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CHILDREN WITH FIRE

by

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Introduction

For some years the numbers of fires thought by Fire Brigades to have been started by children have, with some fluctuations, shown signs of increasing. A curve of the annual frequencies from 1956 to 1964 is given in Figure 1. The high figure shown for 1959 is characteristic of all fire frequency curves and is undoubtedly strongly associated with long, dry summer experienced in that year. There is, however, no doubt of the general upward trend and in 1964 the total was greater even than that of 1959.

It is not only in actual frequencies that the upward trend appears and, as may be seen from Figure 2, fires attributed to children are forming an increasingly large proportion of the total fires attended by Brigades in the United Kingdom; by 1964 about 27 per cent of fires attended were attributed to this cause.

To throw further light on these figures a study has been made of fire reports received during one year. As data were readily available in a useful form for 1962, statistics for that year were used in the investigation.

Occupancies affected

Fires in buildings

The occupancies in which children were believed to have started fires in buildings are shown in Table 1. It will be seen that of the 8,300 fires reported over half (4,678) were in derelict and unoccupied buildings, and a further 836 occurred in the construction industry, which may mean in buildings either in the course of construction or being demolished. There were 750 fires in dwellings and a further 496 in private sheds, garages, etc. From this it appears that while the numbers are large many of the fires cause little financial loss, although they may be a potential danger to the children themselves, and are certainly a nuisance to fire brigades.

Fires not in buildings

There were 16,260 fires which were confined to grassland, heathland or railway embankments. The remaining 12,504 outdoor fires are shown in Table 2. Again, it is clear that a high proportion of these fires were of little economic importance, since over 7,000 of them were in refuse and many others were in open ground.

The majority of the 734 fires in road vehicles were similar in that they were mainly in abandoned or derelict vehicles. There were, however, appreciable numbers of fires in agricultural materials which could have caused considerable losses. For example, there were 34 rick fires in which 50 or more tons of material were lost.

Geographical variations

There is pronounced variation both in the total numbers and the proportion of fires attributed to children playing with fire in different parts of the United Kingdom. In Table 3 the country has been divided into 15 areas and the differences are clearly indicated.

It is possible that some of the differences arise from variations in reporting procedure adopted by different fire brigades. Since in general the areas cover more than one brigade, however, some of these differences are likely to have been reduced by this method of analysis.

It is sometimes suggested that there is sufficient doubt about the origin of many fires for considerable confusion to arise between three categories: Unknown, smoking materials, and children with fire. Fires attributed to these three causes have been added together in Table 4, which shows that even when this has been done area differences still exist. There is however, some reduction in the differences which may be regarded as evidence that some confusion probably exists.

There are also very pronounced regional variations in relation to population density. In Table 5 the frequencies of all fires and of fires attributed to children are shown related to the number of persons per square mile in each of the areas considered. The ranking of the two groups is not the same, although in general the areas with the highest and lowest rates tend to correspond fairly well.

Time of occurrence

Months in which fires occur

The distribution of the fires according to the month in which they occurred is shown in Figure 3. There are very noticeable "peaks" in March and April and less pronounced peaks in June and October. The low figure in November may be somewhat unexpected, but it was very noticeable that the incidence of outdoor fires increased through October and into the early part of November. Of the 1,250 outdoor fires that occurred in November, 1,042, were in the period November 1st to 6th.

Analysis by day of the week

The frequencies of fires on different days of the week are shown in Figure 4. As might be expected, the frequencies are considerably higher at week-ends than during the remainder of the week, and fires on Saturdays and Sundays constitute approximately 40 per cent of the total.

Time of day

Although it is not possible for fire brigades to know for certain when fires start, they can and do record the time of discovery. The times of discovery of the fires attributed to children in 1962 are shown in Figure 5. Approximately 60 per cent of the fires in buildings were discovered between 1500 and 2100 hours, while the morning period (0600 to 1200) accounted for less than one-tenth of the fires. More fires were discovered between 1600 and 1700 than in any other hour of the day.

Sixty-six per cent of the fires not in buildings were discovered between 1600 and 2200 hours, and again, there were few fires during the morning. More fires were discovered between 2000 and 2100 than during any other hour.

