outwards from the left upper hilum to the outer subclavicular region. The white cell count was 3,300. There was no sputum throughout the illness. He had eight days' mild pyrexia, and three weeks after the onset radiographs showed only a little residual striation.

Case 113.—L/Cpl. H., aged 21, was admitted on Aug. 16 complaining of headache, dyspnoea, and general malaise. He also had pain in the right chest anteriorly on respiration. Three days after admission he had a small haemoptysis, but no physical signs were detectable till the following day, when crepitations with distant tubular breathing were heard at the right base and radiographs showed an oval consolidation situated on the diaphragm, which was slightly elevated. The white cell count was 5,650 per c.mm. On admission his temperature was 100° F., but on the two succeeding days it reached 103° F., and settled by lysis on the sixth day. The pulse was never more than 100 and respirations 22. Culture of the sputum showed streptococci, pneumococci, and *M. catarrhalis*. A radiograph four weeks after the onset showed only a slight residual opacity.

Case 118.—Gdsman. I., aged 22, was admitted on Sept. 25 with a history of a few hours' headache and shivering. His temperature on admission was 104° F. and pulse 110. Blood smears were negative for malaria. On the 27th no physical signs were detected, but radiographs showed a fan-shaped area of consolidation in the left upper zone, chiefly peripheral. The left hilar glands were notably enlarged. The white cell count was 5,200 (polymorphs 55%, lymphocytes 40%, monocytes 4%, eosinophils 1%). He had no sputum till four days after the onset, when there was a slight haemoptysis. He had a high intermittent fever (100° to 104° F.) for nine days, but made a rapid convalescence.

Case 120.—Dvr. J., aged 37, was admitted on Sept. 23 complaining of headache, shivering, and backache. He had a slight cough with a little mucoid sputum, and complained of pain in the left lower chest anteriorly. A few coarse crepitations were heard in this area, and radiographs showed a fan-shaped opacity in the left lower zone of medium density, extending outwards from the lower hilum and leaving the costophrenic angle free. The white cell count was 5,000 per c.mm. (polymorphs 61%, lymphocytes 37%, monocytes 2%). Blood culture was negative. Temperature on admission was 101° F.; thereafter he ran a high intermittent fever, with frequent peaks of 103° F., for nine days. Radiographs three weeks after the fever subsided showed that the lesion was rapidly resolving.

Discussion

During some months of the Italian campaign atypical pneumonia was an important cause of long-term sickness. As compared with other reports available to us, our cases ran a much more acute course, as evidenced by the high temperature maintained with small intermissions, but complications were absent and there was no morbidity. Our evidence supports the view that the disease is of virus origin, and the similarity of the clinical and radiological pictures suggests that in this series the same virus was responsible. There was no evidence of association with other known virus diseases. It is notable that diseases presumably due to a virus—infective hepatitis, varicella, poliomyelitis, and atypical pneumonia—have occupied a pre-eminent place as causes of long-term sickness in this campaign. This is testimony to the fact that in the Second World War the bacterial diseases have been largely under control, thanks to sulphonamides and the various prophylactic measures. Apart from typhus, the answer to most of the virus diseases is still awaited.

In many cases the severity of the illness was in marked contrast to the small area of lung involved. This suggests an analogy with poliomyelitis, in which the lesion may be very small even in fatal cases. But while a small local lesion is the rule in poliomyelitis, fatal cases occur, with widespread damage to the nervous tissue. Is it to be feared that atypical pneumonia also may produce extensive lesions, and will this prove to be the "influenzal pneumonia" of 1918 and 1929? Just as in severe cases of poliomyelitis acute haemorrhagic reaction may occur, so in atypical pneumonia frank bleeding from the irritated lung tissue is not infrequent, unaccompanied by the bacteria-laden mucus seen in pneumococcal pneumonia.

In view of the frequent association of malaria and atypical pneumonia in this series we recommend that cases of malaria which fail to respond to quinine should have a thorough clinical and radiological examination to exclude the association. It has been our practice in these cases to continue antimalarial treatment with quinine only when the atypical lesion has been discovered; for, as we have stated above, every patient in whom the pneumonia was diagnosed was given sulphapyridine or

sulphathiazole, and it has been our experience that a sulphonamide and mepacrine together may not be well tolerated. The combined use of a sulphonamide and quinine, on the other hand, causes no disturbance.

