My research seeks to understand a painting method popularised by the influential Canadian artist André Biéler, called the ‘Mixed Technique’. In short, the ‘Mixed Technique’ is an egg-oil emulsion that Biéler began teaching at Queen’s University towards the beginning of his 27-year tenure, during the second world war.

I wondered if Biéler’s teaching materials could shed light on his painting practice. To address this question, I analysed his 1943 ‘Mixed Technique’ painting *Wartime Market* in conjunction with archival research.
In the Queen’s archives, I found Bieler’s class handouts that convey a home-made recipe for mixing the binder, by breaking open one egg, and using the egg shell as a measuring cup to add ¾ part dammar, ¼ part linseed oil, and 2 parts water - which are shaken together and hand-ground with pigments.

I followed his notes to make a partial replica of *Wartime Market* to explore the ‘Mixed Technique’s’ material properties and handling. The technique is executed in a layering system called the ‘Indirect Method’. As seen in the replica details: the first layer is animal size on a rigid support

Next is an absorbent water-based ground

followed by a greyscale version of the composition called a ‘veil layer’

**Finally, colour is applied to the veil layer with various thin glazes that incorporate the greyscale values below**
In *Wartime Market*, the grey veil layer is exposed in regions of interlayer delamination – as seen here. This enabled me to do FTIR analysis to identify the binder’s constituents.

The FTIR results suggest dammar and egg - but failed to identify any linseed oil. However, after artificially ageing my binder samples, the linseed oil’s characteristic ester peak began to widen – likely due to oxidation or hydrolysis – as seen here in the red trace – and more closely resemble spectra found in *Wartime Market* – pictured here as the black trace.

In conclusion, initial analytical results indicate that the ‘Mixed Technique’ is not easily identified with FTIR because the aged emulsion might ‘hide’ evidence of linseed oil. However, use of the ‘Indirect Method’ is apparent via the grey veil layer with technical examination.

Finally, Bieler’s teaching materials are a valuable resource not only to understand his layered painting technique, but also to provide a snapshot of this painting practice in the era.
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