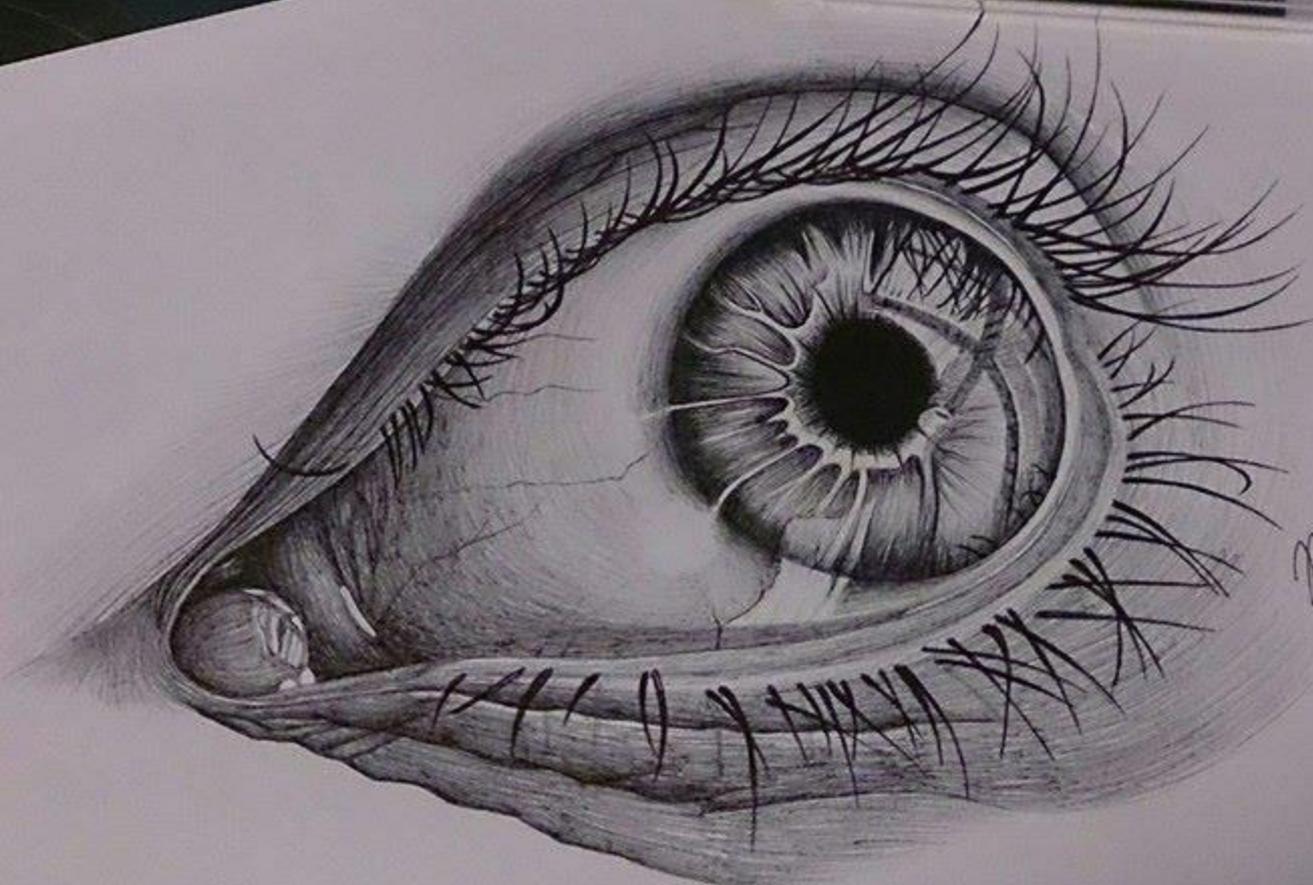




Meryem Gonzalez
2014

“Progress of my
ballpoint pen eye
drawing.”

