

III) POLARIZED-LIGHT MICROSCOPY OF THE INNER PART OF RAES # 7 THREAD

Low magnification view of the core of R7 is shown in figure 5:

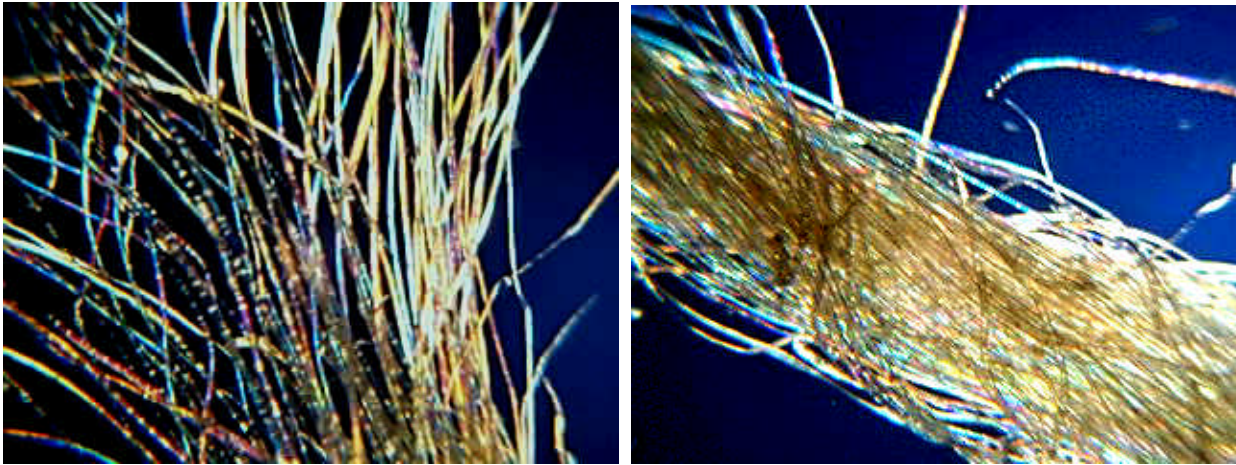


Fig.5: low-magnification view of R7. Many fibers show the typical dislocation bands of flax (left: one end of the thread) but the whole of the thread can not be analyzed (on the right).

I decided to gently separate the fibers at each end of the thread. Under high resolution, it was possible to see clearly many cotton fibers (see Figure 6 to Figure 11 below).