Summary

Cases of primary atypical pneumonia to the number of 112 were admitted to a military hospital in Italy during the spring of 1944. For some weeks the incidence reached epidemic proportions.

Most of the cases had an acute onset and ran a high intermittent fever for an average of eight days. In other respects the clinical findings were similar to those in recent British and American reports.

There were no complications and no morbidity, but there was considerable debility, requiring four to six weeks' convalescence, so that the majority of these men were off duty for a total of about eight weeks.

One-third of the cases had a benign tertian malaria infection in addition to atypical pneumonia. There was no evidence that the association was other than fortuitous in a population among whom malaria was prevalent.

Sulphathiazole and sulphapyridine had no effect on the course of the illness, but we ascribe the absence of complications and secondary fevers to their routine use. There was no indication that they had any toxic effect on the polymorphonuclear leucocytes, and when used in combination with full doses of quinine, in the malaria cases, no adverse effect was noted.

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INCIDENCE OF PUERPERAL AND LACTATIONAL MASTITIS IN AN INDUSTRIAL TOWN OF SOME 43,000 INHABITANTS

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It is very difficult to estimate the true incidence of mastitis, as most statistics come from hospitals and cases occurring in domiciliary midwifery practice are not included. In addition, information is not as a rule available to the hospital staff as regards the occurrence of mastitis in patients after they have been discharged from maternity hospitals—usually not later than, and often before, the fourteenth day of the puerperium. Hospital statistics thus tend to underestimate the number of cases.

Moon and Gilbert (1935) state that the frequency of puerperal infections of the breast is probably underestimated and too little notice is taken of the associated morbidity, the chief reasons for this being that (1) patients pass to surgical care other than that responsible for delivery, and (2) there is practically no mortality due to mastitis. Waller (1938) supports this view, and is sure that many lying-in institutions underrate the risk of breast infections through not hearing of the results. Chatillon (1941) says that statistics found in the literature, although valid for any particular institution, give only a very imperfect idea of the real incidence of mastitis because of lack of information

as to what happens to women after discharge from hospital or to those delivered at home. Macpherson (1943) also holds this opinion, and may be quoted: "Infection in the puerperal breast, however, has received less attention than its frequency and ill effects upon the mother merit, possibly because most cases begin about the time of the patient's discharge from institutional care, after a hitherto apparently normal puerperium." Rubeska is quoted in Williams's (1941) *Obstetrics* as finding a frequency of 0.54 to 4.1% in the various German clinics, while Waller (1938) found that out of 163 patients attending his clinic, and all delivered in one hospital, 11 (6.7%) developed suppurative mastitis. Chatillon (1941) estimates that the incidence has fallen during the past 40 to 50 years from 5-15% to 0.5-1.5%. Gilbert (1941) states that 3% in a series of 100 cases had recurrent mastitis—"which is higher than the usual incidence"; and Robinson (1943), in a series of 1,100 cases of failing lactation, found that 33 (3%) gave a history of breast abscess. It may be noted that most writers estimate the maximum frequency at the present time to be not more than 3%, and that the author who records the highest incidence (6.7%) obtained his statistics from a child welfare clinic.

In view of the meagre information available, apart from hospital statistics, about the incidence of mastitis it was thought that an inquiry into the relevant conditions in a circumscribed area might shed some light on the problem.

The Investigation

The area concerned is an industrial town in Scotland with a population of roughly 43,000, and has a municipal maternity hospital with 30 beds. In order to ascertain the actual frequency of mastitis a system of "unofficial" notification was initiated. Each health visitor was asked to notify, using a standard form of notification, all cases of puerperal or lactational mastitis occurring in her district. This did not give an absolutely complete incidence for the period under review, as almost certainly some cases were missed, but any inaccuracy must have been on the side of underestimation.

Criterion.—Definite evidence of suppuration was the criterion adopted as to what constituted mastitis. Without such a standard it would have been difficult to exclude "breast flush" or simple engorgement; and, for the purpose of this survey, mastitis was considered to be present only when there was a history of spontaneous evacuation or incision of an abscess.

Period under Review.—The notification scheme was started in Dec., 1941, and cases known to have occurred in the later months of 1941 were included to cover the period from Sept. 1, 1941. Any case of mastitis occurring after Dec. 31, 1943, was excluded. The period under review was therefore two years and four months.

