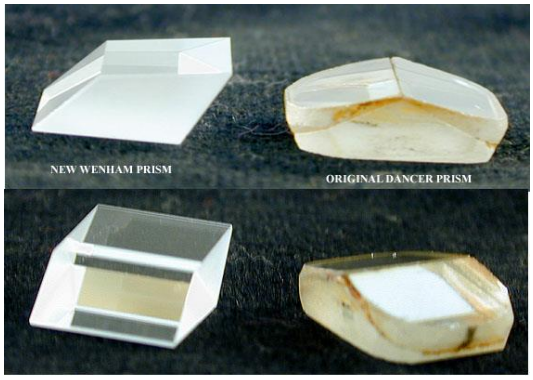
GRAHAM MARSH (2020) A FAVOURITE MICROSCOPE

We all take stereo microscopy for granted nowadays but not so long ago this was not the case. Well, I say not so long ago, maybe 150 years or so. Back in the middle of the 19th century a great push took place in the microscopy world, for a microscope which could give stereo vision. Until then the monocular was king, and for some applications still is today, but then the drive was on to find a way to see objects at microscopy level in 3D.

History tells us that the Wenham method was adopted almost universally for the next 50 or so years but the Wenham prism was a commercial compromise. The development of binocular or stereo vision through a microscope was tackled in various ways, the Wenham being the most commercially acceptable at the time. The Wenham method uses a beam splitting prism to allow binocular (pseudo-stereo) vision through a second eye tube "grafted" onto the side of a monocular microscope body tube. Using internal reflection, the Wenham prism diverts about half of the available light from the monocular light path into the second tube.

Other attempts were made, including a three part (achromatic?) prism assembly by Dancer. The Dancer method utilised two body tubes in a true "V" format, to split the light into two equal halves, so that each eyepiece receives the same amount of light from the objective. This gives a technically better (albeit more expensive) solution. The Dancer binocular prism method was registered No 4380 June 27th 1861. Compare this with the Wenham prism here.

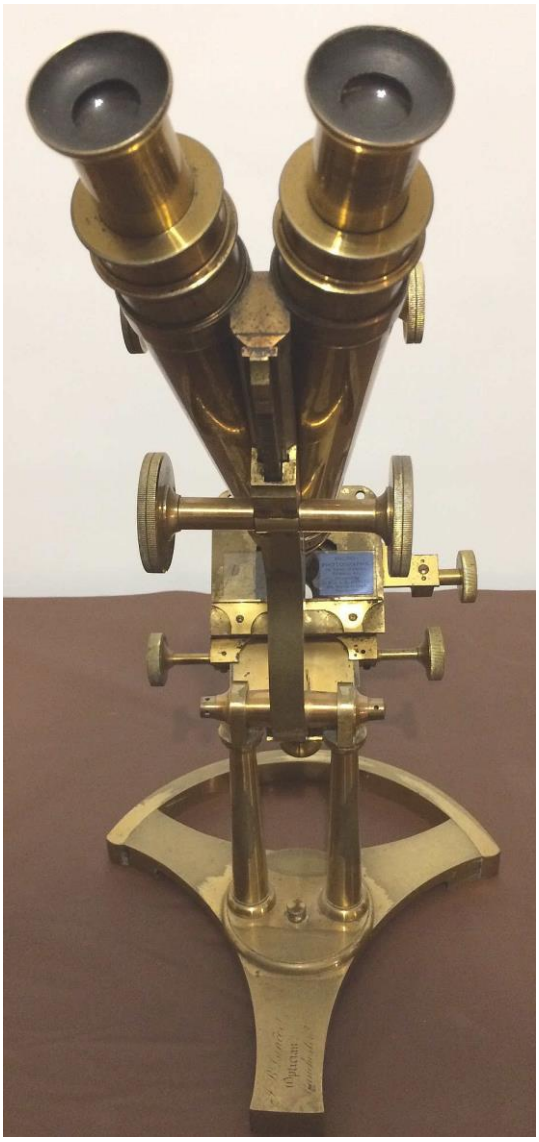


This particular microscope came to me without case or accessories. It is a large stand at about 18 inches high in use, with the Dancer signature on the heel of the foot.

The main focus is rack & pinion and fine focus by thumbwheel operated nosepiece lever. Inter-ocular separation is by rack & pinion driven by a thumbwheel either side of the body tubes. The mechanical stage has a rack & pinion with thumbwheel both sides for fore & aft movement and a single side worm driven lateral control.

Classical Dancer twin pillars support the assembly above a Dancer tri-form base. Unusually this base has an arc of heavy brass connecting the front two “toes”. Perhaps this stand began life as a monocular and had to have the

extra weight added to the front of the base for balance and stability in the horizontal position when the heavier binocular tubes were fitted. Later binocular stands have a steeper “Y” shaped foot. Could this be JBD’s very first binocular microscope?



This form of Dancer binocular (stereo) microscope is very rare. I know of only 3 others in captivity and although the lacquer finish is showing it’s age and the balsam(?) holding the constituent parts of the prism together have “browned” with age, it remains my favourite microscope.

FOOTNOTE (Sept 2023)

This microscope went to the USA as part of my personal collection sold to a collector who was amassing a serious library/museum of antique microscopes. He died shortly after and I believe that some of his collection is now on it’s way back to the U.K. for sale at auction. Perhaps it is worth keeping an eye out for the return of this microscope?