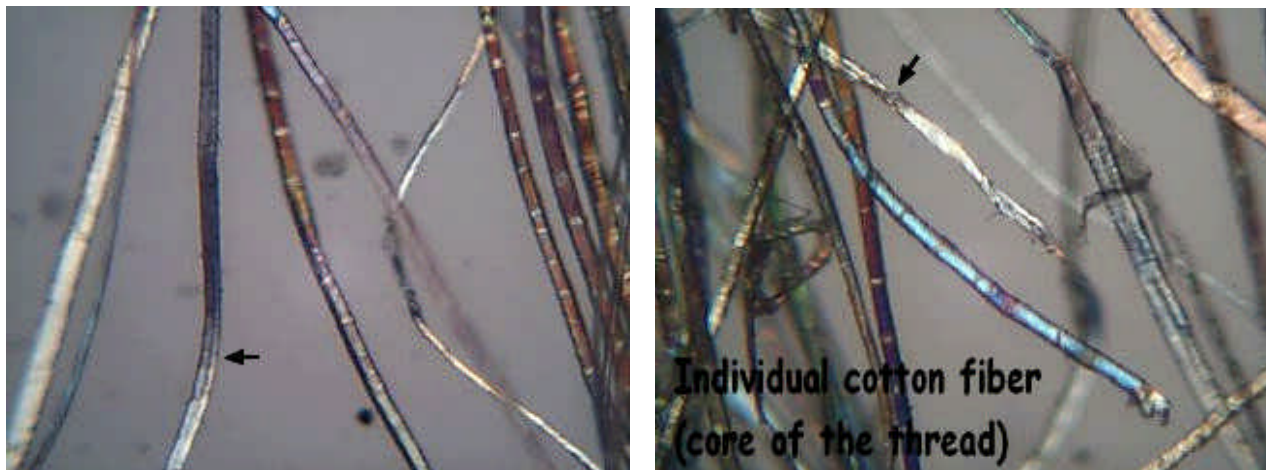


Fig.6: high resolution. Cotton fibers can be recognized by their flat ribbon-like shape, their uniform color (whatever the polarization of the light), the lack of any transversal band and some reversals (see the picture on the right).