Incidence.—This has been taken to be the number of cases of suppurative mastitis occurring from Sept. 1, 1941, to Dec. 31, 1943, as a percentage of the total births. The incidence found may be slightly lower than the true one, as the notifications for the months of Sept., Oct., and Nov., 1941, were retrospective and depended on the memory of the health visitors. For this reason the incidence for each year is given separately.

During this period 156 cases of suppurative mastitis were notified—i.e., almost one in every ten recently parturient women in the town certainly suffered from breast abscess—while the following must also be taken into consideration: (1) Some cases may not have been reported, or may have been missed for some other reason; (2) patients who had mastitis which resolved without going on to abscess formation were not included. The real incidence of mastitis, including non-suppurative forms, must therefore have been higher than the figures given in Table I would suggest.

TABLE I

	Total Births	Mastitis Cases	Percentage
1/9/41 to 31/12/41	251	16	6.37
1942	737	77	10.45
1943	763	63	8.26
	1,500	140	9.33
Totals	1,751	156	Mean, 8.91

Parity.—In the series of 156 cases of mastitis 92 (59%) were primiparae and 64 (41%) were multiparae (Table II). The proportion of primiparae to multiparae in all the burgh births

during the period concerned is not available, but it is possible to give the proportion for the maternity hospital. It may be contended that a hospital proportion would not be truly representative, as in most maternity hospitals first confinements predominate. This contention does not apply to any great extent

TABLE II.—Parity

Hospital deliveries:			Mastitis cases (156):		
Primiparae	::	51.4%	Primiparae	::	92 (59%)
Multiparae	::	48.6%	Multiparae	::	64 (41%)

in the hospital concerned, as most confinements (over 90%) were booked cases, admitted strictly in order of application and not on account of any anticipated difficulty nor because of primiparity; less than 10% were emergency admissions. Of the total confinements in the maternity hospital from Sept. 1, 1941, to Dec. 31, 1943, 51% were of primiparae. The proportion of primiparae to the total births for the burgh was not likely to be greater, and therefore it will be seen that a slightly larger number of primiparae developed mastitis (59%) than might have been expected from the proportion of primiparous patients (51%) found in the local institution. The percentage of primiparae in this series was not so high as that found by Moon and Gilbert (1935) in the City of London Hospital (73%), and was more in agreement with Winckel's estimate (two-thirds were primiparae) as quoted in Williams's *Obstetrics* (1941).

Place of Delivery.—Most authorities are agreed that mastitis is more common in institutions. Moon and Gilbert (1935) found a much smaller incidence of mastitis in their district patients, who were, broadly speaking, of the same social status and general health as the hospital patients; and they came to the conclusion that acute puerperal mastitis is essentially an institutional disease. Chatillon (1941) says that mastitis seems to occur more often in maternity institutions than in the patients delivered at home, and Waller (1938) also considers that the incidence of mastitis is much higher in women delivered in institutions. Although in the present investigation very few cases of mastitis actually occurred in the municipal maternity hospital, 121 of the 156 patients (77.6%) had been delivered in the hospital (Table III), the condition usually

TABLE III

	Hospital	Home	Total
Number of confinements	748 (42.7%)	1,003 (57.3%)	1,751
Number of mastitis cases	121 (77.6%)	35 (22.4%)	156
Percentage who developed mastitis	16.18	3.49	8.91

developing after the return of the mother to her own home. This figure is higher than was to be expected, as the percentage of all burgh births taking place in the hospital for the period under review was under 43 (45 for the past five years). To put it another way, 16% of women delivered in hospital developed mastitis, while only 3.5% of women delivered at home did so. There is a significant difference here, and these figures provide strong evidence in support of the view expressed by most writers that mammary infections occur more frequently in women who are delivered in maternity institutions. Although mastitis was found to be more common in primigravidae the high incidence in hospital patients would not be accounted for by this factor alone, as only approximately half the patients delivered in hospital were primiparous women.