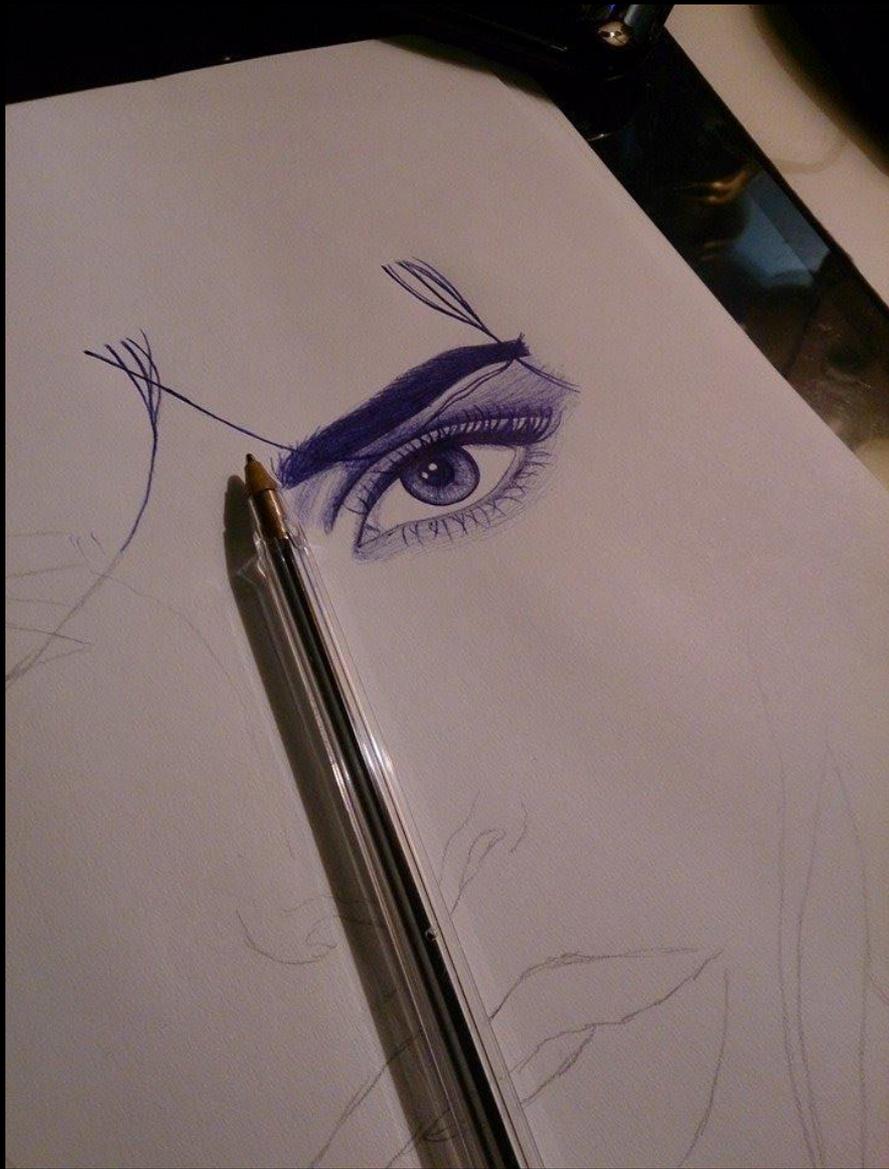
Ex Swans
student,
Meryem was
in Year 9
when she did
this work

