pathology, quite established his own position.* All accounts from Vienna speak of the success which has already attended his teaching. No more crucial instance could be given of the method of appointing professors which prevails in Germany. Should it have the effect, as seems probable, of reviving the school of surgery in Vienna, no better proof could be given of its soundness.

Beside the clinical professors, there are, of course, many who never concern themselves with practice; and it is hardly necessary to point out how closely connected is this fact with the rapid advances made in Germany of late years in the sciences ancillary to medicine. Not only anatomy and physiology, but those which lie nearer to the practical side, such as morbid anatomy, are considered sufficient for the occupation of a life-time; and neither the Professor of Pathological Anatomy, nor his assistants, have any hospital work or other professional occupation.

The name of the illustrious Professor of Pathological Anatomy at Vienna is so well known as hardly to need mention; it belongs, indeed, to the history as well as to the present glories of the science. The immense achievements of Professor Rokitansky in this field are, however, not quite appreciated in this country. The English translation of his great work, by which he is chiefly known, is in many respects unfortunate. In the first place, it was made from a work which its author has since entirely remodelled; and in the second place, it was so long delayed as to be out of date, even at the time when it first appeared; since which it has, of course, dropped further and further behind. At the present day, it represents the position of its author as little as it represents the actual state of the science. Such is, indeed, the common fate of scientific text-books, but doubly unfortunate is the lot of those which are translated. The last edition of Rokitansky's work, published with the title of *Lehrbuch*, is a work not to be praised without presumption; and, however much the phraseology and theories may occasionally differ from those which are now coming into use, the value of the immense mass of observed facts is undiminished. A still higher value attaches to his numerous special memoirs. But books give, at the best, a very imperfect notion of the influence which this remarkable intellect has exerted on the progress of science. There are probably few German pathologists who have not been at some time pupils at Vienna. Förster speaks of the crowds of students and physicians who made a pilgrimage to Vienna to study what was regarded as the new science of pathological anatomy at the fountain-head. The great Virchow, whose system has supplanted that of his teacher, represents the first generation, and his pupils, who have furnished the most important researches of late years, represent the second generation of pathologists, from the great patriarch of Vienna.

In the medical and scientific circles of Vienna, Professor Rokitansky occupies a most important position, and has immense influence both in the governing body of the University, and in the Imperial Academy of Sciences. On various public occasions he has delivered important addresses, conceived in the metaphysical spirit which was so apparent in the earlier editions of his *Pathological Anatomy*; they are pronounced by competent judges to display very deep thinking, and they are certainly very hard reading. In estimating the present teaching power of the University, we cannot, however, give a large place to Professor Rokitansky. His lectures are not attractive, and are meagrely attended; and though all students of a certain standing are compelled to enter their names and pay fees, they usually content themselves with these ceremonies. The impression seems to be, that all the Professor has to say can be read in his book—another instance of the misfortunes of authors.

The teaching of pathological anatomy in Vienna, let us hasten to say, does not flag for want of young and able teachers; nor are any resources wanting in the splendid institution devoted to it. The opportunities for observation cannot but be large when they are supplied by the deaths among two thousand patients. So great is the amount of *matériel* in a single morning, that it would be impossible even to glance at everything, and the assistants are accustomed to reserve the more interesting specimens for special demonstrations at a different hour. The institution itself is a large and stately building; for, though the University of Vienna is in general but poorly supplied with funds, when an institution is founded in the imperial city, it is always built in the grand imperial way. The ground floor contains several rooms for autopsies, among which is one very large theatre for the cases from the clinical wards, and another specially assigned to the cases involving medico-legal inquiries, sent in by the police or other authorities, which are made by Professor Rokitansky personally, in the capacity of Pathologist to the city of Vienna. It is a most admirable arrangement, en-

suring that important examinations are conducted by competent persons, and making the results available for science. It might with great advantage be applied to our system of coroner's inquests, which satisfies neither of these conditions. On the same floor is the "Todtenkammer", where the bodies of persons awaiting interment are watched day and night, to prevent premature burial. On the upper floor, beside several lecture-rooms and private rooms for professors and others, is the Museum; a most valuable collection, and containing some unique specimens, but of little value to the students, partly through the want of an accessible catalogue, and partly through being in itself virtually inaccessible. The institution contains, beside, an excellent laboratory and lecture room for pathological chemistry, where Professor Heller gives instruction in the applications of chemistry to medicine, and undertakes all necessary investigations for the physicians of the hospital. Another aspect of pathology than that of mere anatomy is represented by Professor Stricker, who has a laboratory specially devoted to the experimental study of disease and the observation of living tissues; and where normal histology is also taught by his assistant Dr. Klein.

