

NEURO IMAGE

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THE LYRA

... and
VEGA

... and
VERGA

... and
HIPPOCAMPAL
COMMISSURE



"Why did I choose to write about Vega, the blue star of Constellation Lyra?"

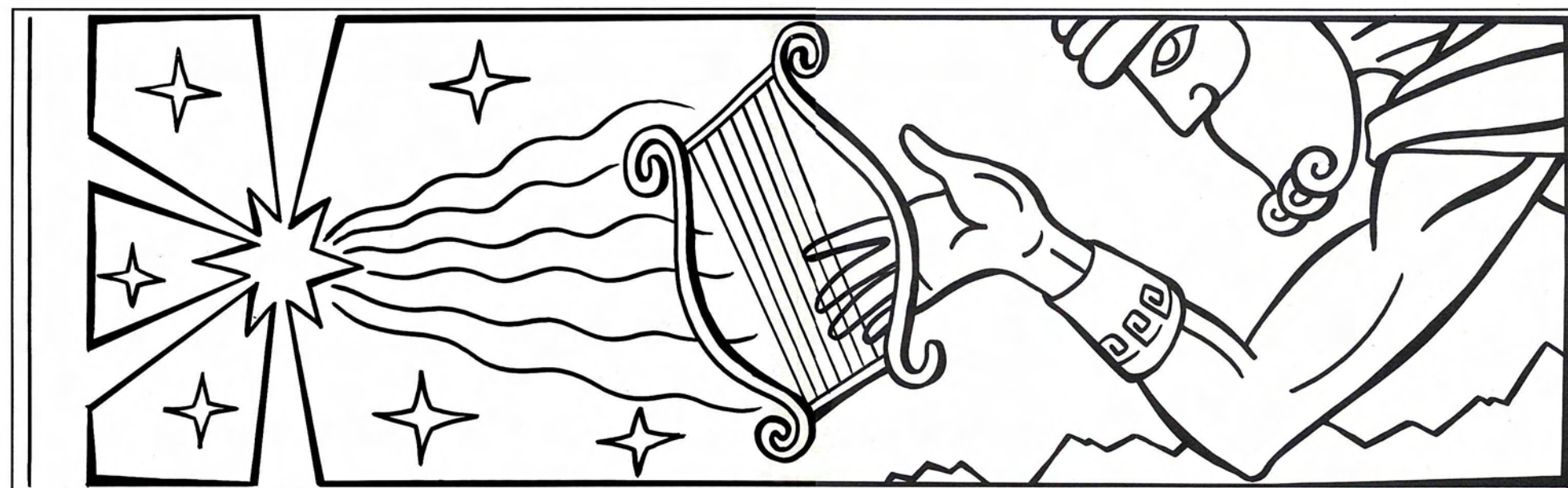
Because of the association of ideas between the cavum of Verga developing at the junction of the fornix and the corpus callosum and the name of David's lyra or psalterium given by anatomists to this region when the fibers of the **hippocampal commissure** lie separated but parallel underneath the splenium of the corpus callosum. Although not mentioned as such in the literature, I believe that a cavum Vergae and a psalterium are coexisting anatomical variants."

Denis Melanson, M.D.

**THE CONSTELLATION LYRA
THE ALPHA STAR
VEGA**

Vega is the fifth brightest star in the sky. The name **VEGA** is derived from the arabic Al Nasr al Waki, the swooping eagle, the falling eagle. Pliny's title, usually translated "the harp star", is a reference to the legendary 7-stringed lyre of Hermes, later the property of Orpheus, but associated also with a veritable galaxy of gods and heroes including Apollo, Mercury, King Arthur, the Biblical David and the Greek poet Arion. This is the lyre whose strings "give music audible to holy ears". Longfellow, in his "Occultation of Orion", speaks of the heavenly lyre:

"... with its celestial keys,
Its chords of air, its frets
of fire,
The Samian's great
Aeolian lyre,
Rising through all its
sevenfold bars,
From earth unto the fixed
stars..."



