

GALEIFORM

Shaped like the wartime helmet worn by the ancient Greeks. This helmet was worn as far back as a thousand five-hundred years before Christ. *Galea* is a Latin word, borrowed from the Greek, for the helmet. Vases painted around 1,200 before Christ show the legendary hero Achilles wearing such a helmet in the Trojan war. Many species of sharks are classified under the family *Galeidae*, because scientists once considered the hood-like head of one of these species to be *galeiform*. In many sawflies, wasps, bees, and even butterflies the *galea* is part of the upper jaw. The *galeiform* shape for the Blind Alphabet project was sculpted in July, 2016 from wild olive (*Olea europaea* subspecies *africana*). The sculpture is rather heavy because the dried weight of olive wood, at sixty two pounds per cubic foot, is rather high compared to most other woods. This wood has striking linear patterns formed by annual rings.

GIBBOUS

Gibbous describes the shape of the moon at some point when it is almost full. In its *gibbous* state the moon is either on the way to becoming full or getting smaller. In Latin *gibbus* is 'hump.' The word is also associated with an oxbow, a U-shaped collar in an ox yoke. The ox's head fits through a round piece of steel that does not complete a perfect circle, but is cut short just above the head of the ox. As is the case with the *gibbous* moon, the *gibbous* circle of the ox-bow is almost full. Finally the *gibbous* bend in a river describes a horseshoe curve in a stream with the flow of water eating the earth away, bringing the two points of the 'horse shoe' closer and closer. Such a *gibbous* type of a 'horse shoe' curve in a river was carved as a solid shape in Leadwood (*Combretum imberbe*) in September, 2016. Leadwood is South Africa's heaviest wood and weighs seventy-six pounds per cubic foot.

GLADIATE

Shaped like a sword, applied mostly to sword-like leaves or fruit husks. In Roman times the gladiator was a swordsman. In Latin a *gladiolus* is actually a small *gladius* or 'sword'. The well known sword lily is aptly named *gladiolus*, after the shape of its leaves. The thick *gladiate* leaves of the mother-in-law's tongue *Sansiviera trifascata* stick out of the ground like number of swords. Many succulent plants of the *Agave* family have rosettes of sword-shaped leaves. The Roman gladius is just over 80 centimetres long, and that is almost twice the length of a Blind Alphabet wire basket. To make a simple *gladiate* succulent leaf of the same length as the original *gladius*, the shape had to be made in two sections. They then fit separately into the basket and can be joined by fitting the small wooden biscuits in the centre. The shape was made from American maple (*Acer saccharum*) in October, 2016.

GLOMERULUS

A *glomerulus* is a small and dense spherical cluster made up of small bits and pieces – a *glomus* is a large one. In Latin *glomus* is ‘ball’, *glomerulus* is the diminutive. *Glomerulose* veins form into a network around a ball. One finds *glomeruli* in the human anatomy as a small sack in the kidneys called Bowman's capsule or as small bulb of the brain that controls the sense of smell. A flower head consisting of many small flowers can also be called a *glomerule*. The piece for the Blind Alphabet project was made in the rather unusual wood of the Lala palm tree (*Hyphaene coriacea*) in October of 2016. The wood is rather stringy and pithy and splits easily when carved. The small stump of wood was hatched into with a grinding disk to obtain the effect of roughly drawn charcoal lines on paper. The unevenly hacked lines describe many globular *glomeruli*, that together form a large cylindrical *glomus*.

GUTTULAR

A *guttular* or *guttulate* surface is minutely spotted with drops. The Latin *gutta* for ‘drop’ is also used in scientific English for any minute sphere of liquid as it forms on a surface, or as it hangs or falls. The *guttular* tendency of things describe them in descent, like drops running down, or falling, like rain. The most striking *guttular* display in a visual sense is that of a fine spray of water drops against glass. In Greek architecture, a *guttular* surface such as a frieze contains one or more drop-like ornaments. One finds rows of *guttular* projections on the lintels of some of the pillars in the Doric style where they serve the purpose of repelling water away from the building. The piece depicted in the Blind Alphabet consists of many wooden beads inserted onto the surface of a wedge shaped block of locally grown English oak (*Quercus robur*). The object was completed in October, 2016.