Both fires in buildings and those outdoors it seems therefore, tend to occur during the afternoon and evening.

Discussion and conclusions

One important fact which emerges from the study of the statistics of fires thought to have been started by children is that by and large they tend to be unimportant except from a nuisance point of view. There is uncertainty about a number of features of these fires. For example, the term "Children" is not clearly defined and it is doubtful whether fire brigades often have sufficient information to identify particular age groups. Nor is there any indication in most reports of the reason for the fire starting, i.e. it is not known whether children knowingly set fire to a building or whether they were playing with fire and unwittingly started fires which got beyond their control. The sociological importance of these fires (i.e. whether they are likely to be a sign of a developing habit of incendiarism) is not known. It is likely that a proportion of the outdoor fires result from building "Camp fires".

There is no obvious explanation of the variation in the proportions of fires attributed to children in different parts of the country, but this variation is very noticeable, the figures being less than 10 per cent in Wales and Northern Ireland, and more than 30 per cent in the North West of England (Lancashire and Cheshire). There is some indication that these variations arise in part from uncertainty about the causes of fires though the extent of this effect is not known.

The peak periods for fires started by children in 1962 were in the spring and autumn, and although the November 5th period produced a predictable increase in the number of fires, the frequency fell away during the rest of the winter.

As might be expected, there were more of these fires at week-ends than at other times and they tended to be more frequent in the afternoon than in the morning.

Table 1

Fires in buildings - occupancy

Occupancy	No. of fires
Derelict and unoccupied	4,678
Construction	836
Dwellings	750
Private sheds and garages	496
Agriculture, forestry, fishing	410
Financial, professional, misc. services	224
Public administration, defence	168
Distributive trades (retail)	136
Distributive trades (other)	136
Transport and communications	136
Public entertainment	78
Catering, hotels	66
Engineering and allied industries	34
Timber, furniture, etc.	30
Food, drink, tobacco	24
Manufacturing industries not specified elsewhere	20
Bricks, pottery, glass, cement	12
Textiles	12
Mining and quarrying	12
Chemicals and allied industries	8
Clothing, footwear, leather, fur	6
Metal manufacture	4
Paper, printing and publishing	4
Gas, water, electricity	2
Undefined	18
Total	8,300

Table 2

Fires not in buildings - hazard (except fires confined to grassland, heathland, railway embankments)

Hazard in which fire started			No. of fires
Refuse			7,312
Outdoor storage:	coal and coke	6	1,148
	oil, grease, etc.	14	
	timber	1,006	
	other	122	
Road vehicles			734
Grass and heathland			688
Single trees			642
Felled timber			462
Ricks, stacks, etc.			258
Allotments, gardens			140
Woods, forests, plantations			104
Plant, machinery, equipment			90
Railway rolling stock			62
Railway embankments			46
Miscellaneous agricultural hazards			42
Crops, standing or stooked			32
Caravans			28
Railway structures			22
Ships, rivercraft, marine structures			20
Agricultural waste			14
Miscellaneous			660
		Total	12,504

Table 3

Fires attributed to children in different parts of U.K.

Area	No. of fires attributed to children	Proportion of all fires, per cent
North Western	9,126	33.8
London	5,646	26.2
Midlands	3,280	21.4
Eastern	3,022	22.4
Yorkshire (E. and W. Ridings)	2,834	22.7
Northern	2,790	26.7
North Midlands	1,928	17.5
Scotland (except Lanarkshire and Glasgow)	1,832	20.6
South Eastern	1,634	13.5
South Western	1,548	15.2
Southern	1,350	14.8
S. Wales coalfield area	1,042	20.4
Lanarkshire and Glasgow	588	12.7
Wales (except S. Wales)	264	9.8
Northern Ireland	180	7.6

Table 4

Fires attributed to children, smoking materials and unknown causes in different parts of U.K.