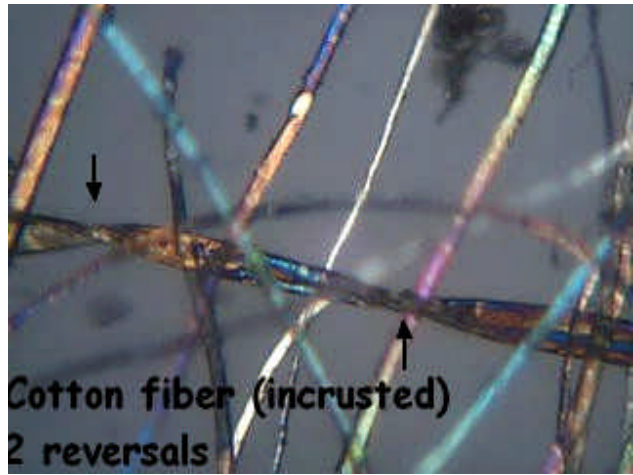
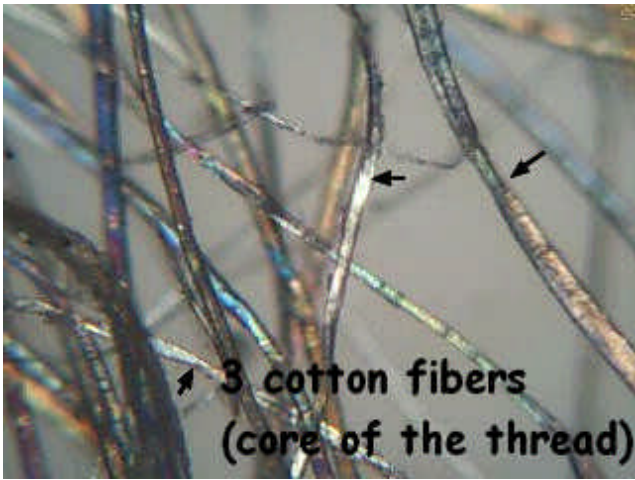


Fig.7: several individual cotton fibers can be seen in the core of the thread. On the right, the cotton is likely modern (contamination).

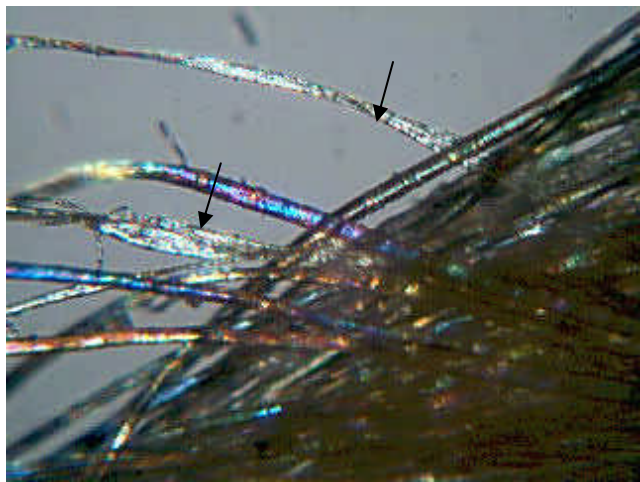
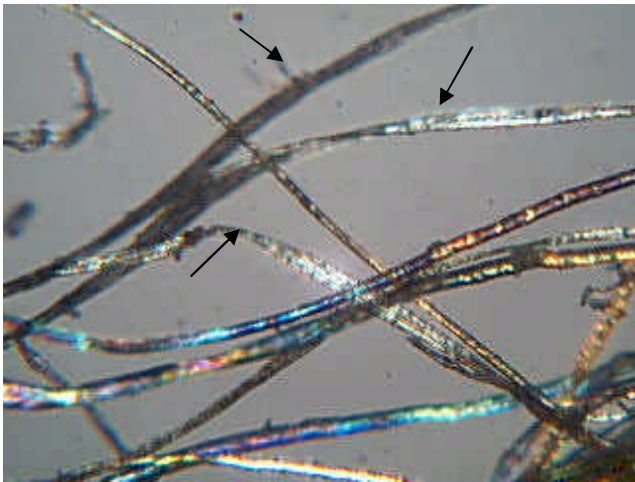


