the Clinical Research Association for bacteriological examination. In each instance the result was eminently satisfactory. Further, every inquiry was made as to the source of the supply, and, moreover, Vere-court and New-street, which throughout were the main centres of the outbreak, are supplied from distinct and separate water mains. The milk supply was carefully inquired into, but it was found that the infected houses were supplied by a large number of separate dealers, and no suspicion of this article of consumption could be sustained. No other article of diet could, after careful inquiry, be assigned as a cause. It seemed improbable that the sewers were instrumental in the spread of the disease, as the New-street and Vere-court sewers have no direct communication, and there is no man-hole in Vere-court at all, and, moreover, from the general arrangement of the sewers it was exceedingly difficult to conjecture any way in which they could have influenced the incidence of cases. Waterclosets, mostly outside, were the means of excrement disposal in all the affected houses, and the sinks were all effectively trapped, except in one insignificant instance at the bottom of a yard. What, then, could be the true cause of the outbreak?

In some instances possibly the fever spread by direct communication from person to person, for many of the people were poor, careless, and dirty; but this could not account for the majority of the cases. It seems evident that some local cause must have prevailed, causing the outbreak to be located in this comparatively small area—a cause affecting those who lived in this locality and not casual passers-by, a cause which spread gradually during five months and then stopped suddenly. My view as to this cause is expressed thus in the words of my annual report: "It will be remembered that in the middle of last year the weather was hot and particularly dry. The area of the locality in which the epidemic occurred was less than a quarter of a mile across, and its subsoil is light and sandy. The cases commenced in Vere-court, and these were shortly followed by others in New-street, and later there were cases in North-parade, Albion-place, Broad-street, Sydney-street, James-street, Chapel-street, Mount-street, Malt-hill, Alford-street, and Swinegate; whilst from beginning to end Vere-court and New-street remained the chief centres affected. It seems to me, regarding the history of the epidemic carefully, that the poison may not improbably have got into the superficial subsoil in Vere-court from a blocked closet in an early case, and that in this light and dry subsoil germ activity may have taken place, and thence the poison may have been carried, through the medium of subsoil air or of subsoil water, to the houses which became infected. It seems much easier to imagine that the poison might travel from Vere-court to Baker's-place by this route than that it should travel down the sewers in Vere-court, Vere-street, along Chapel-street, up Brownlow-street, and then up New-street and up to Baker's-place and the top of the east-end of New-street (for it will be remembered that there is no communication between the sewers in Vere-court and New-street along Broad-street); moreover, Vere-court is on high ground, and is, indeed, within a foot or so higher than the elevation of any of the other cases which occurred in the epidemic area. So that, regarding Vere-court as the starting place, it is not difficult to imagine that gravitation might reasonably account for the dissemination of the poison by either ground-air or ground-water. This hypothesis also harmonizes fairly well with the somewhat later appearance of the fever in North-parade, Albion-place, Sydney-street, Chapel-street, Mount-street, Alford-street, and Swinegate. Further, the sudden cessation of the epidemic, allowing for the incubation period of the disease, coincided exactly with the falling of cold rains, which would check fermentative germ-growth in the superficial subsoil. So that I even predicted, when the cold rain came on Oct. 2nd, that in about ten or twelve days the epidemic would cease. It will be remembered that the last case commenced on Oct. 15th. Further than this, diarrhoea of the ordinary summer type, which was very prevalent coincidently with the typhoid fever, ceased at the same time. This summer diarrhoea has of recent years been thought to be due to a high temperature at a four-foot depth, probably from germ growth in the superficial subsoil, and if the germs which are thought to cause the ordinary summer diarrhoea are held to be capable of growth in the superficial subsoil under certain conditions of high temperature, why should not the specific typhoid germs be capable of flourishing under similar conditions? It may be said that this is only a theory,

and, moreover, one not generally held as accounting for typhoid fever, and I by no means wish to insist that this theory should be made to account for all the cases which may have occurred in the town, but after much careful and anxious thought it is the only one which to my mind at all satisfactorily explains the facts before me relating to this particular epidemic."

I have not seen this previously stated as a cause of an outbreak of typhoid fever. Pettenkofer and Buhl have traced a connexion between the movement of ground water and the occurrence of typhoid fever in Munich, and this has been confirmed by other observations in Germany; but it seems that their views have not been corroborated in England, and, moreover, the outbreak in Grantham does not seem to have been related to the well-water, for in the epidemic area there are several surface wells in use, the water from which apparently bore no particular influence upon the spread of the disease. Sir Charles Cameron has, if I remember rightly, alluded to the growth of typhoid germs in the soil around a leaking soil-pipe and to the spread of disease therefrom.