Area	Proportion of all fires per cent
S. Wales (coalfield area)	54.1
London	51.7
North Western	50.6
South Eastern	49.9
Northern Ireland	48.7
Southern	47.2
Eastern	45.4
Midlands	43.4
Northern	42.9
Scotland (except Lanarkshire and Glasgow)	40.5
South Western	40.1
Yorkshire (E. and W. Ridings)	36.0
North Midlands	35.6
Wales (except S. Wales)	32.1
Lanarkshire and Glasgow	30.8

Table 5

Fires in relation to population density

Area	Ratio of fires to density of population in persons per sq. mile	
	Attributed to children	All fires
Scotland (except Lanarkshire and Glasgow)	14.8	71.6
Northern	6.4	24.0
Eastern	4.6	20.5
South Western	4.1	26.6
North Western	3.8	11.7
Midlands	3.5	16.2
North Midlands	3.4	19.3
Yorkshire (E. and W. Ridings)	2.7	11.9
Southern	1.9	12.9
Wales (except South Wales)	1.8	18.5
South Eastern	1.3	9.9
South Wales (coalfield area)	0.9	4.2
Northern Ireland	0.7	8.7
London	0.4	1.4
Lanarkshire and Glasgow	0.3	2.6

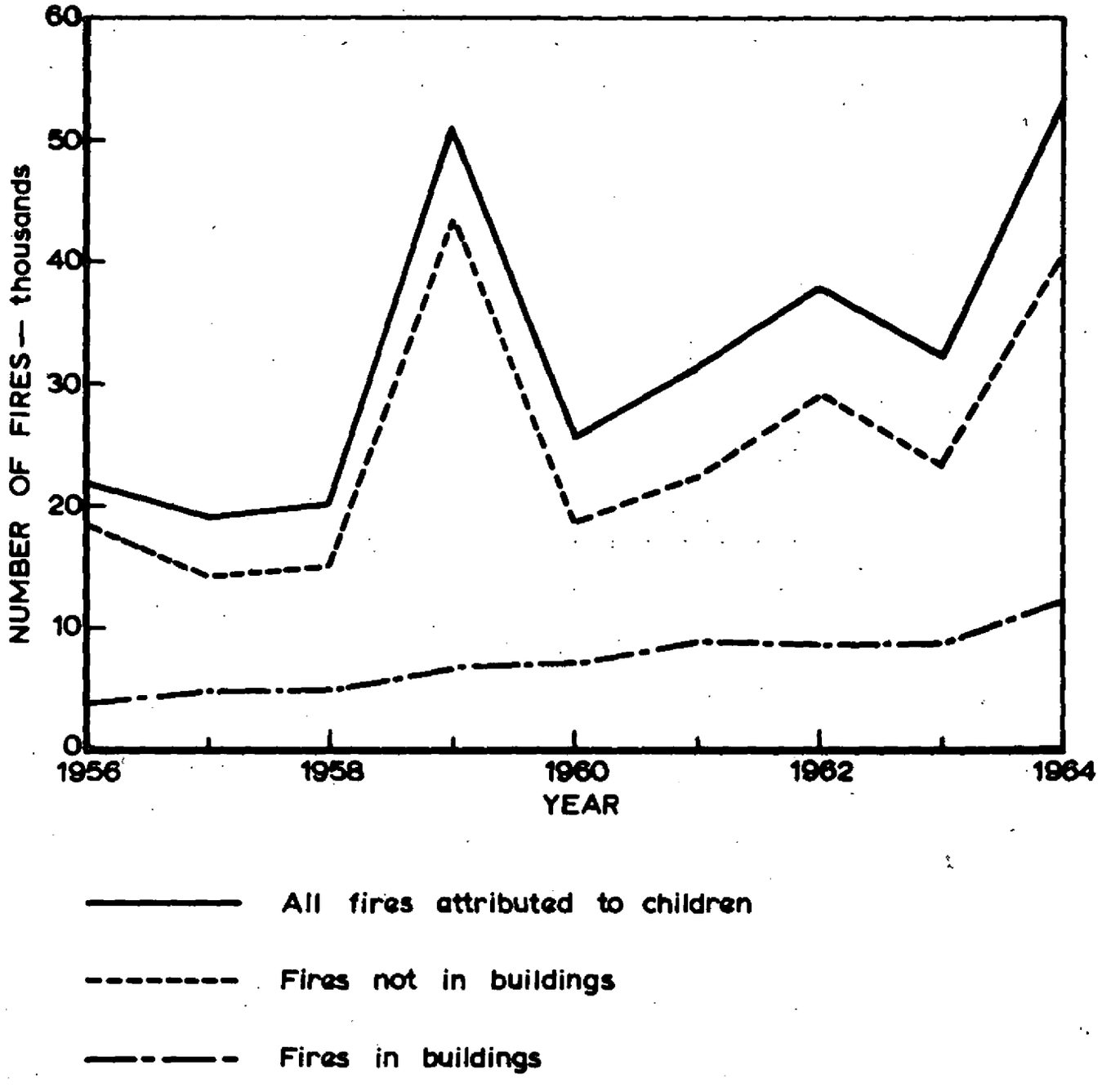

FIG. 1. FIRES ATTRIBUTED TO CHILDREN PLAYING WITH FIRE — 1962

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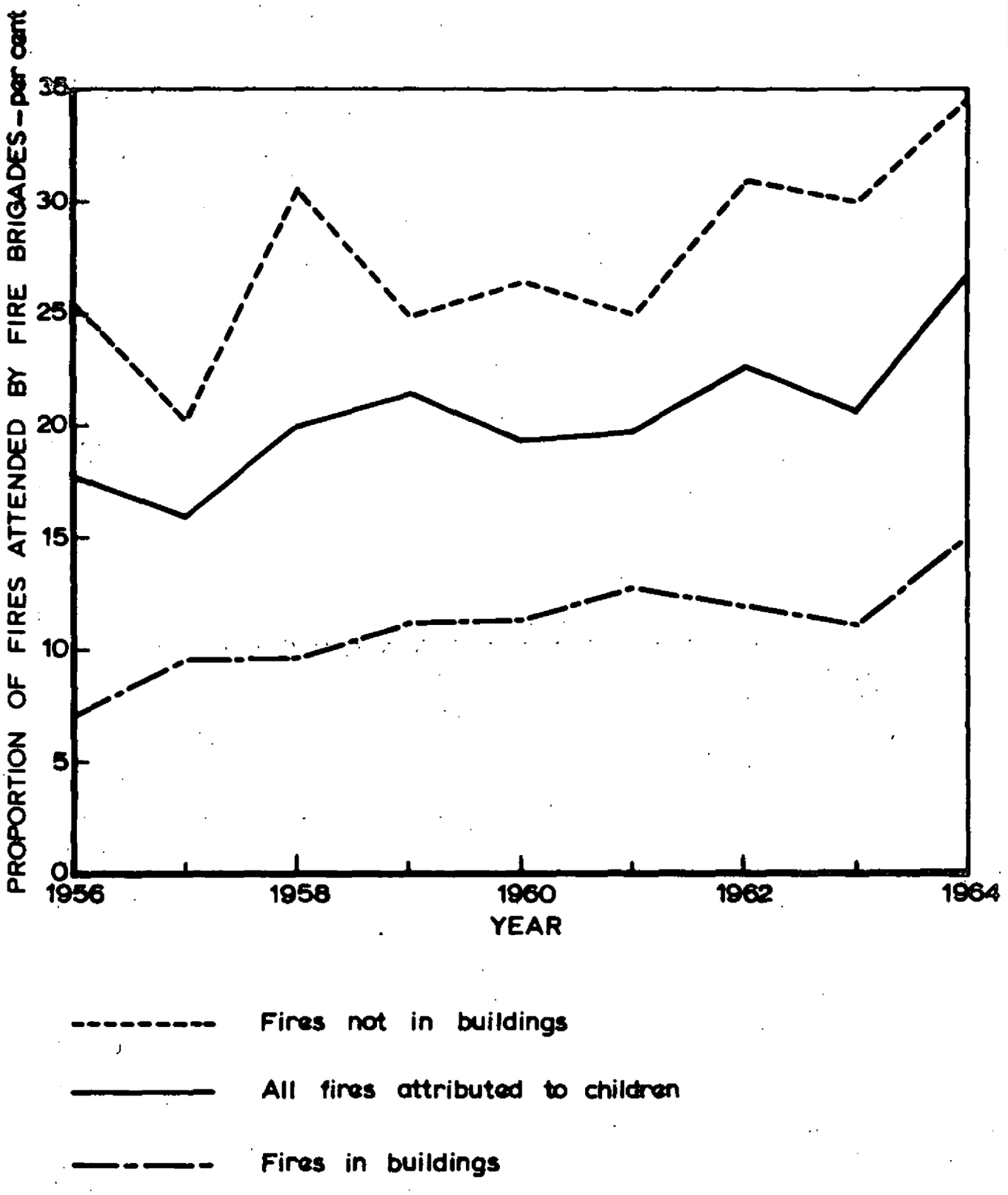

