than 24 out of the 81 patients in this series were members of the nine "staphylococcal families" in which this case-to-case spread had occurred.

Discussion

A high nasal carriage rate of staphylococci occurs in normal people. Miles *et al.* (1944) in a summary of the literature until 1944, reported a rate of 27–47% in normal subjects, and later accounts give similar results (Martin and Whitehead, 1949; Barber *et al.*, 1949; Forfar *et al.*, 1953).

In the 71 patients with boils in the present study, coagulase-positive staphylococci were cultivated from nasal swabs in 48 (68%)—a rate which corresponded with that reported by Valentine and Hall-Smith (1952). On comparing the strains from the lesions and the nose in 25 of their cases they found them identical in every case. Tulloch (1954), who obtained similar results, claimed that "the nose is the primary source of infecting organisms in most cases of chronic staphylococcal dermatoses." This may be true of cases of sycosis barbae and impetiginous lesions of the face, but in this series of 71 patients with boils 23 (32%) carried no nasal staphylococci and 12 (17%) carried different strains in the lesion and nose.

Self-infection from a reservoir of staphylococci in the nose could therefore have occurred in only about 51% of cases of boils. Moreover, the elimination of the nasal strains (a difficult procedure) may not necessarily be followed by freedom from recurrences, for three cases were described with recurring infections in the absence of nasal staphylococci.

In the case of styes, however, where there was a higher nasal carriage rate and the strains from the lesion and nose were identical in all the cases tested, the nasal staphylococci probably played a more important part.

This difference was well illustrated in the following case.

December 29, 1951: Right stye—phage 3B, penicillin-sensitive; left stye—phage 3B, penicillin-sensitive; boil on leg—phage 52A, penicillin-resistant; nasal swab—phage 3B, penicillin-sensitive. November 14, 1952: Boil on face—phage 52A, penicillin-resistant; nasal swab—phage 3B, penicillin-sensitive.

Here the penicillin-sensitive strain (3B) present in the nose appeared to be responsible for the styes of both eyes (3B), but the boil was caused by a penicillin-resistant strain of different phage type (52A). When there was a recurrence of a boil nearly a year later it was caused by a similar strain to the original boil (52A), although the penicillin-sensitive strain (3B) was still present in the nose.

Recurrent Staphylococcal Infections.—In only about 51% of these patients with recurring lesions with the same phage type of staphylococcus was it possible to demonstrate a staphylococcal focus in the nose. The organisms may have been present over a wide area of skin around a boil, where they remained dormant for many months. The fact that most rigorous treatment of the skin with cetrimide 1%, strong iodine solution, and an antiseptic dusting powder still failed to prevent recurrence (Case J. W.) suggested that the staphylococci may have been present in the deeper layers of the skin.

In a small boil or stye the staphylococci probably exerted a feeble antigenic stimulus, which may have been still further reduced in cases which received systemic penicillin.

Summary

A clinical, bacteriological, and epidemiological study of 81 patients with boils and styes has been made in a practice on a housing estate in North London.

Forty per cent. of the patients were between 5 and 19 years and 50% were in the age group 20–44 years.

The eyelids, arms, face, and nose were the most common sites for boils.

Of 113 strains of staphylococci obtained from the pus of boils and styes, 96 (85%) could be phage-typed.

The preponderance of Group II strains among the penicillin sensitive staphylococci, which Rountree noticed in Australia, has been confirmed.

The total nasal carriage rate in patients with boils was 37–57% and in patients with styes 77%. In the case of styes the nasal strain and the strain from the eyelid were identical in 17 sets of cultures tested.

Of the cases in this series, 20% developed a recurrence of infection after one to twenty-four months. This recurrence was associated with the reappearance of the original phage pattern of staphylococcus and not a fresh infection with a different strain.

Multiple cases in a household occurred in 9 (11%) families. In these there was case-to-case spread of a particular phage type of staphylococcus.

Of 93 strains of staphylococci from the pus of boils and styes, 23% were penicillin-resistant. These resistant strains were mainly in Group I or were insusceptible to phage-typing. Two chlortetracycline-resistant strains (both Group I) were encountered in 46 strains.