The music of the **LYRE**, in Greek legends, casts such a spell that Orpheus charmed every living creature with it.

To observers in the Earth's Northern Hemisphere, **VEGA** reigns as the leader of the "stars of a summer night" and dominates the heavens from its position virtually at the zenith in the evening hours of August.

VEGA is approximately 27 light years distant and has an actual luminosity of about 58 times that of the Sun, while her mass is about that of three solar masses. During the courses of the slowly changing orientation of the Earth's axis in space (the Precession of the Equinoxes) **VEGA** was the Pole Star some 12,000 years ago and will occupy the position again about the year 12,000 AD. It is towards a spot in the general direction of **VEGA** that the Sun-and the entire Solar System-moves in the depths of space at a velocity of 12 miles per second. This position is known as the Apex of the Sun's Way, or simply the "Solar Apex". Some idea of the vastness of space may be gained from the fact that it would take the Sun over 450,000 years to reach **VEGA** at this speed, even if it were moving directly toward it.

The septum pellucidum is a thin vertical partition, consisting of two laminae, sometimes separated by a narrow interval, termed the "cavum septi pellucidi".

When the septum extends more posteriorly, the cavity lies in between the crura of the fornix in front of the splenium. The hippocampal commissure is thus stretched and assumes the shape of a PSALTERIUM or LYRA (Fig. 1).

It has been named "cavum Verga" from Andre Verga, an Italian anatomist, assistant to the chair of anatomy in Pavia. He wrote a brief note (1851) on Ferrario's report of such a cavum, on the observation of which he claims priority: "dell apparato ventricolare del setto lucido e della volta a tre pilastri".

Gazz.Med.Lomb., no 7, July 7, 1851

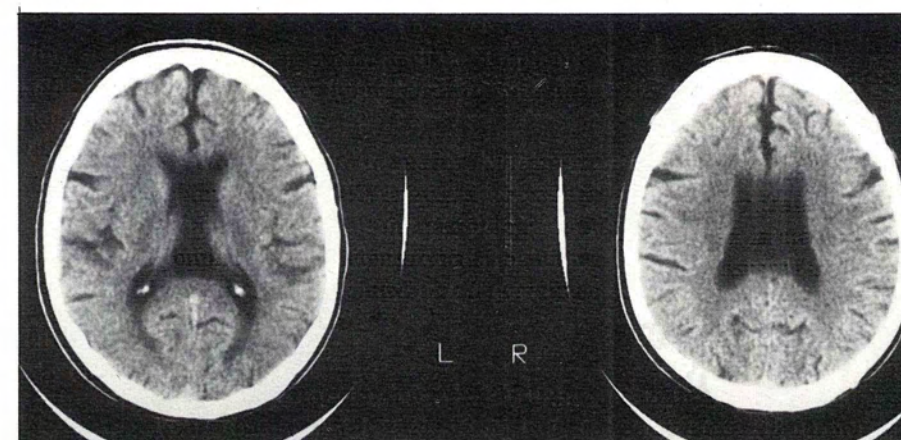
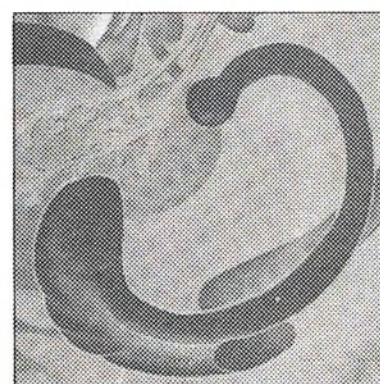


Figure 1



While writing on the blue star **VEGA**, within its immense lyra-shape constellation, I have dreamed of the immensity around us and all the knowledge it must conceal, unattainable by human nature. I have also dreamed that our "lyra", our psalterium, our hippocampal harp could be able to "give music audible to holy ears".

