

# Unknown Vintage Microscope

## Identification and assessment

### History

The microscope is believed to date from late Victorian period, possibly Edwardian. It is probably a 'student' microscope.

The microscope belonged to Michael Henry Wilson, 1901-1985, (of the Albright and Wilson dynasty). He most likely used it when a student at the Bootham School c. 1914. After studying at the Royal College of Music, Michael gave up his career as a violinist, he founded the Sunfield Childrens' Home and was on "This is Your Life" with Eamonn Andrews in 1963. He was chair of the Colour Group (part of the Royal Society) for a time and published several papers on the colours of after-images.

[https://en.wikipedia.org/wiki/Michael\\_Henry\\_Wilson](https://en.wikipedia.org/wiki/Michael_Henry_Wilson)

[https://www.bigredbook.info/michael\\_wilson.html](https://www.bigredbook.info/michael_wilson.html)

The case and microscope have been variously cannibalised. There is a drawer (in bits) and the containers for the objectives together with the appropriate wood retainers are missing (bar one empty container). The drawer is fairly easy to restore and needs a new knob. The case needs a new handle.

The microscope tube is in good shape and the coarse and fine focusing are smooth. A clip for the microscope slide is missing a screw (the spring clip and spacer are present); the other clip is intact. The mirror assembly is loose. There are no objective lenses and there may be other bits missing but is otherwise in relatively good condition.

### Identification

This is proving difficult because there are no maker's marks. It looks a bit like the Arnold & Sons; "University" microscope c. 1880, but also has features in common with the Watson "Educational" microscope apart from the circular stage. It also has features similar to the Society of Arts pattern microscope.



## Aim

To restore to good working condition.

There is no desire to make it look like new – and to this extent Michael's name scratched onto the top of the case, the additional hole in the wooden plinth below the sub-stage and other signs of wear and tear will all be retained as part of its character and history.

## Task list:

Case:

- repair the drawer and find a matching knob
- create another pair of matching runners to hold the microscope's mahogany base in place
- fashion missing objective tube holders
- re-finish to mahogany to remove worst scratches;
- consider reducing the horizontal slats at top and bottom of the door to match the width of the central panel
- find a matching key
- locate and fix a handle

Stage and stand:

- clean and re-lacquer the stage
- lubricate the stage sliding mechanism
- refinish the matt black surfaces to the stage, aperture wheel and sub-stage aperture
- replace the mahogany base (wood has shrunk and split)

Optics:

- the eyepiece is dirty and will have to be cleaned
- find additional eyepieces (as per "Watson"?)
- source additional objectives together with their corresponding brass cases
- repair the mirror bracket (re-solder)
- clean the mirror

## Photos

### The case and accessories

The mahogany case has suffered little damage although the main door panel has shrunk. A replacement handle can probably be found:



## The stage

A slide retaining clip is missing a brass screw. The variable aperture disc moves freely below the stage:



Within the body of the stage there is a threaded hole. On close inspection this is a ribbed aperture, finished in matte black. The ribs absorb stray light from the mirror below. There is nor ever was a condenser:



## Eyepiece

There is only a single 27.48 mm diameter x 48 mm eyepiece comprising an upper and lower lens. The magnification is unknown:



## Objective

The microscope came with none. A cheap replacement with the appropriate RMS thread was bought (also without a maker's mark). The magnification and NA of this lens is unknown:



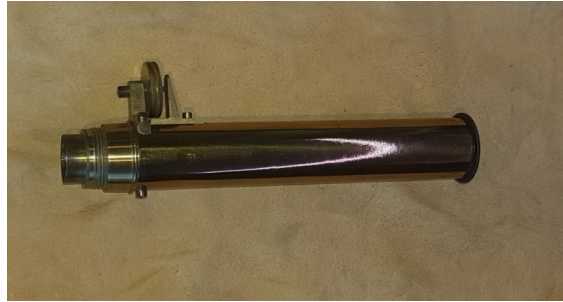
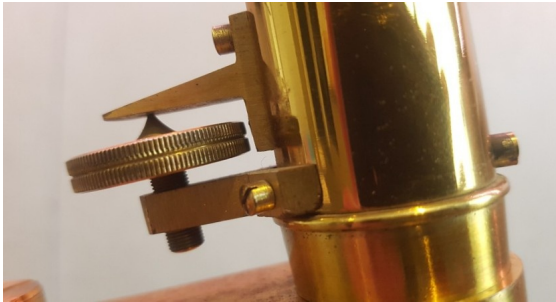
The diameter of the upper knurled ring is probably wider than the original by about 2 mm compared to the original but is a reasonable temporary stand-in until the microscope is identified.

In use the objective provides an image but the quality is limited by the fact that both the eyepiece and objective are dirty. *Close inspection of the objective reveals it is scratched – the damage presumably occurring when the lens was driven down into the stage or some other object below.* See the later section on “Imaging”.

**Note:** The Watson microscope, mentioned above, came with three objectives: a complement of 1/4", 1/2" and 1" objectives. This microscope likely came with three also.

## The lens tube

This is in good condition. Very few scuffs and the lacquering is mostly intact:



The tube sits comfortably within the frame with no hint of wobble. The fine focusing is smooth.

## The mirror

The concave mirror is in good condition and will only need a clean and polish:



*However, during cleaning the side arm has become detached from the circular spring clip. The joint is soldered and has become brittle over time. The parts will need to be cleaned and re-soldered.*

## Imaging

These photos were taken using a mobile phone camera placed at the eyepiece, natural light:



*Figure 1: Transmitted light*



*Figure 2: Reflected light*

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