I wish to express my gratitude to Dr. R. E. O. Williams, of the Staphylococcal Reference Laboratory, Colindale, who was not only responsible for the phage-typing of the numerous strains of staphylococci but also gave me useful advice and encouragement in the preparation of this paper. Dr. Mary Barber also gave valuable constructive criticism.

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PRIMARY TUBERCULOSIS OF THE LUNG

ANALYSIS OF 298 CASES OF PRIMARY COMPLEX SEEN IN A CHEST CLINIC (1948–51)

BY

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The study of primary tuberculosis is both important and interesting, and the literature dealing with it is extensive. While the primary lesion can occur at any site in the body, 90% of these lesions are found in the lungs (Miller, 1952). Conversion of the tuberculin reaction from negative to positive is normally uneventful, but the literature on the subject mainly concerns cases in which conversion is accompanied by symptoms and signs severe enough to warrant admission to hospital. Although Schlesinger (1953) quoted a mortality of 14% of 400 cases admitted to the Hospital for Sick Children, Great Ormond Street, between 1945 and 1953, he stressed that a large group could be treated and supervised as outpatients. This paper is concerned with cases of primary tuberculous infection seen at the Swansea Chest Clinic

from 1948 to 1951, inclusive, of which 73.5% were treated at home, under clinic supervision.

Material

Case Material.—The population served is 230,000, and the cases dealt with were seen in clinic work, contact surveys, and hospitals. The case histories of all patients attending the clinic from 1948 to 1951, inclusive, in whom a diagnosis of primary complex was made, have been studied, and a follow-up was made to July, 1953. The youngest patient was 4 months old and the oldest 28 years.

Survey Material.—The survey deals with 298 cases of primary pulmonary lesions, including 57 in which the primary complex was calcified and quiescent when first seen, and 241 in which the lesion was active. Of the latter group, 79.7% progressed to clinical and radiological healing without complications (Table I). Below is given a detailed analysis of the clinical features of the cases, with the complications encountered.

TABLE I.—Analysis of 241 Active Cases of Primary Complex With and Without Complications

Age	Total	Healed without Complications	No. with Complications						Total
			Miliary Tub.	Tub. Men.	Bone, Joint Tub.	Persistent Collapse	Progression	Other Types R.T.	
0-4	83	83%	1	1	3	7		2	14
5-7	54	87%	1			5		1	7
8-11	42	90%		1		2		1	4
12-15	24	71%			1	3	1	2	7
16-19	27	52%				2	8	3	13
20+	11	64%					3	1	4
	241	79.7%	2	2	4	19	12	10	49

Analysis of 57 Radiologically Healed Cases.—Of the 298 patients, 236 were under 13 years of age, and 57 (24%) of these were regarded as radiologically healed when first seen. A history of contact was obtained in 67%, and 34% had symptoms. A more detailed account is presented in Table II. It is noted that a contact history was not obtained in one-third of the cases and that two-thirds were symptom-free. Routine follow-up of these cases was considered unnecessary, but the medical practitioner was invited to refer them should relevant symptoms develop.

TABLE II.—Analysis of 57 Calcified Cases Under 13 Years of Age with Details of Contact and Symptoms

Age	No.	% with Contact	% with Symptoms	Presenting Symptoms
0-	0	0	0	
1-	0	0	0	
2-	6	83	17	1 tuberculous knee
3-	2	100	100	1 tuberculous meningitis; 1 phlycten
5-	17	70	29	1 whooping-cough; 3 tuberculous adenitis; 1 cough—bronchiectasis
8-	20	60	50	1 tuberculous adenitis; 9 cough—3 of whom had asthma
12-	12	75	25	1 tuberculous adenitis; 2 cough—1 of whom had bronchiectasis
Total	57	67%	34%	

Symptomatology and Mode of Onset

Of the 298 cases, 209 (70%) presented with definite symptoms, the remainder being discovered during routine surveys. Those occurring in the healed cases and tabulated in Table II are included. Three per cent. presented with an acute pneumonic onset; 20% with either phlyctenular conjunctivitis or erythema nodosum; 6% with a pleural effusion; 11% with a post-primary lesion; 3% with an unexplained pyrexia; and 57% with a gradual onset of cough and a varying degree of lassitude (although these symptoms were present in 60% and 68% respectively of the total 209 cases). Details are shown in Table III.