Fig.8: it was easy to find several groups of cotton fibers that were creeping into the core of the thread.

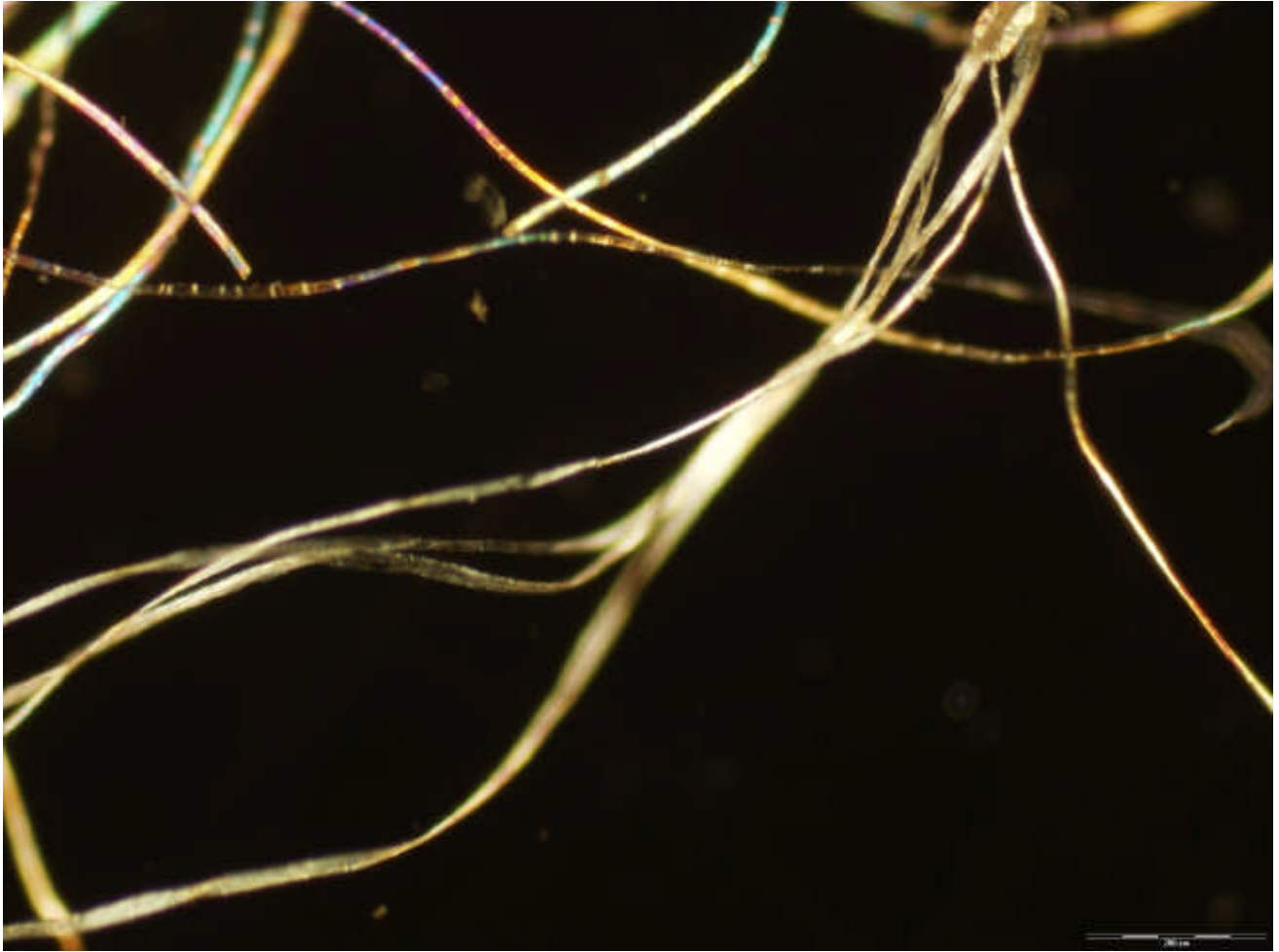


Fig.9: group of 4 long cotton fibers (Photo: Lisbeth G. Thygesen).

