tells me that he has been unable to trace any original description of them; he adds that "there does not appear to be any reference to these in our collection of Lister's Manuscripts." In Godlee's *Life of Lister*³ it is stated in the appendix that he, Lister, "introduced three improvements in the treatment of stricture." The first was that "he used straight metal bougies about 6 inches in length which enabled him to deal fearlessly and efficiently with the anterior part of the canal . . . for strictures situated further back he devised some curved metal bougies," Lister's special device being the "olive-headed point."

By the kindness of Professor Shaw Dunn, the present curator of the Lister Memorial Collection in the Glasgow Royal Infirmary, I have had the opportunity of examining the set of straight bougies which were presented to the collection by the late Sir Rickman John Godlee. In the MS. *Inventory of Lister Ward and Museum* (at the Royal Infirmary), compiled by the late Professor J. H. Teacher, they form item No. 5, on page 31. The entry quotes a letter from Godlee in which he says that "they [the bougies] were Lister's and he gave them to me." The case contains thirteen bougies, from 0 up to 10, 12, and one not marked, but finer than 0. This last is tapered,

and has a slightly olive-headed point; the others are cylindrical, with a round point (Fig. 1, from drawing made for me by Miss Brown Kelly). The flat, disk-shaped handle is stamped "Young, Edinburgh." In shape they correspond with Cameron's set (*vide supra*), in my possession; but that set is stamped "Gardner, Edinburgh," and ranges from 1 up to 12. Unfortunately, neither of these firms has been able to give me any information regarding specification or date of manufacture.

Summary

1. Metal instruments afford to the surgeon greater accuracy and more direct control over the point.
2. In case of difficult strictures requiring finer sizes of bougies, accuracy and control are greater with straight than with curved instruments.
3. Straight bougies are of great use in opening the path for curved instruments.
4. While metal instruments often succeed where gum-elastic fail, the converse is sometimes true.

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AGE-INCIDENCE AND SEX-INCIDENCE OF MILK-BORNE EPIDEMICS

BY

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In the health department and fever hospitals of Glasgow, where I began to work twenty-six years ago, it was expected that a higher proportion than usual of adolescents and adults would be infected in milk-borne epidemics of scarlet fever or diphtheria, and this was the general experience. I do not recollect when the first observation of the fact was made in Glasgow, but Littlejohn noted it in his annual report for Edinburgh in 1899 as regards scarlet fever, and Claude Ker, writing in 1909,¹ found it to be true for diphtheria as well as scarlet fever. The latter, no doubt accepting as valid the opposite view commonly held in England, suggested that the phenomenon might be peculiar to Scotland and attributable to the use of milk with porridge by persons of all ages in that country. More recently the point has been emphasized in papers by Clarke,² and in a survey of milk epidemics of scarlet fever and diphtheria in the U.S.A. Godfrey found that a similar abnormally high age incidence was common.³ In America, it may be noted, adults consume milk to a much greater extent than we do. These papers must, or should, have been widely read, and it has therefore surprised me to find that students in England are still taught that children and women are chiefly involved in any outbreak of milk-borne infection, and that this statement is repeated in a number of popular textbooks.

My interest in the subject was reawakened when reference to it was made in two recent and admirable books on epidemiology, one by Scott⁴ and the other by Greenwood.⁵ In both of these it is assumed that children are especially affected in milk epidemics, although in the latter the reference is specially directed to the enteric group of infections. When, therefore, Dr. Sleigh⁶ published his account of the Chelmsford epidemic and Dr. Clarke pointed out⁷ that the high average age incidence in this outbreak, which had caused surprise, was not peculiar to it, I thought that the subject was worthy of a little more attention. Unfortunately (from the

epidemiological point of view) my personal experience during the past fifteen years has been limited to very small outbreaks of milk-borne diphtheria. I am therefore dependent in preparing this note, which is to be regarded as an attempt to arouse interest in the subject rather than to settle the question, upon figures kindly supplied to me by Dr. Sleigh of Chelmsford, Dr. Spong of Slough, and Dr. Macgregor of Glasgow, as well as on certain data published elsewhere.