Time of Onset.—As records of the time of onset of mastitis usually come from maternity hospitals, and as hospital staffs may have no knowledge of cases occurring after the patients have been discharged from hospital, the figures may exaggerate the earliness of its appearance. According to Williams's *Obstetrics* (1941) the symptoms are rarely seen before the end of the first week of the puerperium, and as a rule not until considerably later. Moon and Gilbert (1935) found that the average time of onset in a hospital series was the eleventh day of the puerperium, varying from the fourth to the twenty-fourth day. The exact date of onset was known in 93 of their patients, and in 80 (86%) it occurred before the end of the second week. According to DeLee (1938) the parenchymatous (most common) type seldom begins before the seventh day, and most often occurs from the tenth to the twentieth day. Kenny (1941) says that the symptoms usually appear late in the

puerperium, often in the third week or later, while Macpherson (1943) found that 15 out of 26 cases (57%) occurred within one month of parturition. The authors of *Queen Charlotte's Text Book of Obstetrics* (1943) state that mastitis usually arises during the third week of the puerperium. Waller (1943) considers that 90% of acute abscesses of the breast occur within the first month after delivery. In the present series, in only 16 of the 156 cases (Table IV) did the first symptoms appear before the end of the second week, and in only four during the period normally spent in hospital. The highest weekly incidence was in the third week after delivery, and the latest time recorded was when the infant was 5 months old (two cases). Only 16 (10.3%) began before the end of the second week. This may be compared with the percentage of 86 given by Moon and Gilbert (1935); but their statistics related to a hospital series. The time of onset in our series was more in agreement with the views of DeLee (1938)—one-third of the cases occurring from the tenth to the twentieth day—and of the authors of *Queen Charlotte's Text Book of Obstetrics*. It should be noted, however, that, although the highest weekly incidence was in the third week, 45% of the cases occurred after the end of the fourth week.

TABLE IV

Time of Onset	All Cases	Cases Delivered in Hospital
During pregnancy	1	0
1st week	0	0
2nd week	15	12
7-10 days	4	
10-14 days	11	
3rd week	41	33
4th "	29	24
5th week	26	18
6th "	11	9
7th "	13	12
8th "	6	4
9th "	5	4
10th "	1	1
11th "	2	0
12th "	1	0
13th "	0	0
14th "	1	1
15th "	0	0
16th "	1	1
17th "	0	0
18th "	1	1
19th "	0	1
20th "	1	1
21st "	1	0
Total	156	121

Discussion

The incidence of mastitis (8.91%) found as a result of this investigation is much higher than is generally believed to be the case. It can be argued that the town concerned had a larger number of breast abscesses than other areas; but this argument would be difficult to substantiate, because comparable figures for other areas are not generally available. Most statistics are gleaned from hospital records, and these of necessity include only cases occurring early in the puerperium and in women delivered under the aegis of the hospital—intern or extern. They do not include cases arising after discharge from hospital or those of women delivered at home by the family practitioner or midwife. Chatillon (1941) admits this difficulty, and casts doubt on the value of low statistics from hospitals. He says: "We know by experience that a number of mammary infections begin only after the patient leaves hospital." Published figures probably, indeed almost certainly, underestimate for this reason. The incidence reported from other areas would no doubt be much lower than that found in this investigation, but it should be noted that if the investigation had not been carried out the incidence for the burgh as obtained from hospital statistics would have been much lower. The number of cases actually occurring in the maternity hospital and known to the staff of that institution was very small. Reference to Table IV shows that in only five instances did the onset occur before the tenth day of the puerperium (the usual time of discharge from the hospital), and only 16 cases (10.3% of the total) occurred before the end of the second week. The one other likely source of information was the general hospital of the town, and it was found that only 58 of the 156 cases had been treated in that institution. The others, apart from those in whom spon-

taneous evacuation had occurred, had had incision done either in their own homes or in hospitals outside the burgh. The claim can therefore be made that it was only because of this special investigation that the high incidence was brought to light.

The incidence may have been still greater than the figures given in Table I would suggest, as it is highly probable that even with the aid of the notification scheme some cases were missed and cases of non-suppurative mastitis were excluded. It is significant that when, for the purposes of another inquiry, some 250 women in the same town were carefully followed up for a period of six months after delivery, the incidence among them was even higher—viz., 25.1%—and a further 5.4% had a history of mastitis which subsided without abscess formation. It may be submitted not only that the compilers of hospital statistics underestimate the frequency because they do not know about cases occurring outside, but that notification under a scheme such as that instituted for this investigation also underestimates, although not to the same extent, because of "missed" cases.

