

Sunday, October 15, 2017

Lens effector David Brewster dedication.

In progress.



How a small object 3 mirrors can share so much history ...

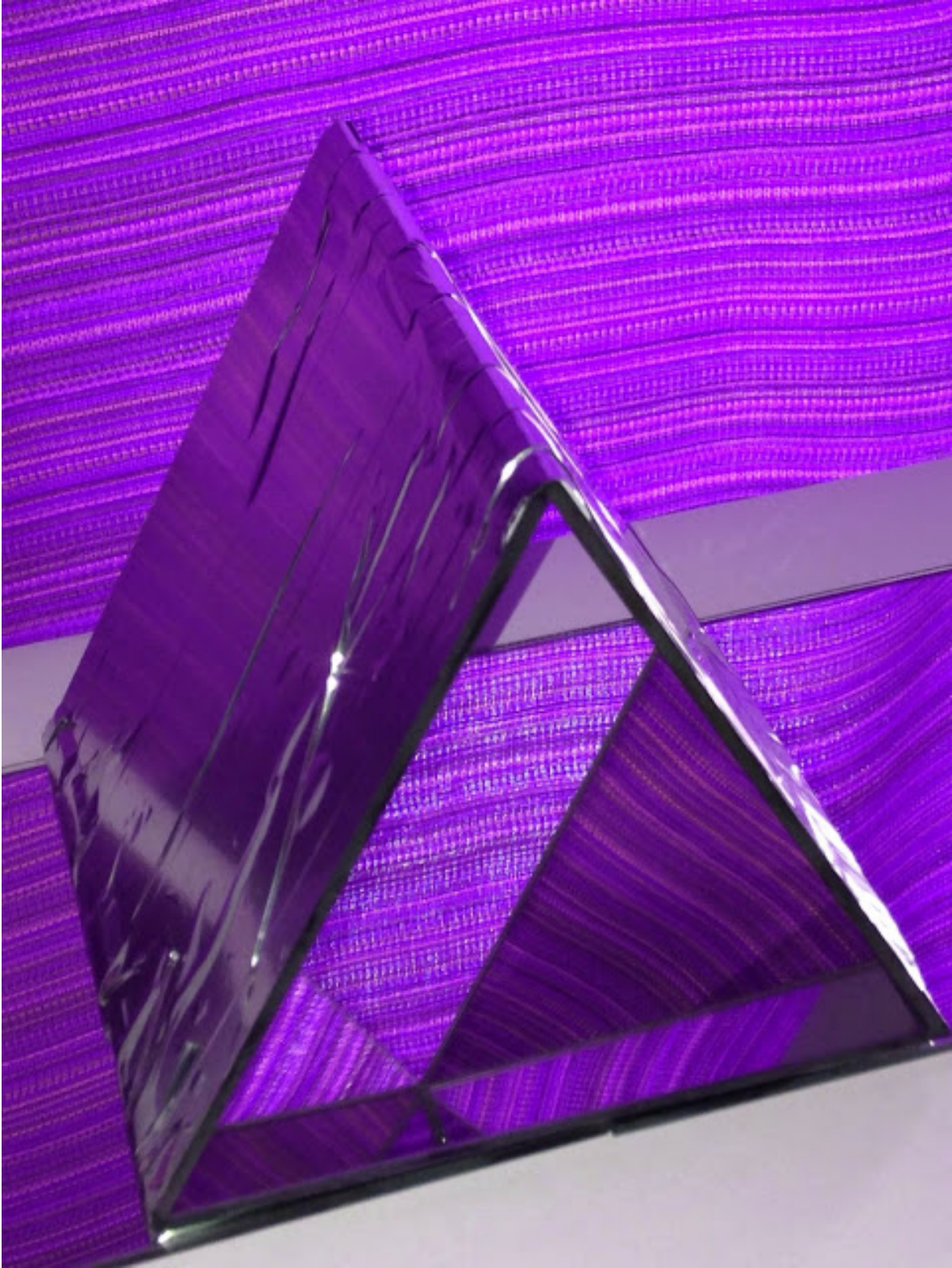
Made in different sizes

10x10

15x15

And a more biggest suitable for zoom or simply for ongoing experiences.

Awesome in hands and to try





Video

David Brewster dedication.

Inventor of the kaleidoscope and stereoscope with two lenses. His work on the polarization of light by reflection (Brewster angle) has led him to be elected to the Royal Society May 4, 1815 and received the Copley medal that year.

He received the Rumford Medal in 1818, Keith Medal in 1827 and the Royal Medal in 1830.

He was knighted March 8, 1832.

In 1849, he managed to Berzelius the Institut de France.

His book Memory of the life, writings and discoveries of Sir Isaac Newton, written in 1855, is considered the first scientific reference biography of Isaac Newton.