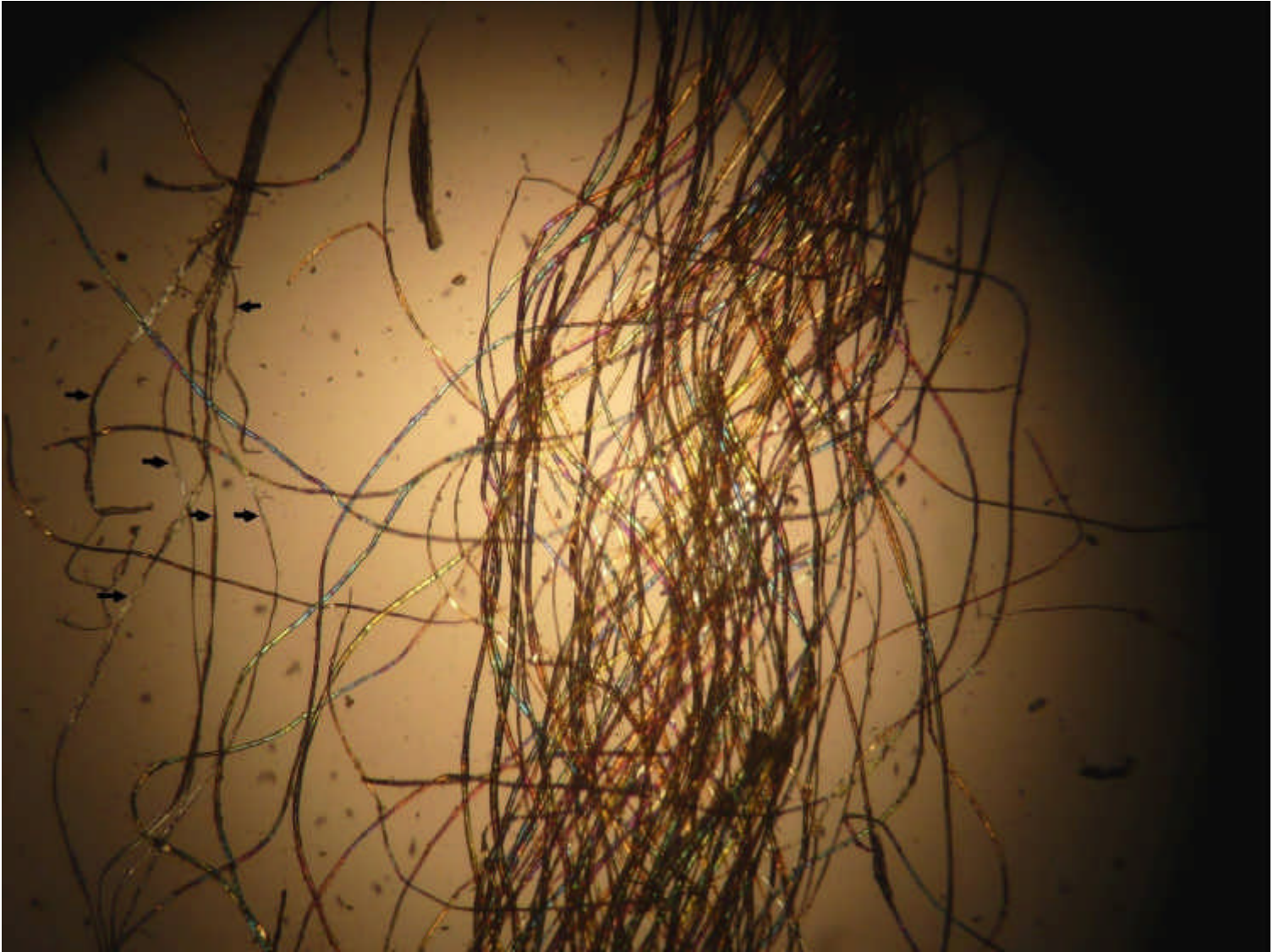


Fig.10: a particular group of long cotton fibers was found near the thread after further separation of the fibers. These fibers are parallel to the thread direction and are about of the same length as the thread.