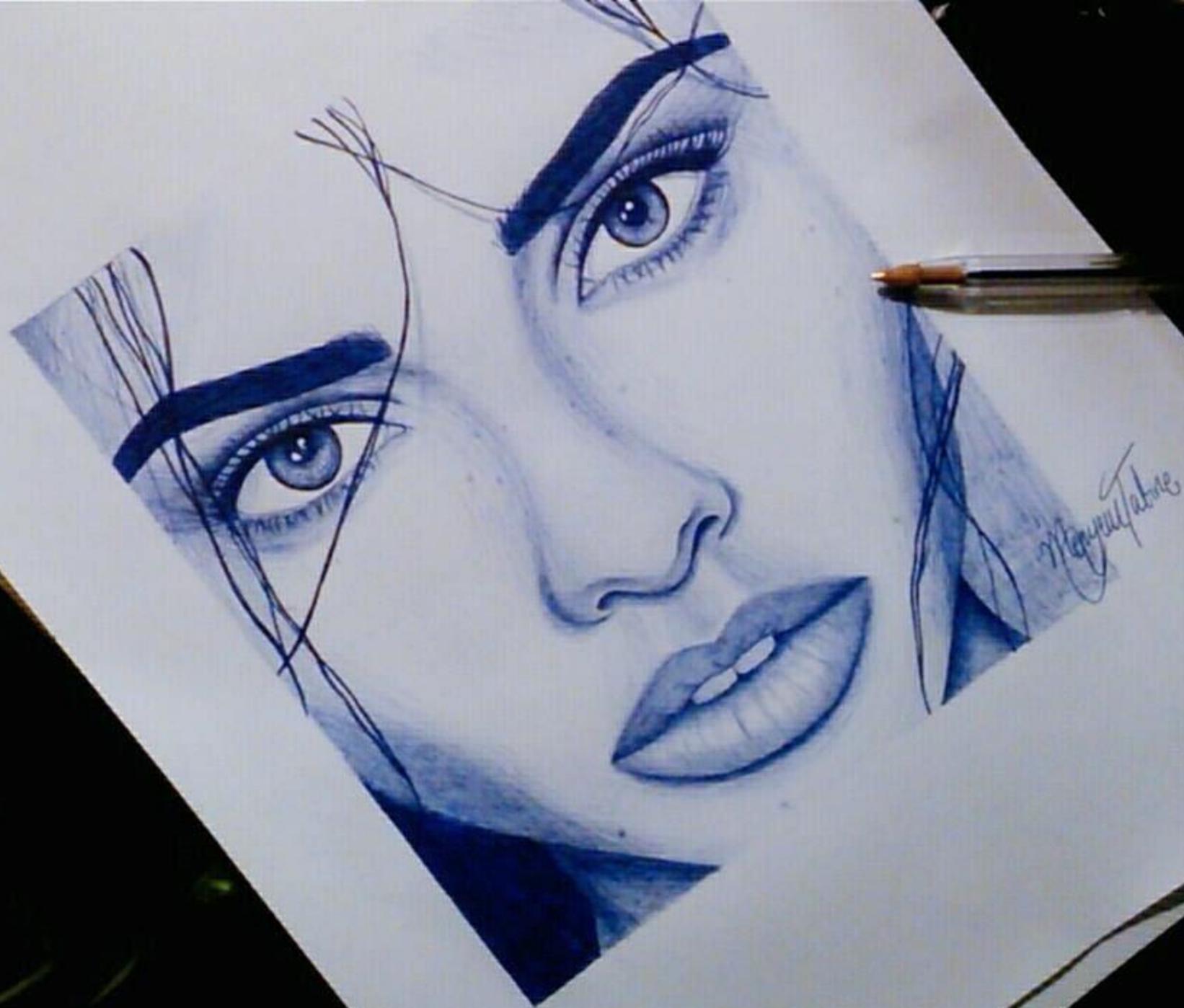


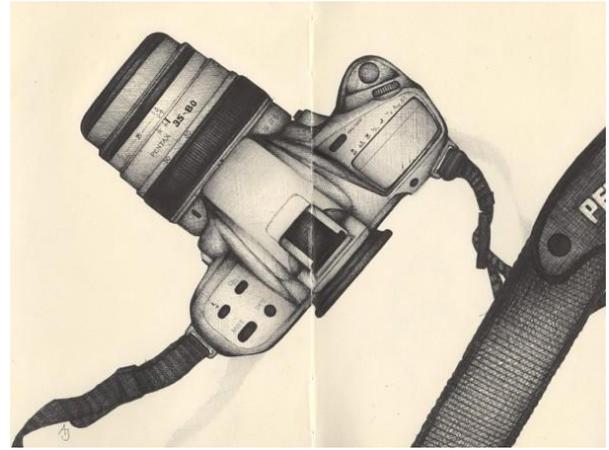
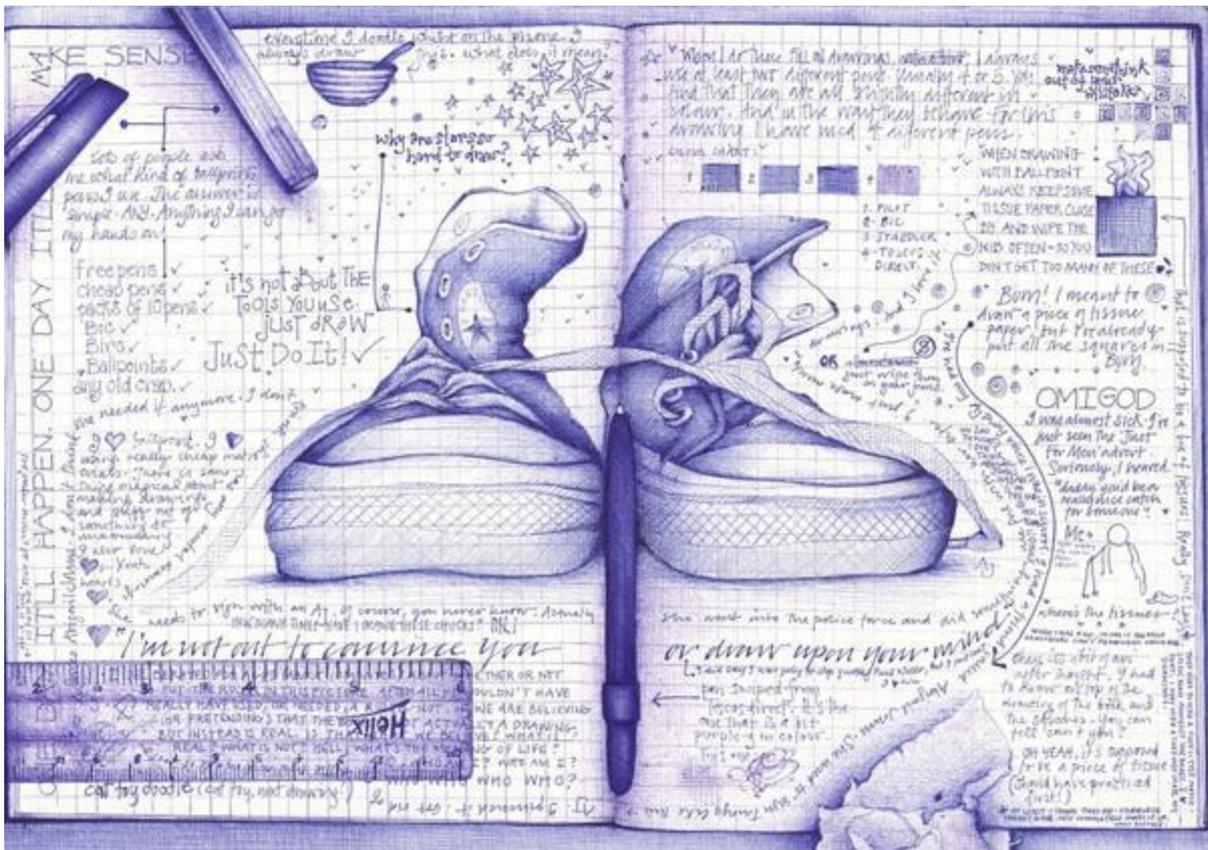
Maryam Tabrizi