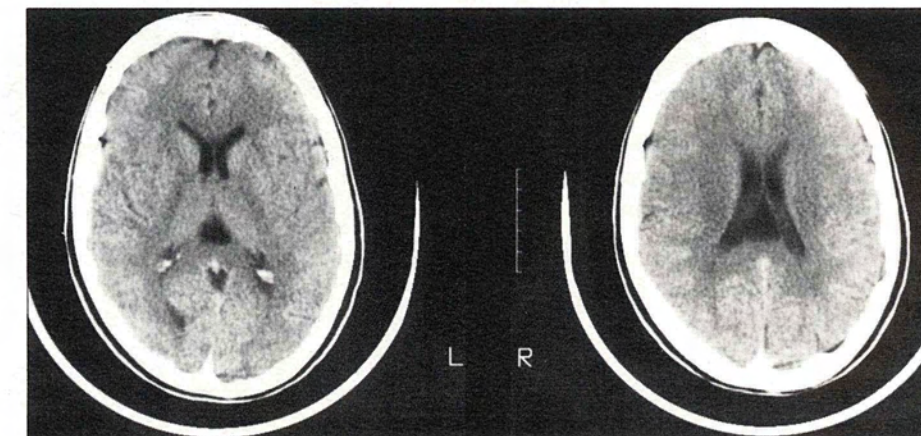


Figure 2

Walter Dandy noted that:

"the cavum septi pellucidi is frequently present when the cavum Vergae is absent and Verga's cavity may be present when the cavum septi pellucidi is absent".

It seems that the cavum septi pellucidi is always present, albeit smaller, when the cavum Vergae is present. The opposite is not true, notwithstanding Dandy's opinion, and many others with him. A cavity in a long septum pellucidum creates a looser hippocampal commissure, and the crossing fibers appear as strings, for which the name PSALTERIUM.

Another cavity may exist in the same region, the cavum veli interpositi; whereas Verga's cavum communicate with the lateral ventricular system, the velum's cavum communicates with the local subarachnoid cistern. However, it has a similar effect on the crura of the fornix than Verga's cavum, although assuming a different shape (Fig.2). It also creates a looser fornical commissure, a PSALTERIUM, a LYRA.

The presence of a long cavity in the septum pellucidum (cavum Verga) and loose hippocampal commissure may not be irrelevant, as some psychiatric disorders (schizophrenia) have been recently reported to exist with such an anatomical variant (Gustav Degreef, AJNR: 13, May/June 1992).

T H E

"NO FINAL DIAGNOSIS"

A G E

This is the history of an 87 year old lady who was well until approximately one year before her admission to hospital. Since that time, she had become gradually demented, especially disoriented to time and place, dysphasic at times with incoherence of words. She was thought to have dementia of the Alzheimer type.

- The day of her admission to hospital, she had suddenly collapsed and become irresponsive: she was incontinent of urine but there were no seizures.

- Because of her age and the extensiveness of the cerebral lesion, it was decided there would be no intervention.

- The images shown are quite eloquent: it is indeed a large glial tumour with a mixture of densities, truly bifrontal through the genu of the corpus callosum. Its features are not that of a recent growth, such as glioblastoma; indeed, the presence of calcifications suggests a chronic growth, more benign at the beginning, which is now undergoing anaplastic changes.



Figure 1:
CT plain shows the calcified portion of the tumour



Figure 2:
CT with contrast shows the enhancing parts of the tumour

- Computed tomography revealed a large enhancing neoplasm with calcifications, anterior callosal and bifrontal, and a second enhancing nodule in the left temporal lobe.

- While in hospital, she remained mute, not recognising her family and refusing any food.

- Could this lesion have been the cause of the dementia? Likely so. There is no way to know for sure, there was no histology of the tumour, as the decision not to treat is often taken by the family in this age group.