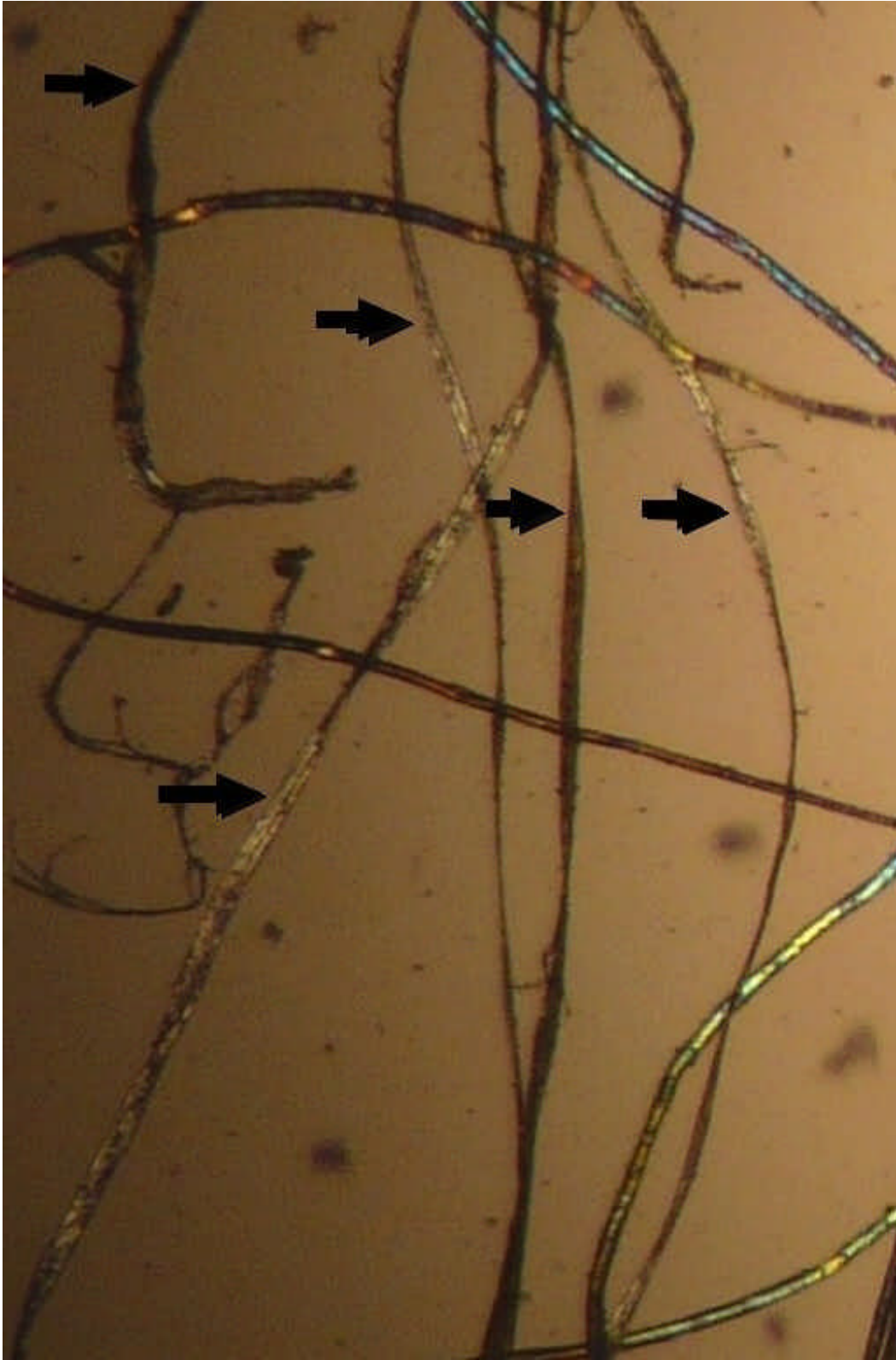


Fig.11: close-up of the fibers shown in Fig.10.

Finally, pushing aside the fibers of the core of the thread, I could find a group of long cotton fibers and few individual cotton fibers (one of them probably modern). See Fig.12.