Scarlet Fever

Recent Glasgow outbreaks may be taken first, as being in conformity with Scottish experience.

TABLE I.—Milk Epidemics of Scarlet Fever: Glasgow

Ages	1			1932		
	Milk Epidemic		All Cases	Milk Epidemic		All Cases
	No.	Per cent.	Per cent.	No.	Per cent.	Per cent.
- 5	48	20.5	25.9	32	40.5	25.8
-10	60	25.6	41.6	14	17.7	39.5
-15	31	13.2	16.4	7	8.9	17.6
-20	20	8.5	6.2	5	6.3	6.5
20 and over	75	32.0	9.5	21	26.6	10.6
Total ...	234	100	100	79	100	100

The age distribution of the larger milk epidemic of 1931 might be regarded as typical—a slight deficiency in the age group under 5 years, greatly accentuated for the 5-10 group, and contrasted with a pronounced excess in persons over 20 years of age. In the smaller epidemic of 1932 an excess at ages over 20 years again occurred, but although there was a slight deficiency at ages under 10 years it was due entirely to the small proportion of cases in the age group 5-10 years, children under 5 years being exceptionally affected. This outbreak was associated with a number of cases of sore throat which were presumably not notified as scarlet fever (a point of interest in relation to the Chelmsford outbreak), and was peculiar in that ten cases of erysipelas occurred among consumers of the milk involved.¹

I am unable to give the age incidence for the sexes separately in these outbreaks, but in Table II figures supplied to me by Dr. Sleight of Chelmsford are included and compared with the recent incidence by case-to-case infection of scarlet fever in Cardiff⁹ and Stirlingshire,¹⁰ where the differences in age distribution of the population revealed at the census of 1931 were not sufficient to account for any material variation in the age distribution of the cases.

TABLE II.—*Epidemics of Scarlet Fever*

Ages	Cardiff, 1931-2				Stirlingshire, 1921-30				Milk Epidemic Chelmsford, Aug.-Sept., 1935			
	Males	Per cent.	Females	Per cent.	Males	Per cent.	Females	Per cent.	Males	Per cent.	Females	Per cent.
-5 ...	163	26.8	123	16.4	358	27.5	377	23.2	21	12.2	18	9.6
-10 ...	291	47.9	354	47.2	548	42.1	688	42.4	31	18.0	28	14.9
-15 ...	98	16.1	187	24.9	397	30.5	556	34.3	21	12.2	17	9.0
-20 ...	23	3.8	32	4.3					22	12.8	24	12.8
20 and over	33	5.4	54	7.2					77	44.7	101	53.7
Total	608	100	750	100	1,303	100	1,621	100	172	100	188	100

It will be noted that whereas normally about 30 per cent. of cases in Cardiff and Stirlingshire are over 10 years of age more than 70 per cent. were of these ages in the Chelmsford milk outbreak, and indeed nearly one-half of the cases were over 20 years of age. Although females figured more prominently at the higher ages the excess is not great or explicable on the hypothesis that women drink more milk, when the heavy incidence on adult males is taken into account. As Dr. Sleight pointed out in his article, the Chelmsford age distribution was abnormal, even when compared with the Scottish epidemics, and the most probable explanation, as he has suggested, is that an unusual policy was adopted in notifying and accepting as scarlet fever cases (about 75 per cent. of the total) with sore throat and bacteriological identification of haemolytic streptococci but without any rash whatever. It is likely that scarlatinal infections of this kind would chiefly affect adults, although Hobson¹¹ has recently recorded a high proportion of such cases in school children, and everyone who has handled school epidemics is alive to their significance. While the recognition and control of non-eruptive cases is of great administrative importance in the handling of an epidemic, it is doubtful whether they should be included in the category of scarlet fever for purposes of recording. Obviously they are detected in large numbers only when exceptional interest is aroused by the suspicion of milk as a source of infection or when an institution is specially involved, and their inclusion in records vitiates comparison with the normal incidence of the disease.