He is also author of a book: The stereoscope, its history, theory, and construction (1856), as a free download. [Read here](#)

David Brewster is a character in Assassin's Creed Syndicate the video game.

It is represented as a scientist who works for the Templars

(The opposing faction of the game) and the player must kill.

The Brewster angle is an angle of incidence for which particular refracted and reflected light have specific polarization properties.

When a light beam is incident on an interface at this angle, if it is polarized in the plane of incidence (p called polarization or TM), then it is completely transmitted (no reflection), otherwise there will be a beam, what will be fully polarized.

At the Brewster angle, the refracted ray and the intended direction as a The formula Snell, it is easy to reflected beam at right angles.

Predict the Brewster angle by knowing the refractive indices.

The Brewster angle is named after Sir David Brewster who discovered it in 1812.

The discoveries on birefringence and polarization are then in their infancy, Etienne Louis Malus having observed in 1808 that the non-polarized light reflected by the glass has adopted a particular polarization.

Brewster studying the light reflected by the glass and observes that, at a certain angle, it is possible to switch off the light reflected from the glass by means of a suitably oriented calcite crystal.

Because of these experimental results, Brewster managed to find the law linking the glass refractive index with the value of this angle to the polarization of light altogether.

These results are proving to be essential because they allow to determine the refractive index of a material in the reflection and not only in the transmission. He received the Gold Medal of the Royal Society in 1815 for his discovery.

The physical explanation of the phenomenon comes later, after the work of Augustin Fresnel and developments in the optical expressing physical interaction between the electromagnetic field

Physical interpretation.

The reflected wave in the medium 1 comes from the oscillation loads the support 2, whose oscillation oriented along the dipole moment is perpendicular to the refracted wave.

In the particular case of TM wave at the Brewster angle, oscillation is to take place in the direction of the reflected wave, making this impossible issuing vague, since a charge does not occur in the direction of its dipole moment.

Applications.

The blades inclined at the Brewster angle will be used to cancel a partial reflection or polarize light.

These blades are most often glass plates inclined at about 56 °.

Historically, the polarizers are in part constituted by a stack of Brewster plates inclined at the Brewster angle relative to the optical bench on which they were used.

In lasers which the amplifying medium is separated from the mirrors of the cavity, the diopters delimiting this medium are inclined at the Brewster angle to eliminate losses by partial reflection.

A Brewster plate is used to find the polarization direction of a polarizer. Turning a polarizer around a glass slide, a reflection minimum can be observed.

At the minimum, the partial reflection at the Brewster angle is canceled and is therefore TM polarization at Brewster angle.

The polarizer of the polarization direction so form the Brewster angle with the blade.

Polarized vertically polarized eliminate reflect natural light on horizontal surfaces at the Brewster angle. They can dramatically reduce unwanted reflections close to this angle.

In imaging, many cameras are equipped with polarization filters, for example to adjust the contrast of the image.

Using the filter so that the polarization direction of the light incident on the device form the Brewster angle with the diopter formed by a reflective surface, partial reflections that obstruct us take the picture can be eliminated, and see we could not see with highlights.

A reflective holography system consists of a laser with an extension of the beam system.

The beam is then sent to a mirror, and arrives at a similar emulsion photographic emulsions, but with a smaller grain that allow the hologram recording between two glass plates placed on top of the object that it is desirable having hologram.

The mirror will be rotated so that the rays hit the glass plate with the Brewster angle to avoid glare.

Stereoscopy.

Is the set of techniques used to reproduce a perception of relief from two planar images.

The recent designation 3D movie is used by Anglicism and ignorance of the correct terminology: a stereoscopic film.

Stereoscopy was born just before the photograph..

The stereoscope Charles Wheatstone was published a few months before the work of Louis Daguerre and William Henry Fox Talbot, although the oldest traces in the pictorial queries and experiences are

The collection Wicar Jean-Baptiste of the Palace of Fine Arts in Lille has two designs, distinguished by visions of the same subject for each eye, executed by Jacopo Chimenti, painter of the Florentine school (1554-1640)

Some stereo designs of the thirteenth century were even found in a library in Oxford.

(Gerard Fieffé, French Stereo Club Bulletin, No. 673, October 1983).

The Mona Lisa was painted in relief, firstly by Leonardo da Vinci.

(Louvre view), the other by one of his assistants, who was on his right and a little behind (Prado view)

By examining with appropriate Stereoscopes reproductions of each of the two side by side, one can see the Mona Lisa in relief, with a flat landscape, which would show that the landscape that served as background was only a painted wall.

It is based on the fact that human perception of forms of relief in the brain when it reconstructs a single image of the perception of two plane and different images from each eye.

To realize these images and observe them, there are a variety of ways, the description of which several hundred pounds have been spent.

Physiology.