FIG. 2. FIRES ATTRIBUTED TO CHILDREN AS A PROPORTION OF FIRES ATTENDED BY FIRE BRIGADES IN THE U.K. — 1962

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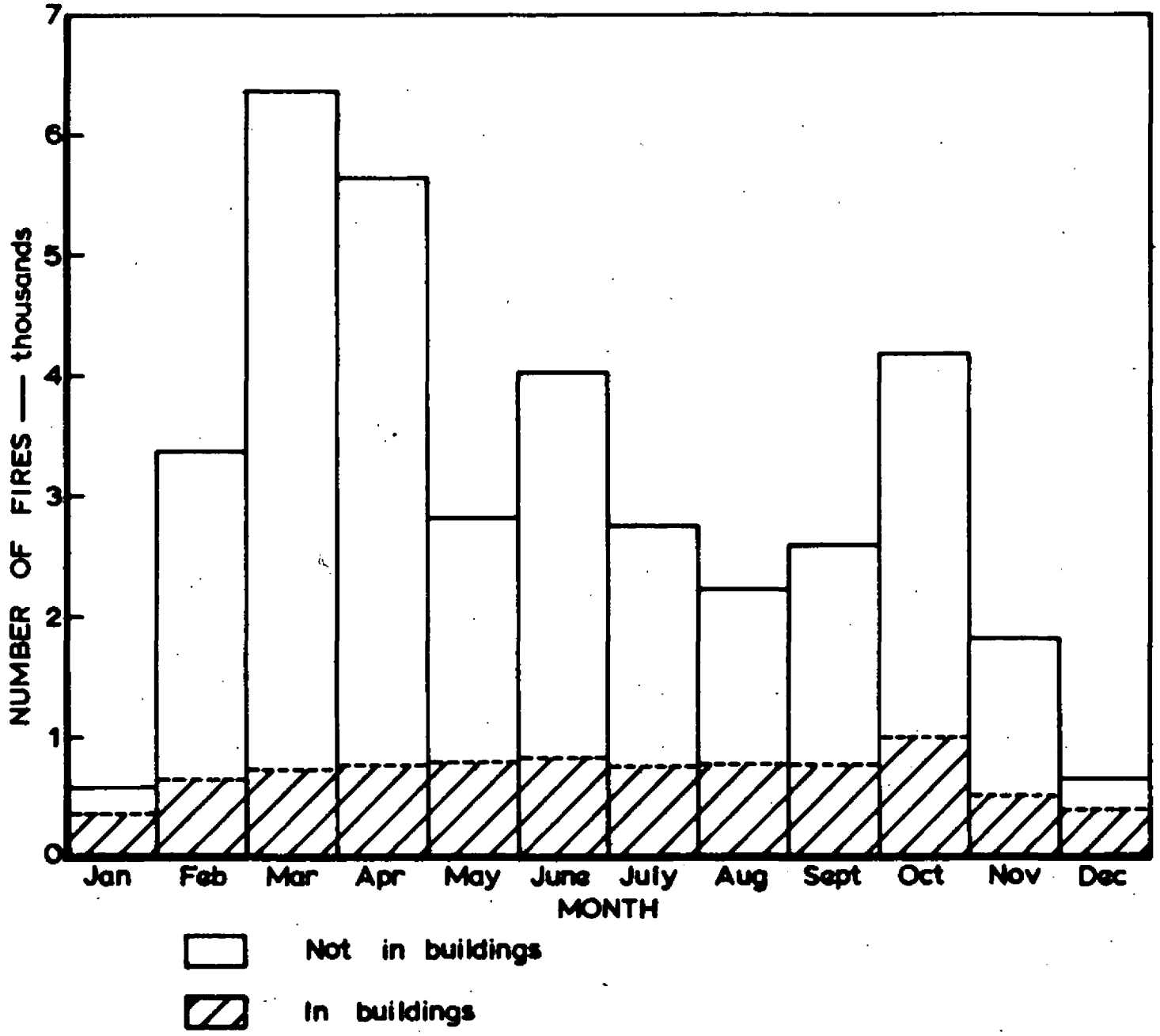