It must be admitted, therefore, that this English epidemic is in a class by itself, and cannot be taken as a typical example of the age- and sex-incidence of milk-borne scarlatina. Data have been furnished me by Dr. Spong as to an outbreak occurring at Denham, Buckinghamshire, in March, 1935,¹² and involving eighty-six cases. These were distributed as in Table III.

The most striking feature of this epidemic was the preponderance of cases, especially female, in the age group 5-10 years. Clearly there was no evidence here that adolescents and adults were specially affected, and although females were more involved than males this applied to all ages over 5 years, and was therefore not likely to be due to differential milk consumption. This epidemic, too, appears to have been exceptional because

it was traced to milk given to school children by an education authority, and therefore involved a selected population.

These two recent English epidemics, in Chelmsford and Denham, therefore, do not, in themselves, determine

TABLE III.—*Milk Epidemic of Scarlet Fever: Denham, 1935*

Ages	Males	Per cent.	Females	Per cent.
-5 ...	9	25.0	7	14
-10 ...	19	52.8	35	70
-15 ...	6	16.7	4	8
-20 ...	0	—	—	—
20 and over	2	5.5	4	8
Total ...	36	100	50	100

whether the age distribution characteristic of milk epidemics in the U.S.A. and Scotland is repeated in England, but it is at least clearly misleading to say that children are chiefly affected in such outbreaks. Nearly all epidemics of scarlet fever, of whatever origin, involve children. In the Durham series of case-to-case infections in 1880, particulars of which are summarized by Scott,⁴ 94.4 per cent. of 451 patients were under 15 years of age. In Liverpool, Manchester, Glasgow, Cardiff, and other large towns each year 85 to 90 per cent. of the cases of the modern mild disease are at these ages. Youthfulness of the patients is therefore no criterion of milk infection. There is also no confirmation from such recent data as are available of the statement that female adult patients preponderate because they drink more milk than males.

Diphtheria

One of the most fully reported outbreaks of milk-borne diphtheria occurred in South London toward the end of the year 1913. The age- and sex-distribution as recorded by Macewen¹³ is given in Table IV.

TABLE IV.—*Milk Epidemics of Diphtheria: South London, 1913*

Ages	Males	Per cent.	Females	Per cent.
-5 ...	1	2.4	1	1.3
-10 ...	3	7.3	11	14.1
-15 ...	15	36.6	10	12.8
-20 ...	8	19.5	12	15.4
20 and over	14	34.1	44	56.4
Total ...	41	100	78	100

In the report surprise was expressed at the low incidence in young children, and it was tentatively suggested that this might be due to the fact that children of the poorer classes got little milk and that a high proportion of it might be heated. The last proposition may be true, but it is hard to believe that older people of these classes consume more milk than their children, and the high proportion of cases in both sexes over 20 years of age can hardly be accounted for in this way. It was also suggested that the high incidence in females might be explained in the usual way as being due to the milk-drinking habits of women. In this outbreak 54 per cent. of males and 72 per cent. of females were over 15 years of age. In fact, 72 per cent. of all the cases over 15 years of age were female, which is striking at first sight. I have not ready access to the age- and sex-distribution of diphtheria contracted by droplet infection at that time in the part of London concerned, and there is evidence that the age-incidence changes from time to time and from place to place. The annual reports of English towns do

not, as a rule, give separate age distributions for the sexes. It may, however, be legitimate to compare these figures with the records for all cases of diphtheria in Glasgow from 1924 to 1933 (22,965 cases).¹⁴ There 12.3 per cent. of males and 22.3 per cent. of females were over 15 years of age, and 69 per cent. of all cases over 15 years were female. The contrast in the age distribution, when compared with the London milk epidemic, is obvious, but the difference in the ratio of females over 15 years is insignificant. Diphtheria, then, in this milk epidemic had a high age incidence, but there is no reason to suppose that the sex incidence over 15 years of age differed from that usual in case-to-case infection.