Cough and General Symptoms.—It will be seen that cough as a presenting symptom occurs more often under the age of 8 years than in the older age groups. This is of doubtful

TABLE III

Age	No. in Survey	No. with Symptoms	Cough	General Symptoms (Lassitude, etc.)	P.U.O.	Acute Pneumonic Onset	Erythema Nodosum	Phlyctenular Conjunctivitis	Pleural Effusion	Post-primary Lesion
0-4	91	55	74% (Wh.-C. 17%)	67%	0.5%	5%	5%	0.5%	0%	20%
5-7	71	45	71% (Wh.-C. 16%, measles 6%)	71%	11%	4%	11%	9%	4%	7%
8-11	62	39	54% (Wh.-C. 5%, measles 5%)	64%	2%	5%	23%	0%	8%	13%
12-15	36	36	33%	53%	0%	0%	22%	0%	11%	5%
16-19	27	24	58%	83%	0%	0%	33%	0%	17%	4%
20-28	11	10	50%	90%	10%	0%	40%	0%	0%	10%
Total	298	209	60% (11% Wh.-C., 2% measles)	68%	3%	3%	18%	2%	6%	11%

significance, in view of the high incidence of upper respiratory tract infection in the younger group, but it is perhaps an interesting observation that a history of a recent attack of whooping-cough was obtained in approximately 15%. General symptoms include lassitude, anorexia, and failure to gain weight. Lassitude is a subjective phenomenon, and, as such, minor degrees are more likely to be commented upon by older patients, and the high figure of 80-90% in this group is noted.

Erythema Nodosum.—A history of erythema nodosum was obtained in 18%, and the analysis shows that over the age of 16 such a history was obtained in 35% and under that age in 12%.

Pleural Effusion.—This occurred in 6% of the cases. The seemingly low figure is explained by the fact that we have included only those cases in which serial radiography revealed an associated primary complex. Thirteen cases had a pleural effusion and a visible primary lesion when first seen. In five others the effusion developed within seven months.

Phlyctenular Conjunctivitis.—Five cases presented with phlyctenular conjunctivitis, and in four others this developed later with a time interval varying from one month to one year.

Complications

Complications developed in 16.4% of the 298 cases, and are discussed in four main groups—namely, collapse, bloodstream dissemination, progression of the parenchymatous component, and a heterogeneous group in which classification was difficult.

Collapse

This was diagnosed radiologically and no differentiation between atelectasis, collapse, and collapse consolidation was made. Bronchography and bronchoscopy were not undertaken in all cases. Forty-four (15%) of the total showed radiological evidence of collapse at some stage. Jones, Rafferty, and Willis (1942) gave a figure of 12% and Richards (1944) 14.4%. The latter further states that 50% of these aerated spontaneously within two years, so far as could be judged radiologically—that is, without routine bronchography. The comparable figure in our series was 57% (25 cases). Details of these are found in Tables IV and V. In Table IV the figures of Richards are incorporated for comparison. It will be seen that collapse is most frequent under the age of 5, and that there is a decreasing incidence in the older age groups. Of the 44 cases, 16 were of segmental distribution, 11 of these being in the right upper lobe.

It is a well-recognized clinical observation that the primary lesion involves the right lung more often than the left, and therefore collapse would be expected to occur more frequently on this side. This is supported by our figures, which show that the right lung was involved three times as often as the left, while the lower lobe of each was equally affected. Collapse of the right upper or right middle lobe was seen in 31 (70%) of the 44 cases. A collapsed segment or lobe may

TABLE IV.—Incidence of Collapse in 298 Children with Primary Pulmonary Tuberculosis (Analysis of Richards (1944) Included for Comparison)

Age	Total No. of Cases		Collapse or Atelectasis		Percentage	
	Present Series	Richards	Present Series	Richards	Present Series	Richards
0-5 ..	121	239	21	50	17	21
6-9 ..	73	114	9	8	12	7
10+ ..	104	92	14	6	13	6.5
Total ..	298	445	44	64	15	14.4