Meryem's portrait work



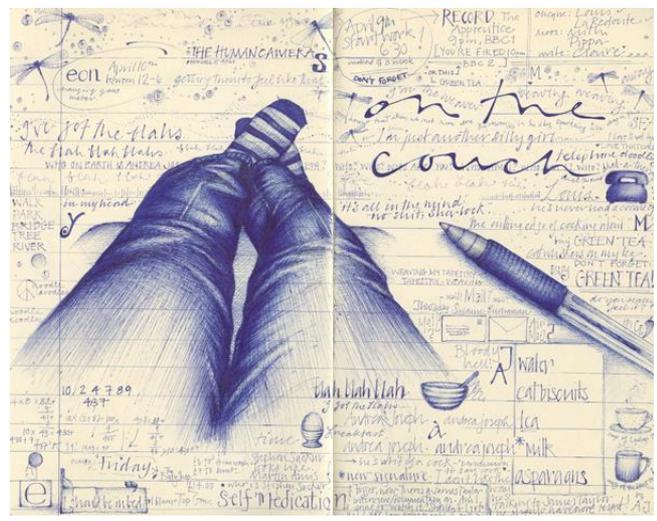




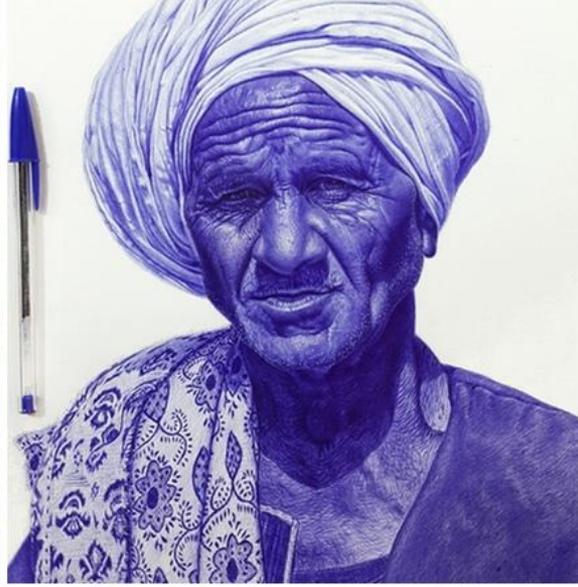


Examples of Biro doodles and developments.....