In Cardiff three small but definite outbreaks of milk-borne diphtheria were discovered in 1928. In all thirty-one cases occurred, distributed as to age and sex thus:

TABLE V.—Milk Epidemics of Diphtheria: Cardiff, 1928

Ages	Epidemic 1		Epidemic 2		Epidemic 3		Combined Epidemics		Total
	Males	Females	Males	Females	Males	Females	Males	Females	
- 5... ..	0	1	0	0	1	0	1	1	2
-10... ..	0	4	1	2	1	6	2	12	14
-15... ..	0	1	2	0	0	2	2	3	5
-20... ..	2	1	0	0	0	0	2	1	3
20 and over ...	2	2	0	2	1	0	3	4	7
Total... ..	4	9	3	4	3	8	10	21	31

The numbers in the several age and sex groups have been given for the sake of uniformity with the other outbreaks, but obviously a close analysis of figures of this magnitude would be meaningless. All that need be said is that 32 per cent. of the cases were over 15 years of age as compared with 16 per cent. of all Cardiff cases in 1928, of which there were 487; and that the excess of females was almost entirely in the 5-10 years age group, and could hardly, therefore, have been due to their drinking more milk than males.

In another small epidemic in Glasgow in 1913,¹⁵ no detailed age- and sex-distribution is given, but it is recorded that of 30 cases the ages ranged from 8 to 60 years, only two being under 10. There was a great preponderance of females, 22 as against 8 males, but unfortunately their ages are not recorded.

The experience, then, of London and Cardiff suggests that the age distribution of milk-borne diphtheria in the South may resemble that in Scotland and America, and that there is no such abnormal disproportion in the number of adult females as would account for it.

Bacterial Food Poisoning

When we come to consider the enteric fevers, dysenteries, and food poisonings we are on much more difficult ground. Salmonella food poisoning, being a comparatively rare disease and almost always due to the contamination of some kind of food, affords no "normal" age- and sex-distribution for comparison with milk outbreaks. My own experience of a large milk epidemic in Glasgow, referred to in another connexion by Savage and White,¹⁶ indicates that adults may be heavily involved, but this epidemic affected a number of institutions of which the inmates were chiefly adults. In an equally extensive Gaertner milk infection, involving 497 cases in Aberdeen in 1925,⁴ only 23 per cent. of the cases were under 15 years of age, although only a domiciliary population appears to have been involved. On the other hand, I have a note that of 413 cases infected from other varieties

of foodstuffs in London in 1933 as many as 40 per cent. were under 15 years of age.

Typhoid Fever

Godfrey,³ analysing sixty-four outbreaks of typhoid with 919 cases, and comparing them with all typhoid cases in certain areas, found, as between the relatively small groups of cases under 5 years of age, a large excess in milk epidemics (60 per cent.), slight at 5-10 years (16 per cent.) and substantial at ages over 60 (45 per cent.), where the numbers were again small in both series of cases. As I have already stated, Major Greenwood⁵ accepts the heavy incidence of milk-borne typhoid among children as being usual. Such epidemics are now uncommon, and in places where they do appear the case-to-case incidence is usually so low that no reliable figures are available for comparison. Indeed, there is no area in this country for which sufficiently large figures are available to give the normal age- and sex-incidence of typhoid at the present time. When we go further back we find that the specific death rates from enteric fever have changed from time to time, at least in London¹⁷ and Glasgow,¹⁸ and in the latter town these variations were apparently due to changes of incidence and not of fatality. The time factor may therefore vitiate comparisons of recent milk epidemics with older figures of age incidence by case-to-case infection; and these older records, it must be remembered, probably consist of a mixture of typhoids and paratyphoids, which had not necessarily the same age distribution. These facts being kept in mind, Table VI may be put forward as representing the age distribution of cases of enteric fever in Manchester during the period 1891-1934.¹⁹

