zygous diploid nucleus which develops green colour. In the heterocaryon described before (the original heterocaryon), it seems that the diploid nuclei are seldom segregated and transmitted to progeny together with the yellow nuclei. The resulting progeny are brown. Because a single conidium of the brown strain gives rise to yellow and green progeny, the conidium is considered to be a heterocaryon possessing both haploid and diploid nuclei. The average number of nuclei in a brown conidium is about 3·0.

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ANTHROPOLOGY

Possible Origin of the Use of Fire by Early Man

Though many animals can become accustomed to the presence of fire, man alone has learned to produce, to maintain and to control it. However, this achievement is not peculiar to *Homo sapiens*. Fire was known also to *Homo neanderthalensis* and *Pithecanthropus pekinensis*[1]. From the study of fire-myths and the cultures of primitive races, it is usually presumed that fire was first obtained from such natural sources as volcanoes, bush fires, lightning, sparks struck from stones, or dry branches rubbing together in the wind[2–5]. Myths, however, are not necessarily reliable as guides to the distant past, while the reaction of animals, even of modern man, to volcanoes and forest fires is one of terror. Even when fear has been mastered, the practical difficulties of obtaining fire from these sources are still immense. Natural production of fire by friction or percussion is too rare to be readily observed by members of a small and scattered population.

An alternative to present theories is that use of fire itself is secondary to use of heat derived from bacterial decomposition of plant material. The heat produced by a haystack or compost heap is a matter of common knowledge. This heat may well become great enough to result in fire. Since many animals use as beds piled and trampled grasses, early man may well have slept in a similar manner. Individuals leading a purely nomadic existence would not use their bedding heaps sufficiently long for the warmth of decay to become apparent, but so soon as a more settled mode of life was adopted bacterial decay of the bedding could become important. Accumulation of sun-dried vegetation in a bed, perhaps a communal one, could lead to the 'compost heap' situation, presenting man with a small-scale source of heat. At first this would merely increase the temperature of his bed; later it might lead to the idea of the peat fire or even of earth-oven cooking. Occasionally, no doubt, such beds would burst into flame, providing at once the source and the idea of a blazing fire. On this theory, other means of fire-production can be regarded as being developed at a much later period, either from observation of natural events or as a by-product of chipping and grinding processes in toolmaking industries.

There can be no direct evidence for any theory of the origin of the use of fire, but it seems not unreasonable to regard the awe-inspiring character of natural fires and the rarity of small-scale fire production in Nature as militating against acceptance of present theories. In contrast, heat or flame produced by the method here suggested would be, at most, only mildly startling, while the care accorded by some primitive races to their existing fires could be interpreted as deriving from a period when an active compost heap was a most precious family possession. The 'compost heap' theory would also allow for widespread discovery of the use of fire by early man, even in regions where natural sources of fire were not available.

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PSYCHOLOGY

Validity of Prediction based on Cross-Sectional Analysis

Cross-sectional analysis, by means of which is investigated the behaviour of a cross-section of the population at a given point in time, is a convenient method in many fields of research where age or maturational differences are of interest. Implicit in the findings of such investigations are predictions about the future behaviour of the groups concerned. Such predictions are, however, based on the assumption that the behavioural differences between groups are due to the age differences involved, and that future age changes will bring about similar behavioural differences. The fallibility of such predictions in the field of demography has been pointed out[1]. This investigation is aimed at checking similar findings in the field of absence behaviour in an industrial situation.

The absence records of a group of 140 continuous service men engaged on manual work in an engineering firm during the period 1949–58 formed the material of the investigation. The sample was divided into four age-groups, each covering an approximate 10-yr. span, so that the median age of one group at the end of the period was approximately equal to that of the next oldest group at the beginning of the period. The records for each group were first analysed cross-sectionally for a 2-yr. period 1949–50, and the same groups were then followed longitudinally for a further 8 years. Two measures of absence were used in the analysis: (*a*) the number of occasions of absence, and (*b*) the average length of absences. The data were divided into five 2-yr. periods. The results for the first and last of these periods are summarized in Tables 1 and 2.

For the length of certified sickness absence (Table 2), the cross-sectional analysis based on the 1949–50 data shows a sharp increase in the length of absence for the oldest group. This agrees with the findings of previous investigators, for example, ref. 2. The prediction from this finding would be that, as age increased, group 3 would show a similar increase in length of sickness absence, and an examination of the