1b. indirect occupational exposure: the subject usually has not handled asbestos himself, but has worked in the vicinity of such jobs e.g. non-asbestos workers in shipbuilding industry, etc.

1c. occupational exposure in agriculture: particularly in Eastern Europe (a.o. Bulgaria) pleural plaques have been observed in agricultural workers engaged in growing tobacco on stony mountainous soil; anthophyllite, tremolite and sepiolite have been found in regions with endemic pleural calcification (Burilkov et al 1972, Burilkov 1971). However, it is questionable whether these plaques were due to asbestos or to associated minerals (see ad 3). This category more or less corresponds to category 4 (true environmental exposure) albeit of a rather special variety. It differs from all the other types of exposure in that the asbestos in the environment has not been introduced by man, although he may have been instrumental in causing it to become airborne.

With regard to group 1 exposures: In several epidemiological studies the occupational history apparently has not been evaluated in such a way that such unexpected exposures could be brought to light. Too often one only regards well-known jobs as an insulator, or a worker in an asbestos processing factory as relevant. However, if a certain amount of detective work is carried out by an experienced and inquisitive investigator, hitherto unexpected occupational exposure is brought into the open. Examples were recently presented by Zielhuis et al (1975).

2a. para-occupational domestic exposure: women married to asbestos exposed males, or other members of the household can be exposed as a result of handling contaminated clothing, etc. (Newhouse et al 1965, Greenberg et al 1974). There are not sufficient data to estimate the size of the population at risk. Experience from the Rochdale asbestos industry (U.K.) does not reveal any increased prevalence of diseases in relatives; in this case however rather strict hygiene measures are being taken: workers are not allowed to take working clothes home; laundering is performed within the factory (Holmes, pers. comm.).

2b. para-occupational exposure: particularly leisuretime activities, serving as a "second" job (Zielhuis et al 1975). Notwithstanding a recommendation by USA government officials, asbestos products are still easily bought without a warning label. In particular the cutting and working of asbestos containing sheets invariably release some asbestos in to the atmosphere.

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