FIG. 3. DISTRIBUTION OF FIRES ATTRIBUTED TO CHILDREN BY MONTH OF OCCURRENCE — 1962

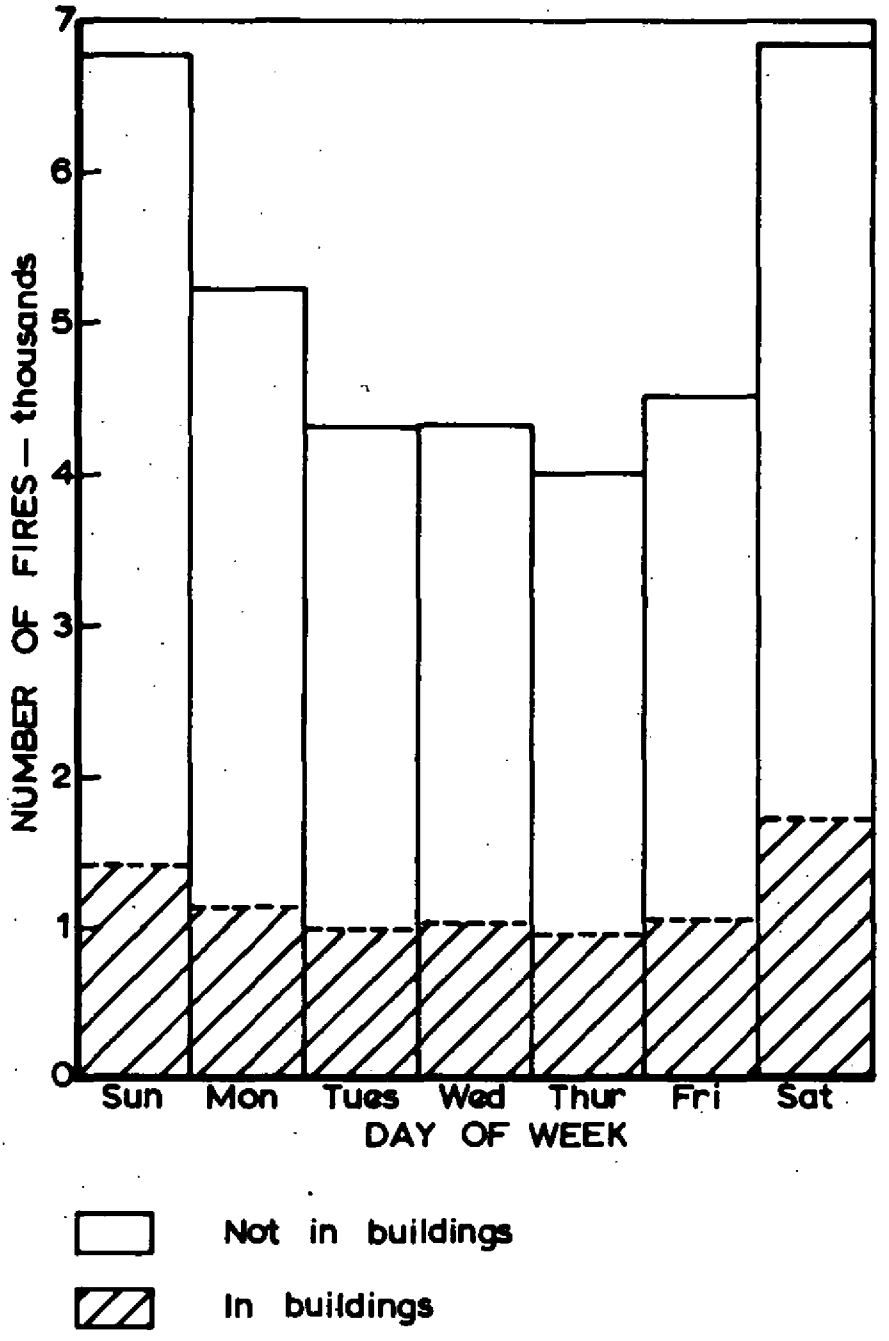

FIG. 4. DISTRIBUTION OF FIRES