Stereoscopic vision is largely due to the binocular neurons in the cerebral cortex in specific areas and primary processing vision (V1 area)

These neurons are the only binocular neurons receive impulses of two homonymous neurons in the retina via neuronal chain.

The left and right images of the same object captured at the same time by both retinas are transported to the visual cortex by the optic nerves crossing at the optic chiasm, meaning that they are present in adjacent cells the visual cortex.

David Hubel, Nobel Prize in Physiology or Medicine, also stresses that the cells of the left and right parts of the visual cortex also communicate through the corpus callosum, which contributes to binocular fusion mechanism.

This information allows dual perception of the angle between the visual information captured by photoreceptors in one eye and his counterparts from the other eye to perceive the relief and distance.

Therefore, people with strabismus.

(mismatch photoreceptor areas of the retina counterparts) or people with an eye on anopsia have very impaired depth perception and depth.

Stereoscopic vision is normally very specific.

(usually enjoyed at a distance of ten centimeters at a distance of ten meters), inversely proportional precision distance and limited in magnitude: it is difficult to see raised at the same time a very, very object distant.

Stereoscopic vision is disturbed or prevented by various defects in the images: vertical offsets, of relief contradictions, excess horizontal parallax, ocular divergence, the vertical parallax, ghosting or attenuated vision of the right view by the left eye and vice versa, asymmetry of brightness, movements too fast ..

It has often been said that the main source of eye strain, through observation bad stereoscopic images, is related to the excessive disparity between convergence and accommodation, which is often false because other defects that are generally more important than this disparity, the limits are generally accepted (the so-called Percival comfort zone) are of the order of magnitude of half a diopter, which is roughly equivalent in terms of convergence, a two degree angle.

In fact, acceptable limits vary greatly from one person to another (Woods, Docherty Koch), SPIE Stereoscopic Displays and Applications Vol.1915 IV (1993).

Some people manage to dissociate convergence of their housing at angles of five degrees or more, see "free vision".

Furthermore, the stereoscopic cinema professionals limit their parallax on the screen, usually between -2% and + 1% of the width of the image, which the spectators placed at a distance from the screen more than 2/3 of the width of the projected image remains largely within the Percival comfort zone. Studies by the Russian team VQMT show that many other

faults are also causes eyestrain spectators.

A recent study ANSES recommends that children not to watch stereoscopic images, but this conclusion is debatable, that the report did not mention the existence of very good results, for which no concern is justified, and very bad (cited by VQMT that has not yet reviewed the video games), where it would be desirable that adults do not watch them.

More in the following [blog post](#)

Mirror-effector: What about design?

The triangle is a figure of particular interest to any form of broken contours (ie, the contour consists of straight lines) can be divided into triangles which is one of the meanings of the term triangulation.

If we know the properties of triangles, we can deduce the properties of that figure.

If the figure has a curved contour, it can be approximated by a broken line and refer to the preceding case.

The triangle is also a symbol of stability, used for example in the symbol of civil security.

It is the spontaneous profile takes a pile of sand or gravel.

It is therefore the basis of traditional buildings (hut, teepee, wigwam ...) and has been widely adopted by architects: it is the profile of the Egyptian pyramids, but also of roofs, cathedral spiers ...

In addition to the vertical stability, it can also be noted that a three-legged stool is never wobbly: the triangle also represents the horizontal stability.

In fact, three points are always on the same plane (we can put a flat plate perfectly in contact with the three feet), whereas if a fourth point is

added, it may be above or below this plane.

Thus, a stable working position is the position of said tripod (one knee and the other on the other) it is the figure formed by the wheels and the landing gear of a bicycle, in first aid, the stability of the recovery position (PLS) is ensured by two triangles, one formed by the forearm resting on the ground and the hand under the head, the other formed by the part basin placed on the floor, the knee of the bent leg and the foot of the elongate leg.

It is also the flatness of property that is in the computer for synthesizing 3D images or CAD in finite element calculations, the surfaces are broken into triangles.

The triangle also symbolizes the trinity in the religion of Christianity.

The triangle is also the profile of the arrowhead, the direction symbol, determining the penetration.

It is the profile of the wing of a hang glider or Concorde, modern combat aircraft.

In some traditional societies, it is the symbol of the woman, because it is the form of pubic hair :)

for example, the fireplace kept by the woman consists of three stones.

The triangles of different colors also have a Nazi concentration camp badge.

For example, the pink triangle down is a symbol of the gay community.

The Star of David, symbol of Judaism, is composed of two opposite triangles.

Xenocrates shown Divinity by the equilateral triangle.

Humanity by the scalene triangle.

Geniuses by the isosceles triangle.

The first of these triangles has all equal sides the second has all uneven.

The third is partially equal and in uneven.

This is a good illustration of the nature of Genius uniting and human affection and divine power.

arttrustonline.com/artwork/162691

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update

Posted by **Veronica IN DREAM** at **9:22 AM**