CASE OF PROBABLE COEXISTENCE OF SCARLATINA AND VARIOLA.

By A. ERNEST SANSOM, M.D.Lond., M.R.C.P.,

Physician to the Royal Hospital for Diseases of the Chest, City Road, and the North-Eastern Hospital for Children.

A SISTER OF MERCY, aged 31, probably vaccinated in infancy, in active duty in a district in which both scarlatina and variola were rife, was revaccinated without success on February 13th, 1871. On February 16th and 17th occurred rigors and lumbar pain; on the 21st, sore-throat. She then came under my notice. There were much pyrexia and tonsillar ulceration, and the throat had a scarlatinal look. On the 22nd, I saw her in bed, covered with rash exactly resembling scarlatina, and with the precise throat-signs of the disease. On the 23rd, the rash was persistent, with purplish petechiæ scattered over the chest. She manifested great prostration. On the 24th, the rash was persisting; but papulæ of variola covered the face and thighs, the arms and hands; there were rather fewer on the chest. The tongue was loaded with thick fur. During the next four days there were urgent distress, insomnia, subdelirium, and sore-throat, but very little implication of the external glands. The variolous spots became confluent on the face and thighs. On the 28th, there was defervescence; the pustules, previously full of matter, desiccated and fell off, leaving brown stains, but scarcely any pitting. The treatment consisted, for the first three days, of twenty grains of sulphocarbonate of sodium every four hours; subsequently, half a drachm of the sulphocarbonate with a grain of quinine every four hours. She was ordered beef-tea and milk, and six ounces of brandy daily. As soon as the pustules were fully formed, they were individually brushed over with liquid carbolic acid once each day for three days; a weaker solution (5 per cent.) being also applied night and morning. Recovery was most complete and satisfactory.

REMARKS.—I am disposed to think this a genuine instance of scarlatina and variola occurring together in the same patient at the same time. I had a case presenting a probability of the same conjunction in a member of the same sisterhood in 1868. In this there was a distinct history of the communication of scarlatina by wearing apparel; and at the same time the patient experienced a fright on seeing closely a boy just recovering from severe small-pox. Here there were all the usual signs of scarlatina, with abundant rash. On the second day of initial symptoms, there was lumbar pain; on the tenth, varioloid papules, few in number, which followed the course of modified variola. The scarlatinal symptoms were in this latter instance much the more formidable of the two affections. A third instance of a similar conjunction, occurring in the country, has been narrated to me.

I am, of course, well aware that occasionally variola is ushered in by a roseoloid rash. I have seen cases in which it appeared impossible to diagnose for certain. Thus, on December 16th, 1870, I was called in consultation to see a lady with profuse rash simulating scarlatina, but with abundant petechiæ over the body, and ecchymoses beneath both conjunctivæ. The patient was *in extremis*, and died a few hours afterwards. The case appeared like one of petechial scarlatina. Within two days, in the same neighbourhood, I saw a precisely similar case in a gentleman who also died *foudroyé*. This was regarded by the medical officer of health as malignant scarlatina. On December 18th, also near by, I saw a case manifesting a like rash, with the addition of variolous papules covering the body. I am disposed to think that all these were instances of variola.

* His admirable *Lectures on Surgery* will, we believe, before long be translated into English by Dr. Warren of Boston, U.S.A.

The two cases previously cited, however, present many points of difference from variola roseolosa. There are (1) a plausible history of the double contagion; (2) a definite history of scarlatina, with the usual throat-signs; (3) a varied relation of intensity in the correlated diseases in the two instances—in the one case the variola, in the other the scarlatina, being the more pronounced. Again, the thermometric signs in the first case (a chart of which is appended) were peculiar—very

different from the usual history of the pyrexia of variola. There appear to be two waves—one for the scarlatinal, the other for the variolous period.

The treatment appeared most successful. At one period the case seemed hopeless. The defervescence was little less than extraordinary. Under the local influence of the carbolic acid, the desiccation and decadence of the pustules were rapid and complete. Exactly three weeks from the onset, the patient was well, and able to be transferred to the country.

A CHAPTER OF DIFFICULTIES IN APPLYING SANITARY LAWS.*

By LEONARD ARMSTRONG, M.R.C.S., South Shields.

