so the fabric is cleaned using carefully selected solvents to prevent the removal of absorbed water and dyes. Bleaching of ancient textiles is to be avoided, for more damage than conservation results. Frail textiles are not brushed but are freed from loose dirt by puffer brushes. Brittle basketry is usually cleaned by barely damp swabs of water or alcohol. It can only be reshaped after flexibility has been reintroduced; this may simply be by a water spray or high RH, but it may require the addition of a consolidant (section 6.6.6.2) first.

6.6.4.2 Wet fibres

These must always be cleaned before air-drying, for if the soil dries and contracts, it can rupture delicate fibres. Wet cleaning is always done by supporting the textile on a synthetic net frame (plate 6.13). This is placed in a water bath and the fabric unfolded whilst immersed. Soft brushes and sponges alone are used to help remove the dirt but ultrasonics could be useful. Great care is taken with the pH of the washing water to prevent removal of dyes and enhanced hydrolysis of fibres. Because of this, chemicals are rarely used; attempts to remove blackening do not avoid these dangers. However, where it is clear that dyes are absent and the exact nature of the fibres is known, chemicals to remove stubborn clay or iron concretions have been used.[69]

6.6.5 Deterioration upon excavation

Crumbling and fragmentation are the most immediate dangers upon excavation owing to the fragility of the material. If dry, this is enhanced by brittleness and if wet, by the weight of water. Also, soil particles within fabrics will act as internal abrasives. If mud is allowed to dry on wet fabrics, it shrinks, pulling fibres away from the threads. Waterlogged woody baskets may collapse like wood (section 6.2.5.2) on dehydration, but this is less of a problem with fabrics. In the long term the worst enemy to fibres is light. Energy, especially from the UV region, is absorbed by the material, and in the presence of oxygen and water oxidizes the polymer molecules; the absorption of energy is greatest where impurities, especially yellow or iron stains/dyes, are present. Silk is especially sensitive to this type of decay. Further embrittlement arises in excessively dry environments where lubricating moisture is lost, or in excessively wet environments when hydrolytic decay continues. Cellulosics are embrittled by acids present, either as a result of pollution or, as in some cheap papers, from their method of manufacture (plate 6.14).

Moulds grow readily on cellulose fibres which take up moisture as the RH rises, and finally lead to their destruction. Actinomycetes and bacteria alone attack woollens at high humidities, leading to a rank smell

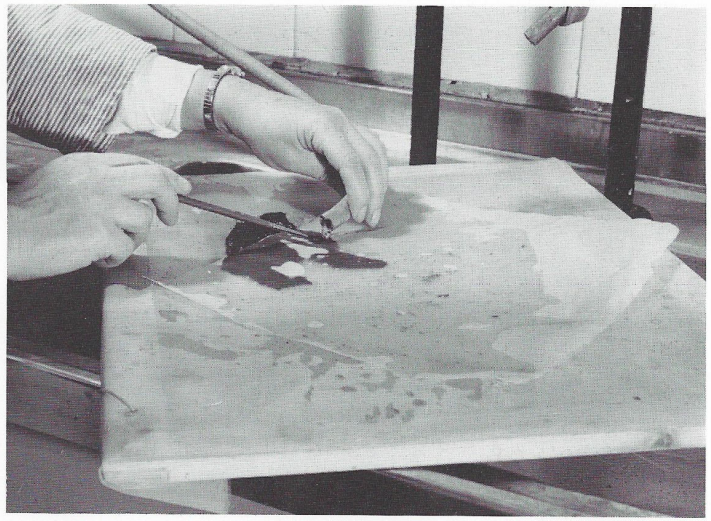

Plate 6.13 Washing a fragment of blackened fragile woollen textile from a waterlogged deposit sandwiched between two layers of fine net

and destruction of the fibres. Insect attack is described in section 6.6.2.1.

Light, of course, plays an important role in the discoloration of fabrics, resulting in the fading of dyes, especially yellows, since they absorb the most dangerous blue/UV wavelengths. Papers brown noticeably because of oxidation of lignin if this is present, but browning of cottons and papers can also be by the formation of oxycelluloses. Fabrics have surfaces full of crevices and so readily pick up dirt and soot, which can prove very difficult to remove.

6.6.6 Stabilization

6.6.6.1 Passive

Wet woody baskets or uncleaned fabrics must be kept damp until conserved; with textiles, biocides should be avoided for they may interfere with dyes and even fibres. Textiles should be kept refrigerated or even frozen, and conserved as soon as possible.

After removal of surface and internal soils, wet fabrics can usually be stabilized by air-drying, the type of collapse found in cellular wood or