TABLE V.—Site of Collapse in 44 Cases

Age	No. in Survey	No. with Collapse	Right Lung			Left Lung		
			Upper Lobe	Middle Lobe	Lower Lobe	Upper Lobe	Lin-gula	Lower Lobe
0-4	91	21	7	10*	1	1	0	2
5-7	71	9	3	2†	2	1	1	
8-11	62	6	2	5			1	
12-15	36	6	1	1	1	2		
16-19	27	2					1	
20+	11							
Total	298	44	13	18	4	4	3	2

* One with R.L.L. and two with L.L.L. † One with L.L.L.

persist or aerate. Of 22 such cases, 8 (36%) aerated within eight months and 14 (64%) within a year, but 8 cases took considerably longer. At the time of writing they were symptom-free with satisfactory x-ray appearances, but bronchograms had not been carried out. One case appeared to have aerated in nine months, but symptoms of bronchiectasis developed and a bronchogram confirmed the diagnosis. Three cases, although not regularly observed, attended later, complete aeration having occurred. A degree of atelectasis, mainly linear, persists in 10 cases. These are symptom-free, and we agree with Adler and Richards (1953) that unless symptoms are present resection is not indicated.

Seven of the 44 (16%) developed bronchiectasis; this agrees closely with the figure of 15.6% given by Richards (1944). Resection was carried out on one of these, another was awaiting operation, and the third was in hospital for assessment, but the prognosis in this case is poor. The remaining four cases have minimal symptoms and operative treatment is not thought to be necessary.

Bronchoscopic aspiration of a protruding gland was performed in two cases, with satisfactory aeration of the involved lobe, and a successful resection was undertaken in four cases in which collapse persisted without evidence of bronchiectasis (see Table X).

Blood-stream Dissemination

Post-primary Dissemination.—Of the 209 cases with symptoms, 24 (11%) had post-primary dissemination when first seen. This was present in 20% of the 55 patients under the age of 5 (Table III). There were 14 cases of tuberculous adenitis, but these have not been analysed in detail. No case of urogenital tuberculosis or of tuberculous peritonitis occurred.

Miliary Tuberculosis and Tuberculous Meningitis.—Although these are complications of the primary complex they are often the first clinical manifestation of the disease, and frequently the underlying primary lesion cannot be seen radiologically. We have included only those cases in which the primary complex was radiologically visible (Table VI). Of the nine cases with miliary tuberculosis, dissemination was a presenting feature in seven and a true complication in two. In the cases of tuberculous meningitis it occurred as a presenting feature in six and a complication in two.

Tuberculosis of Bones and Joints.—Six cases had a radiologically visible primary complex in the lung. Details are given in Table VII.

TABLE VI.—Analysis of 9 Cases of Miliary Tuberculosis and 8 of Tuberculous Meningitis (with a Visible Pulmonary Primary Complex)

Age	Miliary Tuberculosis		Tuberculous Meningitis	
	Presenting as Such	Complicating Known Case	Presenting as Such	Complicating Known Case
0-1 ..	1 (contact +)			
1- ..		1		
2- ..	1			1 (contact +) died
3- ..	1 (contact +)		1 (Gland calcified, contact +)	
4- ..			1	
5- ..		1	2 (1 contact +)	1
8- ..	3 (1 with tub. men.)		1 (with miliary tub.)	
12- ..			1	
16- ..				
20+ ..	1			

TABLE VII.—Details of Six Cases with Bone Tuberculosis and a Visible Primary Complex

Age	Present as Such	Complicating Known Case
1- ..		2 spine (1 2 years later. Contact +; 1 14 months later. Contact -)
2- ..	1 knee. Gland calcified	1 spine: 2 months later. Contact +
5-8 ..	1 spine. Contact +	
12-16 ..		1 spine: 2 years later. Contact +

A positive contact history was obtained in 9 of the 23 cases analysed in Tables VI and VII.