THE town of South Shields, to which I wish to call your attention to-day, is situated on the sea-coast at the south of the mouth of the Tyne. Possessing within its boundaries a glass manufactory (almost the oldest in the kingdom), foundries, and extensive chemical and alkali works,

it early acquired the appellation of *smoky* Shields. As a consequence of the frequent impurity of its atmosphere, vegetation suffered in its vicinity, and trees became stunted and ceased to grow. Along with these pernicious effects on vegetation, it was observed that the rate of mortality ruled high; and one of our fraternity, Dr. Glover, pointed out that this excessive mortality was most visited on the juvenile part of the population. Since the incorporation of the borough, twenty years ago, the sewerage and paving of the town have vastly improved; the water-supply is also excellent, and a prosperous and increasing population can afford good food and clothing. In spite of these sanitary advantages the town has generally shown a mortality in excess of that found in Sunderland and Tynemouth. These are also sea-board towns and unions on the coast within a few miles of South Shields, and apparently placed under the same external conditions; yet, on comparing the Registrar-General's quarterly returns for the last two years, it is found that Sunderland averaged 24.05, Tynemouth 24.59, and South Shields 26.56, deaths per 1000 living.

To what can we attribute this comparative unhealthiness of South Shields? I believe this excess of mortality is due to the lack of pure air. The atmosphere is too often vitiated by smoke and chemical vapours, and the function of respiration in purifying "the blood, which is the life of man", is thereby impeded or imperfectly performed. As might be expected under such circumstances, infantile mortality is increased. The lungs of the young seem most easily influenced by atmospheric impurities, and so become vital tests, as it were, of the purity and freshness of town air. Independently of the injury to vegetation and the loss of health and comfort induced by the toleration of this smoke and dirt in most large towns, a financial feature, which has been somewhat ridiculed, ought not, I think, to be forgotten by those who believe in the sound morality of the old proverb, that "Cleanliness is next to godliness." It may fairly be assumed that every one who struggles for even moderate cleanliness under such conditions must be put to a charge of twopence per week at least for extra washing. In such a town as South Shields, with a population of 40,000, this charge would amount to a local tax of £17,000 a year—a sort of black mail levied indirectly. And why are these evils endured? Because our manufacturers do not comply with the requirements of the law, and our boards of health are too supine to do their duty and compel them.

Ten or twelve years ago some members of the Corporation, recognising the serious character of this atmospheric pollution, brought the matter frequently before the Town Council. Foremost amongst these advocates for a purer atmosphere were two medical mayors, Drs. Ridley and Wallis; for, although the promotion of public health is adverse to the interests of our profession, that profession has always been conspicuous in supporting measures of sanitary improvement, and the first to recognise their value. The Board of Health was urged into some degree of action. Notices were served on all smoke-makers that the provisos of the Smoke Act, etc., would be enforced; and a few offenders were actually summoned before the magistrates. Some admitted they had not done their duty to their neighbours, and asked for further time to make alterations in their furnaces; others stated that everything possible in their line of business had been done, but that to abolish offensive vapours and smoke in their case was tantamount to a suppression of that particular manufacture, and would prove a deplorable loss to the borough. The town surveyor—the only person called to support a conviction—was of course unskilled in such manufacture, and could not say or swear that the best means had not been adopted. The accused promised to do their best; no conviction ensued; and so the movement came to an end. The most serious difficulty in these prosecutions was this: many of the magistrates who had to convict, the town clerk who had to prosecute, the engineers who had to give evidence, were more or less engaged with tall black chimneys themselves, and, like partial parents, disposed to deal leniently with their own offspring. Under such circumstances it was not wonderful that the cry of "the more smoke the more money" prevailed; and the promoters of the movement gained nothing but vexation and personal annoyance by their efforts. Some years later another medical man, finding his own residence daily begrimed by an adjoining furnace, tried in his private capacity to get some remedy for this undoubted injury and annoyance. On different occasions he summoned the offender to the police-court. The bench again threw oil on the troubled waters, hoped the accused would be more careful, that the doctor would have no further reason to complain, and dismissed the case, leaving the latter to bear a nuisance as black as ever over his wall. What can't be cured must be endured, and so matters went on in the old way till the summer of 1868, when an additional dose of smoke and chemical vapours was inflicted on the town by the extension of works for the manufacture of alkali and bleaching-powder, in its very centre. This factory frequently poured out volumes of chlorine and muriatic acid gases, producing a feeling of suf-

* Read before the Public Medicine Section at the Annual Meeting of the British Medical Association, in Newcastle-upon-Tyne, August 1870.