I have thought it right to bring this matter before the profession as, if my view be a correct one, it is possible that it may help to throw some light upon the origin of some cases of typhoid fever the cause of which may have been regarded as obscure. It may, of course, seem to some that from the brief account I have given my proposition remains merely problematical and certainly unproven; but to me, after careful observation and much consideration of the circumstances and the locality, my case seems as clear as the nature of the evidence before me admitted of its being. It seems to me, moreover, that the following conditions are required for the possibility of what I have suggested to take place. The soil must be light and loose and for the most part uncultivated, the season must be dry and hot, and the soil must be of the kind which is generally found in the courts and yards amongst closely populated districts, in which organic pollution is likely to exist to a not inconsiderable degree. I take it that this kind of superficial subsoil is markedly different in its capabilities from the superficial subsoil which exists where the land is cultivated. In the latter instance the vegetable growth is ever ready and able to take up and make use of any organic pollution, and thus specific disease germs may be safely disposed of, whereas in the former case the specific germs may find a suitable nidus, and colonies may possibly be successfully cultivated, just as they are upon the bacteriologist's prepared media. If there be any truth in this view, then it may be quite safe to bury typhoid excreta superficially in the mould of a garden, but the consequences might prove most disastrous if they were allowed to find access to a soil organically polluted and uncultivated.

Grantham.

A CASE OF RECURRING ECZEMA.

By G. A. LEGGE, M.A., M.D.

At the meeting of the British Medical Association in 1894 a paper was read on "Eczema," in which various points in the history and treatment of the disease were discussed. One in particular impressed itself on my mind—viz., the recurrent nature of the complaint in many cases. I read the paper with unusual interest because I myself had just gone through most persistently recurring attacks of the disease. I am a man of sound constitution and never ail as a rule, but I had been a victim to eczema in recurrent form for fourteen months. I wish to be brief, and shall not go into details of my case. I refrained from writing sooner because I was anxious to put to the proof a treatment just then adopted. My period of self-imposed probation seems now sufficiently long, and in view of an article in THE LANCET of Dec. 22nd, 1894, by Dr. J. K. Tomory, entitled "Ichthyol in Eczema," which drug has given him such successful results in an intractable case of this disease, my contemplated purpose has been brought to a focus.

The site or sites which my attacks specially affected

were just those parts of my body exposed to the air—viz., my hands and wrists, my face, ears, and neck. The attack was originally brought on in my hands by exposure to a cold wind in the winter here in 1893, but they kept recurring all through the following summer and winter of 1894, so that in all I had some eleven or twelve attacks. Most of these were very severe, my axillary glands on both sides being at that time swollen and painful. I had been in this colony for some twelve years before my first attack, and in similar circumstances often before to those in which I was seized, without suffering any harm; and why, at this time of day, I should have been laid hold of is more than I can guess, and raises a question which I will not now enter on however. I merely wish to say that, on my own responsibility and that of other medical men, I pretty well exhausted the Pharmacopœia in treatment, with both external and internal medicaments of all descriptions. But, at the end of it all, I found myself just as liable to a recurrence as if I had done or taken nothing. At last, in despair, I made up for myself the following: one drachm of iodide of potassium, twelve grains of sulphate of quinine, one drachm of diluted sulphuric acid, with water to six ounces, and took a tablespoonful three times a day after meals, with the result that I have not had another attack since. I took in immediate succession four such bottles; but long before I had finished I felt the benefit. On two subsequent occasions, within a couple of months, I took a few more doses, as I thought I perceived indications of an attack; but I have never had to finish a six-ounce mixture. In combination with this I found the best and (for me) the only thing externally was vaseline camphor ice. The particular preparation I used was made by the Cheseborough Manufacturing Company, and it seemed to contain a larger proportion of camphor than other similar preparations. There is in my mind no doubt that camphor, more than any other external application, had the power of relieving the maddening itching that always ushered in the attacks, and also of controlling them. I noticed, too, between my attacks (for I continued to rub my skin with the ice long after I had an attack) that its application always was followed by an exosmosis through a perfectly unbroken skin of beads of moisture, in appearance just as if I had been freely perspiring, so that I should say the camphor was curative as well as sedative. I do not know whether the ichthyol employed by Dr. Tomory was different from that used by myself, but he speaks of "camphoid" ichthyol, which I take to contain camphor. In that case, as my ichthyol did not in the least help me, I should consider it was the camphor in his ichthyol that was the beneficial ingredient, which would corroborate my own experience of the vaseline camphor ice. The difficulty in my case was not so much to heal the hands, &c., when they did break out as to prevent a recurrence of the attacks. Seeing that in fourteen months I had eleven or twelve attacks, and that when I put aside the routine practice of iron and arsenic and adopted iodide with camphor instead, for nearly six months I had no recurrence, I think I am entitled to look upon myself as cured, and that the cure is due to the use of those two substances. If my personal experience should prove of use to any brother practitioner in any intractable case he may have, and thus benefit both him professionally and suffering humanity, I shall think it truer than ever that it is an "ill wind that blows nobody any good."

Somerset East, South Africa.

SKIAGRAMS OF A CASE OF POLYDACTYLISM.

By GEORGE MORGAN, F.R.C.S. EDIN.,
SENIOR SURGEON TO THE CHILDREN'S HOSPITAL, BRIGHTON.

THE patient is a girl aged three years. On each hand are five fingers and a thumb, and six toes on each foot. The other two members of the family, one older and the other younger, have no trace of such deformity, neither can it be traced in the family history of either parent. The super-numerary members, in the case of both hands and both feet, are as perfect in outline as the normal members. It is

interesting to notice the bifurcation of the fifth metacarpal bone, especially of the left hand. My thanks

Left hand.

Right foot.

are due to Dr. A. J. Richardson of the Sussex County Hospital for the skiagrams.
Brighton.