GUTTURNIFORM

In Roman times the *gutturium* was a narrow-necked water jug or pitcher. It was a rather elegant vessel, used by slaves for pouring water over the hands of guests before and after a meal. In Latin *guttur* is 'throat'. *Guttural* sounds, like the 'g' in Dutch and Afrikaans are produced lower down in the throat and some languages are considered to be *guttural* languages. The *guttus* is a smaller flask or bottle, also with a narrow neck and is used for serving oil or vinegar at meals. Today one may pour other substances, like wine from *gutturniform* flasks and decanters at the dinner table. There is even an Italian wine named *Gutturnio*. The shape of the wine bottle in which wines are commonly sold is not really *gutturniform* because its 'throat' or neck is far too short. A *gutturniform* object was made for the Blind Alphabet project in July, 2016. The wood is Zimbabwe Teak (*Baikiaia plurijuga*).

HABENULAR

A *habenular* piece of material is ribbon-like – in Latin *habenula* is the diminutive of *habena* ‘thong’ or ‘horse’s rein’. One may, for example, find many varieties of *habenular* strips such as those used to carry ink in type-writers, as ornamentation in the female hairdo or as finishing touches in gift wrapping. A *habenular* action is a lashing or snapping through the air like the thin strip of leather at the tip of a whip. In the anatomy of the base of the brain, the *habenula* is a fibrous swelling that apparently influences our sleep. French Oak (*Quercus robur*) is common throughout Europe, especially in France where lengths of it are used for the making of wine vats. A square length of French oak was cut at slight angles into four pieces for the Blind Alphabet project. These were then folded and glued upon one another in the way a ribbon might be folded. This *habenular* sculpture was made in October 2016.

HAMIFORM

A *hamiform* object is hook-shaped, in Latin *hamus* is ‘hook’. Many types of thorn, such as those of African acacias and rose thorns are hamiform. All cat and bear species have *hamiform* claws. A *hamate* object has hook-like features or has lots hooks on it. A *hamirostrate* bird has a hooked-shaped beak. The diminutive of *hamus* is *hamula* and *hamulate* items such as letters, bones and tendrils have small hooks at the tip. The *hamate* bone is an irregularly shaped carpal bone found within the human hand. The *hamate* is found within the off-centre row of carpal bones, and abuts the metacarpals of the little finger and ring finger. A *hamiform* sculpture was made by glueing together five pieces of kiaat (*Pterocarpus angolensis*) in November of 2016. This wood was chosen for the Blind Alphabet project because the annual rings create distinctive patterns when carved in curvilinear manner.

HARENGIFORM

A *harengiform* object or pattern has the appearance of the angled fishbones of a herring (*Clupea harengus*). The herring is a silvery fish found in coastal waters and is of great commercial importance as a food fish in many parts of the world. Scottish tweed designs, typically woven in small angular outlines and mixed in flecked colours, is well known for its *harengiform* pattern. Various *harengiform* patterns are found in embroidery. The basic criss-cross herringbone stitch of is often filled in with more elaborate *harengiform* needlework. Interlaced herringbone stitch forms one of the main stitches for one of the most popular Indian embroideries called Kutch work. In October 2016 a rectangular slab of American white oak wood (*Quercus alba*) was scored for the Blind Alphabet project in a *harengiform* pattern such as one may find in tessellated paving all over world.

HASTATE

A *hastate* object is somewhat triangular and pointed, like the head of the traditional spear carried by the early Roman legionnaire, from the Latin *hasta* ‘spear’. A *hastiform* object is spear-shaped. One finds the *hastate* shape mostly in the leaves of various plant species. A *hastato-lanceolate* leaf has the tip of a long and narrow spear and a *hastato-cordate* one, has the shape of a heart-shaped spear. The *Rumex* plant family is well known for its varieties of *hastate* leaf shapes and the leaf of one of these species, *Polygonum arifolium* was used as the source of the shape made for the Blind Alphabet project in October 2016. The specific name *arifolium* indicates that the leaf also resembles a certain type of arrow-head. Note the two curved and pointed ‘ears’ at the base of the ‘spear’. A single piece of wood, taken from Iroko (*Milicia excelsa*), a large hardwood tree from the west coast of tropical Africa, was used.