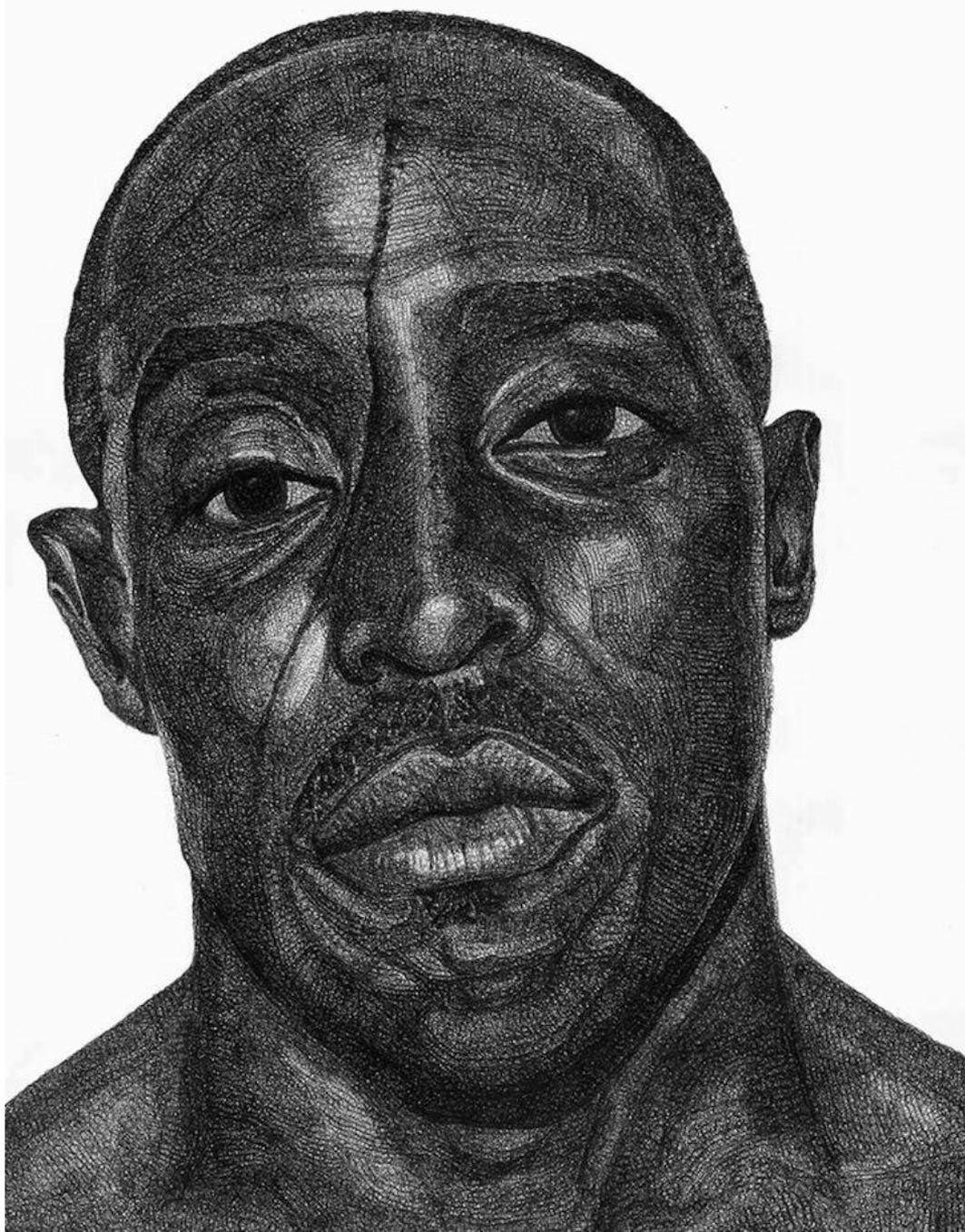
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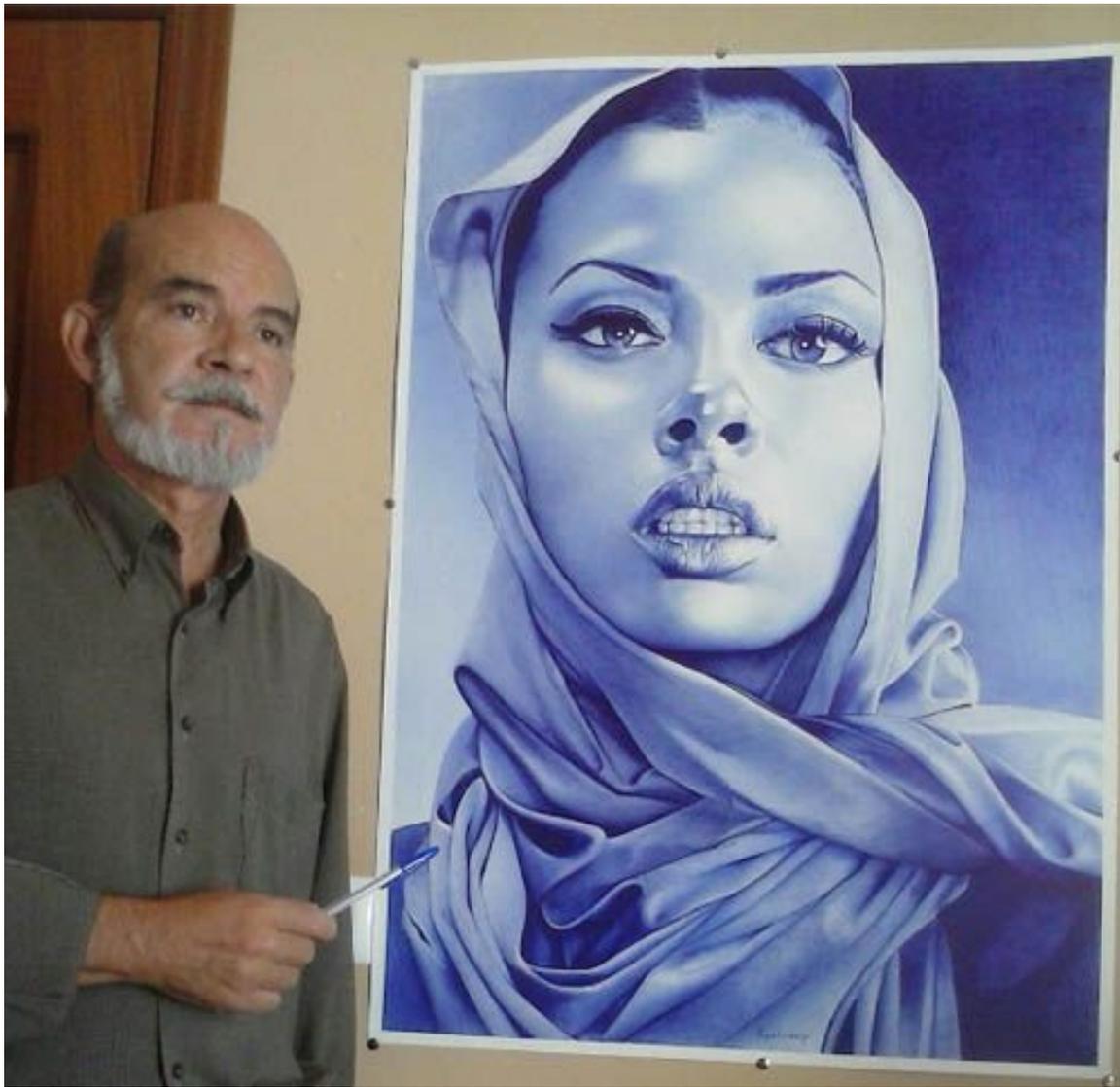


<https://mymodernmet.com/ballpoint-pen-drawings-hyper-realistic/>



<https://mymodernmet.com/ballpoint-pen-drawings-hyper-realistic/>





PEPE LOZANO - BIC DRAWINGS

<http://mikephilbin.blogspot.com/2015/10/pepe-lozano-bic-drawings-photorealistic.html>