Progression

By this term we mean enlargement and/or cavitation of the parenchymatous component as judged radiologically by serial films and tomography. Details are given in Table VIII. Of 38 patients 16 years of age and over, 11 (29%) showed progression. Below this age it is infrequent, there being only one case in our series. Lincoln (1951) states that progression occurred in 12% of her cases. All of our 12 cases gave a satisfactory response to treatment.

TABLE VIII.—Twelve Cases with Progression of the Parenchymatous Lesion

Sex	Age	Contact	1st Examination	Definite Progression	M.M.R.	Treatment
F	14	—	12/49	7/50	—	Lobectomy 8/51
F	16	—	Pres. with progression	—	—	Streptomycin with P.A.S.
M	17	—	—	—	—	" "
F	18	—	4/50	7/50	—	A.P. " "
F	18	+	8/50	11/51	—	Rest in bed
F	18	—	11/50	10/51	+	Streptomycin with P.A.S.
						A.P.
F	18	—	Pres. with progression	—	+	P.P.
F	18	+	1/51	5/51	—	Streptomycin with P.A.S.
F	19	—	Pres. with progression	—	+	" "
M	20	—	12/49	1/50	—	" "
F	21	—	5/50	3/51	—	Thoracoplasty 4/51
						Streptomycin with P.A.S.
						Seg. resection 2/53.
M	24	—	3/51	4/51	+	Thoracoplasty 3/53
						Streptomycin with P.A.S.

Other Pulmonary Complications

These complications (Table IX) were probably due to various factors, including mediastinal adenopathy and bronchogenic ulceration, late progression of the primary complex, and reinfection.

Bacteriological Investigation

Routine gastric lavage was not practised, owing to the difficulty of getting children to the clinic without breakfast. Tubercle bacilli were isolated by this means in 39% of the 79 cases admitted to hospital. Davies and Doherty (1942) record a figure of 37% obtained at a local hospital.

TABLE IX.—Ten Cases with Other Pulmonary Complications

Age	Sex	Contact	Comments	Treatment	Result
4	F	—	Developed destroyed lung	Streptomycin and P.A.S., pneumonectomy	Satis.
4	M	—	Developed bronchogenic spread	Streptomycin and P.A.S.	In hospital
7	M	+	Bronchogenic spread with cavitation one lung, and spread into the other	Streptomycin and P.A.S. (2 courses). Unsuitable for pneumonectomy	Died
8	F	+	Calcified gland 1949. Infiltration same side 1953	Under treatment.	Under treatment
14	F	+	1 year later developed R.T. infraclavicularly (bilateral)	Streptomycin and P.A.S.	Satis.
14	F	—	Infraclav. R.T. when seen. Enlarged paratracheal gland	" "	"
17	F	—	Infraclav. R.T. when seen, with adenopathy	" "	"
18	M	—	Developed bronchogenic spread, with cavitation	Streptomycin and P.A.S. Lobectomy	"
19	M	—	Infiltration other side 5 months later	Streptomycin and P.A.S.	"
21	F	—	Adult type R.T. 4 years later	" "	"

Treatment

In active lesions bed rest at home was advised, as it was felt that separation from the home environment was unnecessary unless complications developed or the home conditions were unsatisfactory sociologically or from the presence of a case with active adult-type disease. The patient was seen at monthly intervals and progress assessed clinically and radiologically. The majority of cases required bed rest for about four months, and children were not allowed to attend school for a further six to nine months. Supervision at three-monthly intervals extending to six months continued for about three years, with further radiographs at the time of puberty.

Streptomycin and P.A.S. were not given routinely, but were administered when there was progression of the parenchymatous component, bronchogenic spread, or blood-stream dissemination.

Surgery.—A summary of the surgical procedures undertaken during the survey is presented in Table X.

TABLE X.—Surgical Treatment

Complication	Aspiration of Ulcerating Gland	Thoracoplasty	Lobectomy	Seg. Resection	Pneumonectomy
Atelectasis ..	2		2	2	
Bronchiectasis ..			1		
Progression ..		2	1	1	
Bronchogenic spread ..			1		1

Contact

A person was regarded as having "contact" if at any time there was close contact with a known case of respiratory tuberculosis in the household or the immediate circle of relatives and associates. Our figures do not include those cases which were found by a contact survey—that is, after the diagnosis of the primary infection. Details are shown in Table XI.