TABLE VI.—Enteric Fever: Manchester, 1891-1934

Ages	Cases	Per cent.
- 5... ..	607	5.5
-10... ..	1,302	12.0
-15... ..	1,505	14.1
-20... ..	1,644	14.9
20 and over ...	5,932	53.9
Total	10,990	100

The proportion of cases under 15 years of age in this long series has been over 31 per cent. In Scotland, in recent years, the proportion has ranged from 25 to 35 per cent. Contrasted with 43 per cent. at these ages in the Marylebone milk epidemic of 1873⁴ this "normal" proportion of children is relatively low, and still more so in relation to a small group of 30 milk cases in Llandudno⁴ in 1908-9, 19 of which (63.3 per cent.) were under 15 years of age.

Age distributions are available for some water-borne outbreaks. It may be that women and children drink more water than men, but even if this is so, and they are more liable to contract water-borne disease, it weakens the practical value of age- and sex-differentiation in the identification of milk epidemics. In Lincoln, 1904-5,⁴ 399 of 1,008 cases, or 39.6 per cent., were under 15 years of age; at Bolton-upon-Deane,²⁰ in 1921, of 397 cases 113 were under 10 years of age—that is, over 28 per cent.—and 145 were in the 10-20 age group. If, as is usual, about half the latter were in the age group 10-15 years, the percentage at all ages under 15 would be just over 40. At Malton, 1932,²¹ 270 persons were involved, of whom 59, or 21.8 per cent., were under 10 years, and if the same treatment as before of the 10-20 age group (99 cases) is permitted, again about 40 per cent. of the cases may be estimated to have been under 15 years of age. At

Lincoln there was a preponderance of males at all ages, slightly so at Bolton too, but the reverse was the case at Malton, especially among adults; whereas in both the milk outbreaks quoted above there appears to have been an excess of females, at least among the adults.

These rather scrappy facts seem to suggest that there may be some ground for believing that children are slightly more liable to suffer from enteric fever carried by milk. There appears to have been an excess of females at adult ages in both the St. Marylebone and the Llandudno milk outbreaks. The case for differential age- and sex-incidence, however, is not very convincing. It is even less so when we turn to paratyphoid.

Paratyphoid B Fever

Little information as to the usual age- and sex-distribution of paratyphoid contracted by case-to-case infection is available. In Liverpool, during 1933, fifty-one cases occurred which could not be traced to the consumption of milk or any other food.²² They were distributed as in Table VII.

TABLE VII.—Paratyphoid: Liverpool, 1933

Ages	Males	Females
- 5... ..	3	5
-10... ..	9	6
-15... ..	8	3
-20... ..	3	5
20 and over	3	6
Total	26	25

Exactly two-thirds of the cases were under 15 years of age. The number of females over 15 years of age was nearly twice that of males. These figures may be compared with some recent outbreaks due to milk-borne infection (Table VIII).

TABLE VIII.—Milk Epidemics of Paratyphoid: Chorley, 1924,²³ Hertfordshire, 1927,²⁴ and Glasgow, 1927²⁵

Ages	Chorley		Hertfordshire		Glasgow	
	Males	Females	Males	Females	Males	Females
- 5	8	8	33	37	5	3
-10	5	4			5	6
-15	2	6			10	6
-20	1	2	24	19	5	4
20 and over	3	13	17	36	15	8
Total	19	33	74	92	40	27

These distributions vary somewhat. It is unfortunate that the same age distribution is not available for the Hertfordshire outbreak as for the others. It seems clear, however, that children under 15 years of age were not more affected in any of them than in Liverpool. The percentage at these ages in Chorley was 63 and in Glasgow 52; and even if as many as two-thirds of the cases in the 10-20 age group in Hertfordshire were under 15 years the percentage at ages 0-15 would still be not more than 60. The number of females at the older ages both at Chorley and in Hertfordshire was high as compared with males, but exactly the reverse was the case in Glasgow. There is no recent evidence, then, that a high incidence of paratyphoid in children is a criterion of milk infection, and it remains doubtful whether adult females are affected in milk epidemics to such a special degree as to help in determining the kind or source of infection.