To account for the large number of cases of mastitis occurring during the period under review the possibility of an epidemic must be considered. It is of interest to note that the maternity hospital was closed at the beginning of 1943 because of an outbreak of post-partum pyrexia and other signs of infection. On the other hand, the incidence of mastitis during this period did not show any unusual increase, and, after a short period of closure followed by more strict limitation of admissions, the maternity hospital had no further trouble. It should also be noted that the incidence of other infections in the burgh did not show any abnormal rise during 1942 and 1943. If the high incidence found was due to the investigation coinciding with an epidemic period it would seem that the epidemic was of considerable duration, and the matter can be cleared up only by further observations.

Another fact which emerged as a result of the investigation was that there was a much higher incidence of mastitis among women who had been delivered in hospital. It should be pointed out that only one hospital was concerned, and it is possible that some factor applicable to that one institution may have been partly responsible; for instance, owing to excessive demands on its accommodation the hospital was often overcrowded. There is no doubt that this high incidence among hospital patients merits deep consideration in view of the increasing tendency for confinements to take place in institutions. Probably the most important factors responsible for the undue prevalence among hospital patients are as follows:

1. *The Presence of Micro-organisms in Cases of Infection, in "Carriers" (Patients, Staff, and Visitors), in Dust, etc., to Which the Newly Delivered Woman has Not Acquired an Immunity.*—At the present time "black-out" conditions and deficient ventilation probably increase the importance of this factor, and, although the same "black-out" conditions exist in the home, they may not be so dangerous, owing to the patient being more resistant to any micro-organisms present.

2. *The Possibility that in Overcrowded Nursery Conditions the Infant Acquires Micro-organisms which are Later Transferred to the Mother.*—Henderson (1943) has shown that there is a high incidence of neonatal infection in maternity hospitals, that *Staph. aureus* is the commonest cause of such infection, and that staphylococcal conjunctivitis is much the commonest staphylococcal lesion. He considers that the causes of the high incidence are overcrowding of nurseries, absence of barrier nursing precautions, and inadequacy of nursing staff. Benians (1943) found in a maternity hospital that a high proportion of infants and people of all ages carry *Staph. aureus* in the anterior nares; almost 100% of infants in the nurseries of the hospital were nasal carriers at the age of 10 days, and the carrier rate among the nurses varied from 25 to 85%. In such conditions, especially when overcrowding of the nursery coexists, it seems to be extremely likely that an infant may leave the maternity hospital harbouring in the eyes, nose, or skin a strain of *Staph. aureus* to which the mother is not inured; the transference of these organisms to the breast of the mother during suckling would be almost unavoidable.

In order to minimize the risks of infection it is very necessary that in maternity hospitals or units attention should be directed to the provision of adequate bed-spacing (the Medical Research Council Subcommittee (1944) recommends that the distance between bed centres should be not less than 12 ft.), proper ventilation, avoidance of overcrowding, and the desirability of cubicle nursing for both mothers and infants. It is also advisable that there should be ample

window space, as Garrod (1944) has shown the bactericidal effect of light—even diffuse daylight; while van den Ende and his co-workers (1940, 1941a, 1941b, and 1941c) have demonstrated that oiling of floors and bedclothes reduces the number of dust-borne bacteria in a ward.

3. *The Tendency to Overcrowd Institutions.*—This may act in two ways—by increasing the chances of infection, and by reducing the time available for carrying out adequate prophylactic measures and for careful supervision of breast-feeding.

4. *The Rigid Hospital Routine of Feeding, with Unduly Long Intervals (Usually Four Hours) Between Feeds, thus Encouraging Stasis.*—This is probably an argument in favour of three-hourly feeding in the early days and also for feeding from both breasts at each feed. Moreover, there is the strict adherence to a timetable, so that the infant is kept for a fixed time at the breast, whether or not he is getting milk, thus tending to cause trauma of the nipple. Admittedly, more frequent feeding and more careful supervision during feeds would require a larger staff than most institutions possess at present.

5. *Malnourishment Predisposing to Infection.*—A further possibility to be considered is that the woman who is delivered in hospital belongs to a special type, perhaps of a poorer class and therefore more likely to be undernourished. Statistical information on this point is not available, but the impression is that the hospital patients in this series were representative of the population as a whole. Against this hypothesis is the fact that the results of this investigation showed that mastitis did not occur more often in women of the lower-income class.