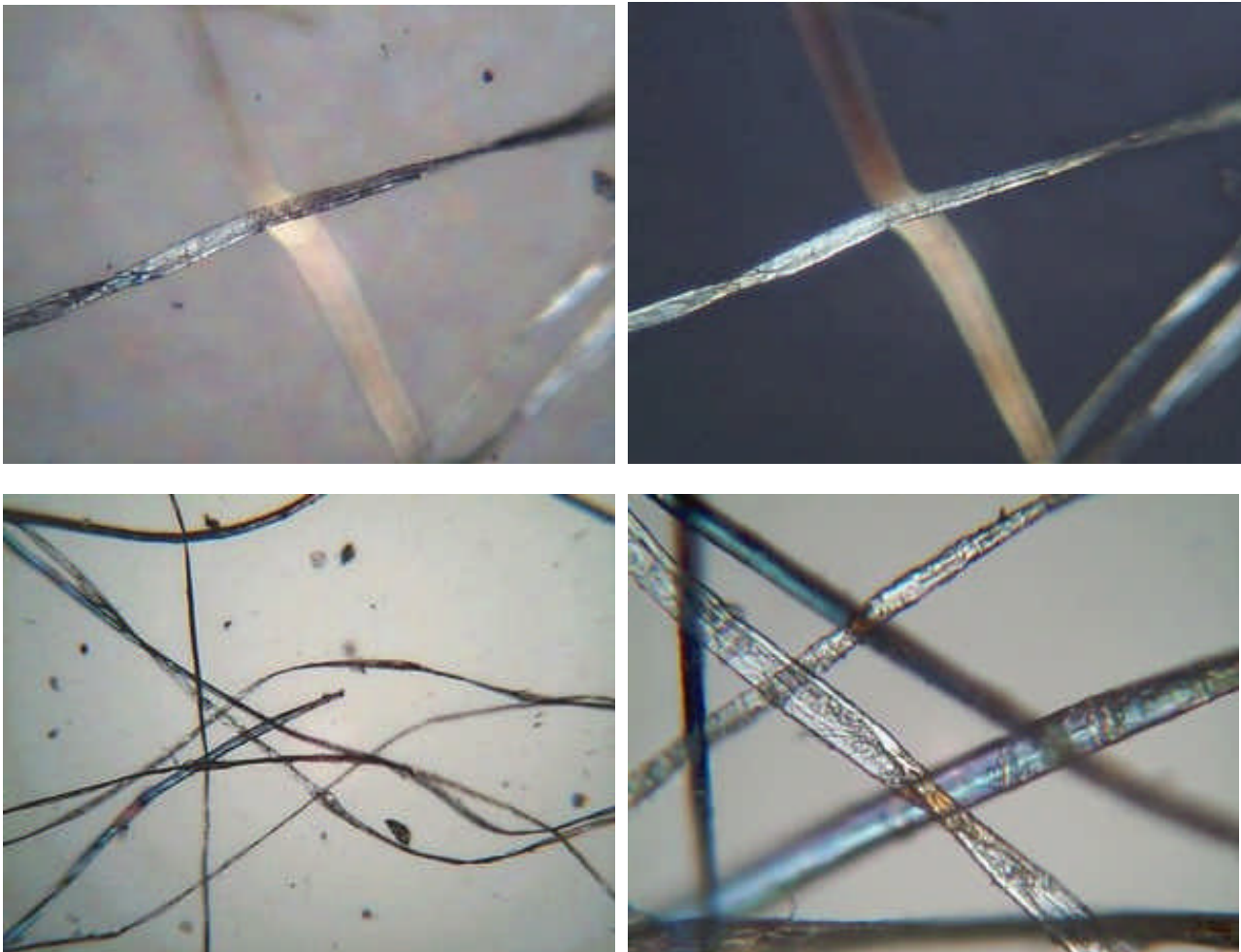


Fig.12. Top: cotton fiber under two different angles of polarization. Bottom left: a group of cotton fibers found in the core of the thread. Bottom right: one of those fibers under very high magnification.

I was able to count about 6 long and 10 short cotton fibers (and only one single modern cotton fiber) among about 80 fibers: **7-20% of the core of the thread is made of cotton fibers.**

OTHER FINDING:

During the course of the observations, I found a white "strange object" behind the middle part of the core of the thread (see Fig.13). This "object" was not attached to the fibers and moved spontaneously to the proximity of the thread when I carefully raised the cover glass. According to the experts, it is a bark fiber (probably oak). Interestingly, exactly the same object was found by Garza-Valdez in the occipital dorsal region of the Shroud as shown in his book "the DNA of God?" He named it an "oak wood vessel".

It is possible that this kind of wood debris comes from one of the wood caskets in which the Shroud has been kept for many centuries. This fact suggests that Raes sample and the main Shroud are part of the same fabric for some centuries.