ATTRIBUTED TO CHILDREN BY DAY OF OCCURRENCE — 1962

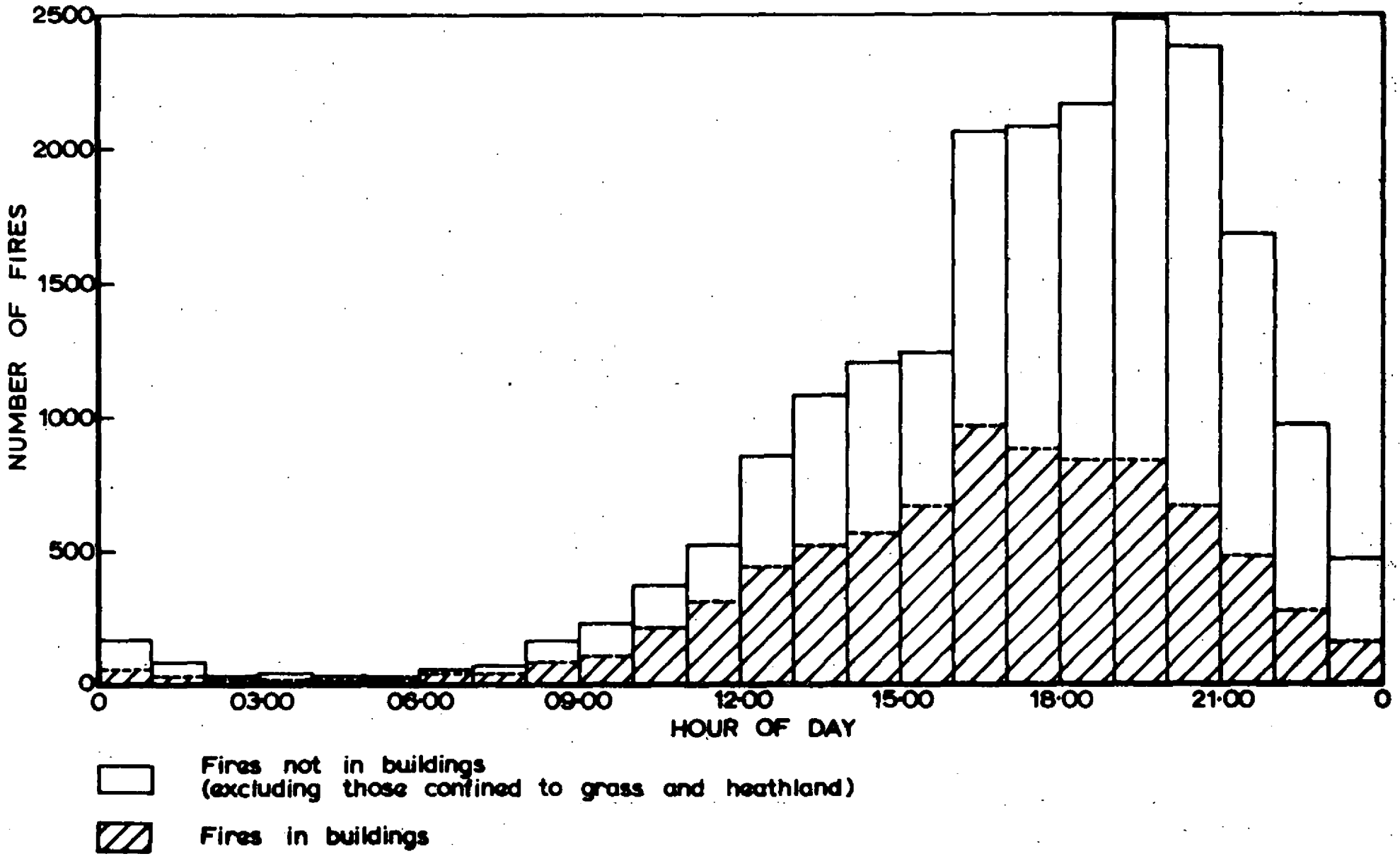

FIG. 5. TIME OF DISCOVERY OF FIRES ATTRIBUTED TO CHILDREN