Dysentery

As regards dysentery, there is little information of any value for determining the age- and sex-incidence, and the picture is further confused by the variety of types of micro-organisms which may be involved. It may, however, be worth while to draw attention to the fact that outbreaks where milk is not suspected may fall heavily on the young. At Bradford,²⁶ for instance, in 1934, the age- and sex-distribution of fifty-one cases (type Flexner ZX) arising apparently by case-to-case infection was as shown in Table IX.

TABLE IX.—Dysentery: Bradford, 1934

Ages	Males	Females
- 5... ..	13	10
-10... ..	6	2
-15... ..	2	2
-20... ..	0	0
20 and over	7	9
Total	28	23

Again the figures are small, but so far as they go they may be commented upon. About 69 per cent. of these cases were under 15 years of age. There were rather more adult females than males, and the proportion of all females who were over 20 years of age was higher than for males—just what we are told to expect in milk outbreaks. If a milk outbreak in Aberdeen (in 1919) may be taken for comparison we find an astonishingly high age incidence among 657 cases of a Flexner type (probably Y),⁴ where only 16 per cent. were under 15 years; but here a large proportion of the cases (249) were in a mental hospital, and the contrast with Bradford is hardly fair.

At St. Andrews in 1926 a milk epidemic of Sonne dysentery⁴ was regarded as affecting heavily the young. No detailed age distribution is available, but it is stated that 45 per cent. of 116 persons were under 20 years of age, and that most of them were under 12. From what we have seen this cannot confidently be regarded as an abnormally high proportion. It is also stated that twice as many females as males suffered, but their age distribution is not given. It cannot be said of dysentery, therefore, that there is any recent convincing evidence that a high incidence in children or adult females is a criterion of milk infection.

Discussion

The age- and sex-incidence of outbreaks of infectious disease requires more careful examination than it has received in recent years. In the last century epidemiologists did pay a great deal of attention to this aspect of their work, but most of their data were obtained from death returns or hospital figures of cases. In milk-borne epidemics the heavy involvement of children and older females has appeared to be impressive, and the conclusion has been reached that this is a peculiar characteristic of milk outbreaks. The rather meagre information collected in this paper indicates that, as regards scarlet fever and diphtheria, children actually figure less prominently than usual in milk epidemics, and that there is probably no differential incidence in adult females. When the alimentary infections are considered there appears to be some ground for thinking that typhoid may be discovered among a higher proportion of young persons than usual when milk is the source of infection, and that women, too, may suffer more; but these features are insufficiently prominent to distinguish milk epidemics—at least, from

those which are water-borne. In epidemics of paratyphoid and dysentery there is no definite evidence in favour of the prevailing view.

It is not the object of this paper to discuss the reason for such age- and sex-variations as may occur. It is clear that comparisons with "normal" incidence may be seriously vitiated if limited groups of the population are specially exposed to infection either from contact or from the consumption of such an article of diet as water or milk, as, for example, when institutional inmates or pupils of a particular school are involved. Apart from this, however, there is one point which I think should be kept in mind. During unusual epidemics of any kind it is likely that a higher proportion of mild or anomalous cases will be discovered. If this is so a larger proportion of adolescent and adult cases will be detected when scarlet fever and, perhaps, diphtheria are the diseases in question. The Chelmsford milk outbreak is an outstanding instance, actually three-quarters of the cases showing no rash, though they were recorded as cases of scarlet fever. On the other hand, the true nature of alimentary infections, especially of typhoid, is more apt to be missed in children at ordinary times¹⁸ than among adults, so that their detection at times of special interest, as in the course of a milk epidemic, may give a false idea of their prevalence. It is possible that there is really no differential age incidence at all in milk epidemics. This view, however, would not explain Clarke's finding that the past occurrence of unsuspected milk infection can be detected by going over the records of scarlet fever cases, and identifying an abnormal proportion of older cases. Milk outbreaks are likely to become much less common, and it may be difficult to clear up some of these points.