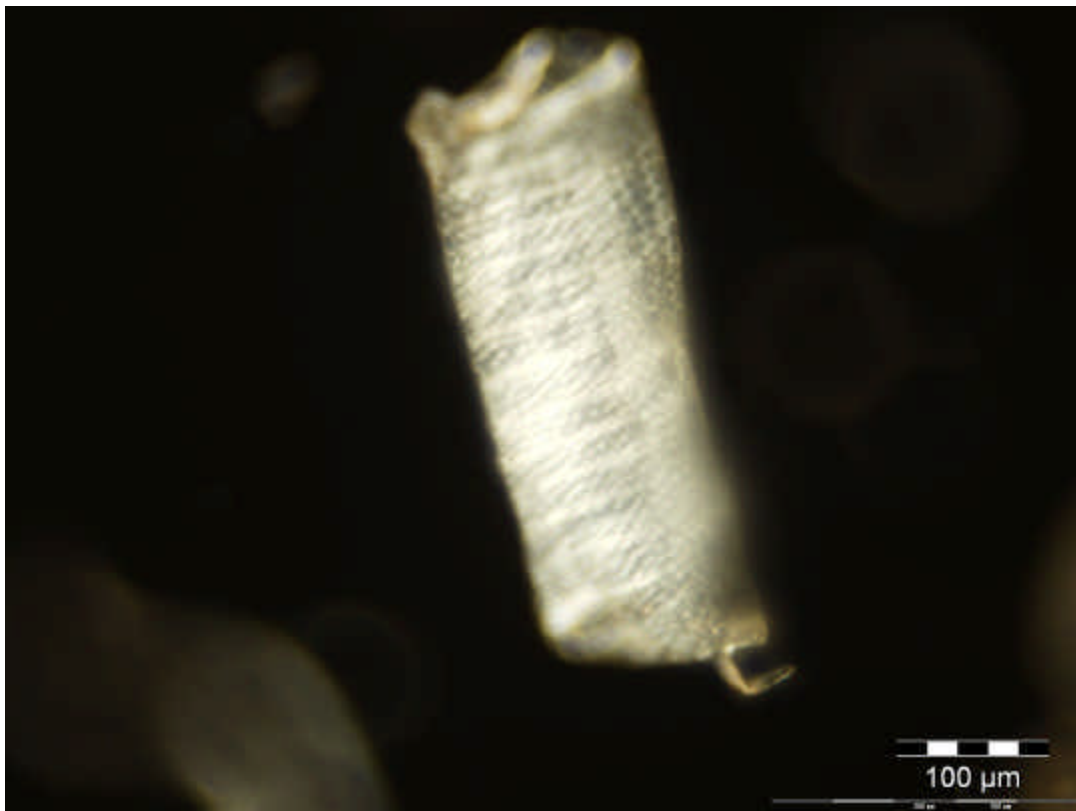
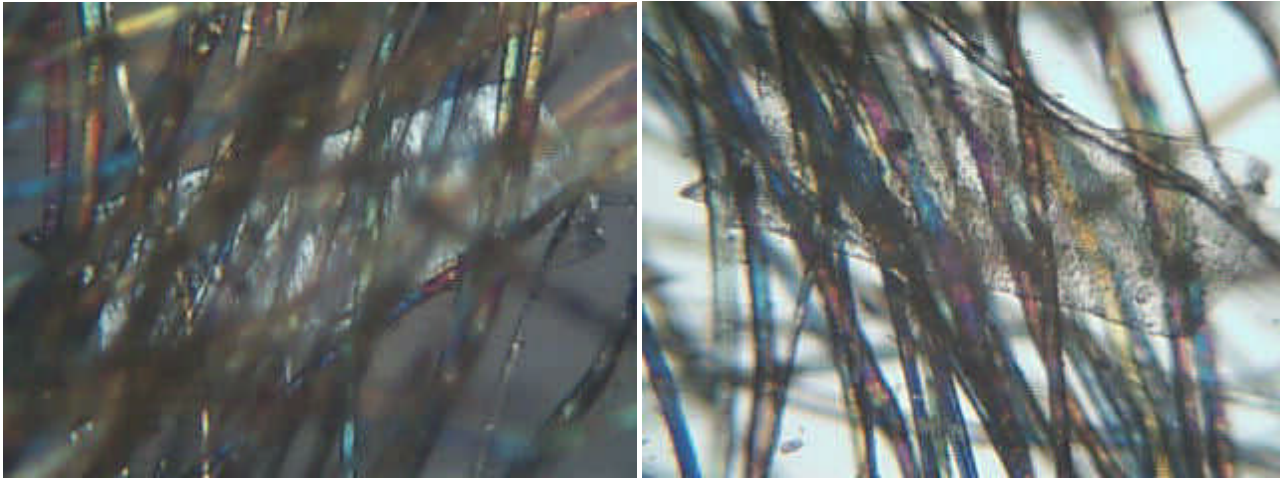


Fig.13. Top left: the object as it appeared when I found it. Top right: the same from the backside. Bottom: high-resolution photograph of the object after its moving aside from the thread (Photo: Lisbeth G. Thygesen).

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