To account for the fact that in this series most cases began after leaving hospital is difficult. It may be that so long as the patient is under supervision and strict precautions are being taken to prevent the entry of micro-organisms—such as by covering the nipple between feeds—the infection can be warded off. This prophylactic technique may, however, break down when the patient returns home, and infection may then occur. This would not explain why infection occurs less often in women delivered in their own homes, where, presumably, the same breakdown in technique is as likely to happen. Other possible explanations are a long incubation period for the infection acquired in hospital, infection of the mother by her infant after discharge from hospital, or that recently parturient women are discharged from hospital before the time of greatest susceptibility.

The maximum incidence occurred during the third week of the puerperium, and there would appear to be a strong argument in favour of retaining patients in maternity hospitals for a longer period than is the present custom or than is possible with the accommodation available. Women are discharged on the tenth day of the puerperium—or even earlier when there is a demand for beds—before lactation is sufficiently well established and at a period when great difficulty with the process is often experienced. At such a time, and before the mother has fully recovered from the confinement, the added strain and worry of going home to cope with household duties and a new infant, combined with lack of time to carry out the general routine of antisepsis learned in the hospital, may perhaps tip the balance and precipitate the onset of an infective process. It may seem inconsistent to point out that mastitis occurs much more often in women delivered in hospital and at the same time advocate that mothers should be kept for longer periods in hospital, but, once the mother is in hospital, there does not seem to be much to be said for discharging her before she is fully recovered in health and the process of lactation firmly established and secure.

Although the highest weekly incidence was in the third week of the puerperium, 45% of the cases occurred after the end of the fourth week. Cases occurring as late as this may well be missed by the compilers of hospital statistics having no cognizance of the results after the patients have returned to their homes, and this would apply even if the stay in hospital were extended beyond the present customary period.

Summary

Attention is drawn to the fact that most statistics relating to the incidence of acute mastitis are probably misleading and err on the side of underestimation.

An attempt to get some information regarding the true position in an industrial town of 43,000 inhabitants revealed an incidence much higher than is generally accepted. From information received under a notification scheme it was found that over a period of 28

months 156 women developed suppurative mastitis, giving an incidence of nearly 9%. It is suggested that any discrepancy between these figures and those published from other areas is due to the fact that the latter relate only to cases occurring in hospitals and early in the puerperium.

As comparable figures for previous years are not available there is no proof that the incidence has increased.

As a predisposing factor it was found that the place of delivery played an important part. Breast abscesses occurred in 16% of the women delivered in hospital and in only 3.5% of those delivered at home. While less than half the burgh births occurred in hospital, 78% of the notified cases had been delivered in hospital.

The onset occurred most commonly in the third week of the puerperium, but in 45% of the cases the first symptoms did not appear until after the fourth week of the puerperium.

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A FURTHER CASE OF PARANOID PSYCHOSIS SUCCESSFULLY TREATED BY ADRENALECTOMY

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A special study of adrenal disease has been made at Charing Cross Hospital since one of us (L. R. B.) performed an adrenalectomy on a case of sexual precocity over 15 years ago. In 1933 Broster and Vines published a study of ten women suffering from virilism and showed a differential staining reaction demonstrating differences in the cortical tissue of normal and sexually abnormal individuals of both sexes. About this time it was noticed that women suffering from virilism were often abnormal—undersexed or homosexual, sometimes psychotic. The cases operated on, and new cases, were studied psychologically. These were published in full in Broster's *Adrenal Cortex and Intersexuality* in 1938. This work attracted the attention of Dr. R. D. Gillespie, who discovered a woman suffering from a severe schizophrenic paranoid psychosis combined with adrenogenital virilism. He was kind enough to send her to Charing Cross Hospital, and a study was made on the effect on her psychosis of removal of one of her adrenals. The result was a complete cure, which was published in full (Allen *et al.*, 1939). The woman showed a prepsychotic personality of schizoid, "odd-man-out" type. There was a previous history of telegraphist's cramp and exophthalmic goitre. She noticed hirsutism at 14, which spread by the time she was 18. When seen at 34 she was very hairy, and for the past six years had thought she smelt. This hallucination had increased, and she finally became so psychotic that she believed people were talking about her and certification was considered. An adrenalectomy was performed, and 12 days after it she had lost her hallucinations and had become heterosexually attached to her dresser, who had been kind and patient with her. Three weeks after the adrenalectomy she became confused for a few hours, but this passed away, and she has never had a recurrence. She has returned to her position in the Post Office (from which she