HELICIFORM

A *heliciform* object is shaped like a sea shell that is somewhat wound-up into a three-dimensional spiral. The medical world prefers the word *helicine*, the small, coiled arteries around the penis and clitoris are the *helicine* arteries. In Greek *helix* is 'spiral'. Typical *heliciform* designs can be found in the double helix of the DNA spiral and in the gyrating twists of the wind patterns of whirlwinds, tornadoes and cyclones. The study and execution of spirals and spiral curves in geometry is known as *helicosophy* and *helicomety* is the science of determining accurate measurements in spirals. For the Blind Alphabet project ten square-shaped blocks were glued together, ranging systematically from smaller to larger in size. Each block was arranged with a slight twist in relation to those around it and the overall effect is that of a *heliciform* pyramid. The work was made in October, 2016.

HEPATOID

Hepatoid appearances and functions are those of a liver, *hepatikos* in Greek. The liver is a large glandular organ in the abdomen of animals that plays a central role in metabolic processes in the body. The upper side of the human liver shows two simple lobes and the underside four. Liverworts (*Hepatica triloba*) are small moss-like plants. They have a *hepatoid* appearance because their trifoliate leaves remind us of the various flat lobes of the liver. *Hepaticologists* are botanists who make a study of the liverworts. In South Africa, the liver plant (*Pleiospilos nelii*) is a succulent that shows typical *hepatoid* bulges and a fleshy texture. The *hepatoid* shape of the Blind Alphabet project was sculpted in August, 2016 from soft obeche timber obtained from a tropical tree (*Triplochiton scleroxylon*) of central and western Africa. Wood that is soft to the touch was used to enhance the *hepatoid* feel when handled.

HETEROCHIRAL

Heterochiral images or structures are identical in appearance, but reversed. Mirror images are *heterochiral*, except that the object or scene in front of a mirror is real and the reflection is virtual. Which would then be the *heterochiral side*? Animals have bilateral symmetry, the left- and right hand sides of their bodies are the same, but reversed. In Greek *heteros* is 'different' and *cheir* 'hand'. Because both sides of the body move about, the one side is hardly ever in perfect *heterochiral* synchronisation with the other. The sculpture for the Blind Alphabet project consists of two separate sides that are exact opposites if placed correctly in relation to one another. They can be grouped in a number of ways that reflect the *heterochiral* symmetry. Matumi (*Breonadia microcephala*) forms the main support with the 'wings' of zebrano (*Microberlinia brazzavillensis*). The work was made in October, 2016.

HETERODROMOUS

Heterodromous parts move in opposite directions. A gear is a toothed wheel, so designed to transmit a twisting force to another gear or toothed component. When two moving gears interlock, they become *heterodromous*. If parts move in the same direction, they are *homodromous*. In Greek *heteros* is 'different' and *dromos* 'running'. For the Blind Alphabet a flat rectangular box was made, allowing for a strong, relatively thin piece of yarn to loop smoothly around the space on the inside. Two narrow tracks were scored in the upper lid and two chunky shapes were fitted with vanes at their bases to run smoothly in the tracks. The yarn was then strung to the two endings of each vane so that all are interconnected. If one pushes one of the chunky shapes, the other will move in the opposite direction. The piece was made in October 2016 and the wood is pau marfim (*Balfourodendron riedelianum*).

HIPPOCREPIFORM

A *hippocrepiform* shape or structure resembles a horseshoe, in Greek *hippos* is horse and *krepis* 'shoe'. A horseshoe is a narrow band of iron in the form of an extended circular arc secured to the hoof of a horse with nails. Displaying a horseshoe is believed by some to bring good luck. Some living things are named for the *hippocrepiform* elements visible in their physique. The bodies of horseshoe crabs and horseshoe roaches reflect the oblique horseshoe profile and in the horseshoe bat the face of the animal is strangely distorted to become *hippocrepiform*. The object for the Blind Alphabet project was made in October, 2016, from White Ash (*Fraxinus americana*). It takes its shape from the seed husk of the scrambling Horseshoe Vetch of the *Hippocrepis* family. The seed husk of the plant has a number of conspicuous *hippocrepiform* nodules arranged in a row to contain the seeds.

BLIND ALPHABET G-H (LIST)

1. galeiform (helmet-shaped)
2. gibbous (bowed oxbow)
3. gladiate (sword)
4. glomerulus (cluster)
5. guttular (spotted in small drops)
6. gutturniform (narrow-necked)
7. habenular (ribbon-like)
8. hamiform (hook-shaped)
9. harengiform (herringbone shaped)
10. hastate (spear-shaped)
11. heliciform (spiral shaped)
12. hepatoid (liver-shaped)
13. heterochiral (mirrored images)
14. heterodromous (running in opposite directions)
15. hippocrepiform (horse-shoe shaped)