Suggestions

1. That every milk or other special outbreak of infectious disease should be published, however briefly.
2. That reports should note whether special social or institutional groups of the population are involved.
3. That the age- and sex-distribution of cases should always be given, in five-year groups up to 20 years of age, even if the numbers are too small to bear statistical analysis. Cases attributed to direct infection from milk should be distinguished from those presumably secondary and due to contact. The accumulation of records of small outbreaks may be useful.
4. That the annual reports of medical officers of health should give sex as well as age groups of all cases notified each year. Similar distributions should be given in fever hospital reports for verified cases.
5. That Central Government reports should give age- and sex-distributions of cases notified each year. The annual report of the Department of Health for Scotland contains age distributions of cases, but no information whatever is available for England and Wales, either in the Registrar-General's Annual Statistical Review or in the reports of the Ministry of Health. The imperfection of such records is of course obvious, but the fallacies which might arise in using them are less serious than our complete ignorance of the incidence of infection by age and sex so far as the whole country is concerned.

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NASAL OBSTRUCTION IN THE NEWBORN

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The urge to breathe through the nose is so strong in the newborn infant that not infrequently, when nasal obstruction is present, the baby will die rather than develop mouth-breathing in the early days of life. It is obvious that nose-breathing is essential if the baby is to obtain nourishment by suction at the breast, and herein, no doubt, lies the reason for the natural instinct. When there is any degree of blockage of the nasal airway in the newborn infant respiratory failure may easily develop.

It appears likely that the facility to breathe through the mouth develops by about the tenth to the fourteenth day of life. Warwick James and Somerville Hastings¹ have investigated this point by observing closely the breathing habits of normal newborn babies, trying the effect of obstructing the nose; in their opinion, breathing takes place exclusively through the nose in the newborn period, even though the mouth may appear to be open.

Congenital Obstruction

The great difficulty experienced by the newborn infant in acquiring the mouth-breathing habit is illustrated by two examples of congenital obstruction of the nose which have recently been under observation.

Case 1.—Baby F., born at Queen Charlotte's Maternity Hospital, was seen at the age of 1 day. There was obvious nasal obstruction, with great difficulty in respiration until the mouth was held open. Mr. Monkhouse curetted the post-nasal space hoping to find adenoid tissue. This, however, was not present, and an attempt to introduce a probe through the nares showed that there was bony obstruction on both sides. A catheter was passed into the trachea in an effort to maintain an airway to the lungs, but the baby coughed it out and, unless the mouth was propped open, would not breathe at all. Despite efforts to achieve this, cyanotic attacks continued and the baby died aged 2 days. A partial post-mortem examination by Dr. R. M. Fry showed a bony abnormality obstructing the posterior nares.

Case 2.—Baby H. was admitted to the Hammersmith Hospital, aged 17 hours, with a history of great difficulty in breathing since birth. There was an obvious abnormality of the nostrils, and nasal breathing appeared to be impossible. A tracheotomy tube covered with rubber tubing was tied into the mouth, so that it curved back over the tongue into the back of the pharynx, and by means of this artificial airway breathing improved. Great difficulty was experienced in feeding the baby, although this was successfully attempted through a stomach tube passed alongside the tracheotomy tube. The child's general condition tended to deteriorate, and she died, aged 4 days, with a rising temperature and rapid respiration. Mr. Sydney Scott found that there was complete