TABLE XI.—Contact History of 298 Cases with a Primary Infection

Age	Calcified		Non-calcified	
	Total	% with Contact	Total	% with Contact
0-4	8	87%	83	65%
5-7	17	70%	54	61%
8-11	20	60%	42	24%
12-15	12	75%	24	33%
16-19			27	19%
20+			11	20%
	57	67%	241	47%

A contact history was taken in each case. It is unlikely that contact with a known case of respiratory tuberculosis was missed, or that the incidence of the unknown case in the household varied significantly from group to group. It is therefore assumed that the low contact percentage in those over the age of 8 suggests infection from a source outside the intimate family circle. This, although disturbing, is perhaps in keeping with the fact that children around this age acquire new friends and increase their social activities.

A summary of the contact percentages in those who developed serious complications is presented in Table XII.

TABLE XII.—Contact History in Cases Developing Serious Complications

Blood-stream Dissemination (Tables VI and VII)	Progression (Table VIII)	Heterogeneous Group of Complications (Table IX)
39%	17%	30%

Discussion

We have analysed 298 cases of primary complex, including 241 cases in which the lesion was active. Serious complications developed in 20.3% of the latter, but with a mortality rate of less than 1%. Although 79.7% healed satisfactorily, there are three features in our survey which merit consideration from the epidemiological standpoint.

Contact.—From Tables XI and XII it is seen that, over the age of 8, approximately 75% were infected from unknown open cases of tuberculosis. This emphasizes the importance of taking a wide survey of all possible contacts whenever a case of primary infection is diagnosed.

Progression.—This was noted in 11 patients over the age of 16, four of whom were referred by the mass miniature radiography unit from a local factory. The natural history of respiratory tuberculosis shows the danger period of adolescence. To this is added in many cases the stress of entry into industry. It is hoped that B.C.G. vaccination of Mantoux-negative reactors at the school-leaving age will lessen this danger.

Miliary Tuberculosis and Tuberculous Meningitis.—Cases of tuberculous meningitis and miliary tuberculosis are seldom seen in the first instance at chest clinics. They are usually admitted direct to hospital before the stage of the primary pulmonary infection is recognized. This experience is common to other physicians working in chest clinics.

The above are three serious problems, and energetic measures are necessary for their elimination. Since 1950, B.C.G. vaccination is offered to all Mantoux-negative reactors seen at the clinic, whether there is a contact history or not. Increasing efforts are being made to find hidden sources of infection. A static mass miniature radiography unit is in operation with general-practitioner and general public sessions, while the mobile mass miniature radiography unit concentrates its activities on those employed in industry, commercial institutions, universities, colleges, and schools.

Summary

An analysis of 298 cases (241 active) of primary pulmonary tuberculosis seen at a chest clinic from 1948 to 1951 inclusive is presented.

Previous complications developed in 20.3% of the active cases.

Twenty-four per cent. of those under the age of 13 had a well-calcified lesion when first seen.

A degree of collapse occurred at some stage in 15% of the total, but 57% of these aerated spontaneously.

The mortality of the whole series up till July, 1953, was less than 1%.

The opinion is given that admission to hospital is unnecessary unless complications develop or the social conditions are unsatisfactory. Routine administration of antituberculous drugs is not indicated.

The surgical operations were performed by Mr. Dillwyn Thomas and Mr. Cyril Evans at Morrision and Sully Hospitals. Miss E. Rosser is thanked for the secretarial work.

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ADDENDUM.—The patient (aged 12) mentioned in the text as awaiting operation for bronchiectasis has since undergone a successful right lower lobectomy. Prior to operation, investigation by barium swallow, oesophagoscopy, bronchoscopy, and bronchogram revealed a fistula of the oesophagus 2 in. (5 cm.) above the cardia, extending into a basal branch of the right lower lobe bronchus, with secondary bronchiectasis and abscess formation.

