Bakerspigel, A. Further observations on the vegetative nuclei of Neurospora crassa.

Continued studies with Helly-Newcomer-fixed hyphae of Neurospora crassa have shown (1) that the chromatin of interdivisional nuclei appears as an "interconnected network of strands" (prochromosomes?) containing a number of deeper staining segments. These are visible in Giemsa-stained preparations which have been completely digested with ribonuclease or sufficiently hydrolyzed with hot 1N HCl. (2) that the nuclear membrane apparently remains intact until the chromosomes become contracted and more deeply stained. (3) that chromosomes are visible early in division. This is in contrast to Dowding and Weijer's statement that the "chromosomes become most conspicuous in late mitosis" (Dowding, E.S. and Weijer, J. Genetica 32: 339-351, 1962).

A spindle apparatus was not observed when hyphae were fixed with 1% cadmium chloride (Sato, S. Cytologia, 23: 383-394, 1958 and Cytologia 24: 98-106, 1959). Concerning the spindle, Ward and Ciurysek (Amer. Jour. Bot. 49: 393-399, 1962) recently presumed its existence in the somatic nuclei of N. crassa. However, the cytological evidence for a spindle in their photomicrographs is not conclusive. In fact they admitted (p. 395) that "well-defined spindles with distinct fibres were not observed". As far as the writer is aware, additional information or evidence has not been offered by Somers et al. to confirm their earlier observations on the presence, or so-called image, of a spindle (Genetics, 45: 801-810, 1960). Thus, there is as yet no indisputable, cytological evidence for the existence of a classical spindle in the dividing nuclei of N. crassa. ---Department of Bacteriology and Immunology, University of Western Ontario, London, Ontario, Canada.