SOME ASPECTS OF PARANORMAL HEALING

BY

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The attitude of early man towards the nature and treatment of disease was influenced by magic and superstition and later by formalized religion. In the sixteenth century academic medicine, following in the Hippocratic path, began to diverge from superstition and religious influence, although sorcery continued to play a part in medical practice. Within the authority of the early established Church healing was practised by laying on of hands, by prayer, and by anointing—rites frequently associated with magic and superstition (Frost, 1940). To-day in China and Africa the medicine man is thought to be active even where the Christian faith is adhered to. Dean Inge (1925) says: "It is quite unnecessary to go to Australia or Central Africa to find the savage: he is our next-door neighbour. The mentality of the stone age exists on our platforms and in our pulpits. There is no superstition too absurd to find credence in modern England—fetishes and tabus dominate London drawing-rooms."

In many countries sufferers from all kinds of disability are claimed to have been cured, or at least greatly relieved, by intervention of a "healer" after orthodox medical treatment has failed. Healing shrines such as Lourdes are not considered in this report, since religious faith is the major factor in the healing situation, no individual person being deemed to act as a healer endowed with specific powers. Organizations such as the City Temple combine faith- and individual-healing with orthodox medical treatment, so that no clear-cut assessment can be made of the part played by either. As explained later, this problem also arises in absent healing.

Various forms of paranormal diagnosis and treatment are claimed by clairvoyants and mediums, but supporting evidence is hard to come by. (Father Robertus, of Rapperswill in Switzerland, is reputed to be a healer of animals.)

I have attempted to survey the nature and results of unorthodox ("paranormal") healing. "Healing," for the present purpose, is taken to mean the inducement of a state of comparative well-being by some form of personal contact, physical or mental. "With contact healing, there is the tangible human link of the healing medium between the healing spirit guide and the patient" (Edwards, 1953). The "physical" approach may include "manipulation" of a disabled part of the body or laying hands upon the part of the body near, or associated with, an organ. ("Manipulation," in this context, is an assisted encouragement of the subject to move, or allow to be moved, part of the body.) The "mental" method involves some form of prayer or mental communication from healer to patient at a distance. Quite often one finds the healer bringing his influence to bear while orthodox treatment continues—both claiming the credit. Absent healing is "a progressive process in which the first phase is a toning up of the general body condition," with concomitant "increased vitality, brighter outlook and sounder sleep," "as the causes are removed, so the symptoms of pain and discomfort lessen and disappear. Healing is very often received during sleep" (Edwards, 1946). A weekly letter from the healer to the patient is required "to maintain the continuity of the healing." (The patient does not necessarily know that the healer's aid has been sought.) These weekly reports, which present the healer with a picture upon which he can base his therapeutic activity, must involve an enormous volume of correspondence and time.

Method of Inquiry

I attended demonstrations of healing to gain information about the nature of this work and its results. Patients suffering from "incurable diseases" who had "not been helped by doctors" were to be healed by "spirit power" derived "not from us—we are agents—human contacts." The healer moved arthritic joints, ran his finger along deformed spines, and encouraged people to walk, stand upright, and so forth. (When given the opportunity of approaching a patient suffering from scoliosis, the circumstances did not permit of his examination; I was merely asked to agree that there was "spasticity" of the spinal muscles. Rejecting this when on the point of agreeing without checking the validity of the statement, I realized how difficult it must be, in the face of authoritative suggestion, for the subject not to accept any proposition put by the "healer.")

Some patients appeared to receive immediate benefit, in that they exhibited comparatively free, painless movement of joints which had apparently withstood medical treatment for years; but one woman, who was able to leave the platform without the two sticks hitherto in use, was again leaning heavily on them after the demonstration—a phenomenon savouring strongly of suggestion. Does anything happen to the sufferer treated by a healer, and, if so, what and why? The questions involve a study of the disability treated; does the disability improve, or does the patient's attitude towards it change, bringing with it apparent improvement of the specific and general condition? If such improvement occurs, is it linked with a specific psychological attribute essentially present in sufferer or healer, or in both? If this be the case, what is the means of communication in healing? What is the function of personal contact? Does absent healing depend on some form of telepathy?