CHAPTER II.

FIRST YEARS IN LONDON—DAWN OF THE SCIENCE OF MODERN HYGIENE, 1820–1834.

On first arriving in London in 1820, my grandfather, who whilst still at Yeovil had married for the second time (Mary, daughter of Mr John Christie of Hackney),[1] settled in Trinity Square, near the Tower. He soon formed a considerable private practice, and was appointed physician to the London Fever Hospital, and he was thus led to give very special attention to the subject of fever. He also held the offices of physician to the Eastern Dispensary and to the Jews' Hospital, situated in the very heart of Whitechapel. And while his experience in the wards of the fever hospital taught him by what means that disease can most frequently be *cured*, his acquaintance with it in the homes of his East-

[1] *Children of this marriage:* Herman Southwood Smith, born 1819, died 1897; Spencer, Christina, both died in childhood.

end patients taught him more—how it might be *prevented.*

Almost the first writings bearing on what came to be afterwards called the "Sanitary Question" are to be found in the pages of the 'Westminster Review.' In the two first numbers of that Review, published in the year 1825, there appeared some articles on "Contagion and Sanitary Laws." These articles, published anonymously, were written by Dr Southwood Smith. It must be noted that the word "sanitary" had not then the meaning it has in these days: sanitary science was unknown, and the words "Sanitary Laws" had a no wider signification than that of the regulations of a quarantine code.

But from that time these words acquired a new meaning.

In the articles above referred to, facts were brought together which had been collected from the writings of men who had devoted years to the study of pestilences in Spain, in various ports of the Mediterranean, in Constantinople, and in the West Indies. They had gone where epidemics were raging, had risked their lives that they might increase the store of knowledge about

these fearful scourges, and might, if possible, learn on what they depend. Amongst these men, one of the most distinguished was apparently a Dr Maclean, of whom the article tells us that "when he was in Spain in 1821 yellow fever attacked Barcelona, and that with his wonted zeal he hastened to the spot in order that he might fully investigate its nature." Dr Maclean is spoken of as "one of those extraordinary men who is capable of concentrating all the faculties of his mind, and of devoting the best years of his life, to the accomplishment of one great and benevolent object." We are told how, "in order to demonstrate what epidemic diseases really are, and what they are not, and to put an end to errors which have so long and so universally prevailed on this subject, errors which he believes to be the source of incalculable misery and of certain death to millions of the human race, Dr Maclean, with an energy scarcely to be paralleled, has devoted thirty years—a large portion of the active life of man. In this cause he has repeatedly risked that life, and for its sake he has encountered all sorts of suspicion and abuse." [1]

[1] Westminster Review, 1825, p. 519.

Generalising, then, from the facts which such men had collected and from others observed by himself, Dr Southwood Smith endeavours to establish the laws of epidemic disease. In the first place, he labours to prove that *epidemic* diseases are not, in the strict sense of the word, *contagious*, and that the laws which epidemic diseases observe offer a complete contrast to those which regulate contagious diseases.

"It was proved," he thought, to use his own words, "that the symptoms of epidemic diseases are not determinate and uniform. They vary in different countries and different seasons—even in the same country and the same season, and do not succeed each other in any determinate order.

"That epidemics observe certain seasons—the periods at which they commence, decline, and cease, hardly vary. For instance, the plague in Egypt begins in March or April, and ends in June or July. All epidemics in Great Britain, of which we have any record, have raged in the autumn.

"That epidemic diseases prevail most in certain countries, in certain districts, in certain towns, and in certain parts of the same town.

They prevail most in those countries which are the least cultivated; in those districts which are the most woody, the most exposed to particular winds and to inundations; in those towns which are placed in low and damp situations, and which are unprotected from certain winds; in those streets and houses, and even in those apartments of the same house, which are the most low and damp, the worst built, and the least sheltered.

"That epidemics commence, spread, and cease in a manner perfectly peculiar. They arise, for example, in some particular quarter of a town, and do not attack the other districts which happen to be nearest it in regular succession, but break out suddenly in the most distant and most opposite directions. People are attacked, *not in proportion as the inhabitants of the affected mix with the inhabitants of the unaffected places, but in proportion as the inhabitants of the unaffected expose themselves to the air of the affected places.*

"That the termination of epidemics is peculiar, since they cease suddenly at the exact period when the greatest number of persons is affected by them, and when the greatest mortality prevails. This fact is inexplicable under the supposition

that epidemics owe their spread from person to person. To suppose that a disease which is propagated by contagion can rapidly decline and even suddenly cease, just when most persons are affected and the mortality is greatest—that is, when the contagious matter is proved to be in its most active and malignant state—is utterly absurd.

"That epidemics attack the same person more than once, and that relapses are frequent amongst those suffering from them, whereas contagious diseases seldom affect the same individual a second time, and relapses are most uncommon."

From all this it will be clear that the object of these articles was to prove that all epidemics have their origin in the bad sanitary conditions (as we now say) of the places in which they arise.

It happened then, as very frequently happens in all sciences when the time is ripe for a discovery, that those working in different fields of observation noticed, at the same period, the same facts—some, as for example Dr Maclean, in their posts of observation during the epidemics in distant countries; Dr Southwood Smith in the fever-

haunts of London. But it remained for him, collecting together all the experience and generalising from it, to announce the law on which they depend.

Those who thus arrived at the great principle of the connection between defective sanitary conditions and disease, laid the foundation of Sanitary Reform. That connection is an old truth now,—one of those about which it is difficult to realise that it could ever have been unknown to the world; but in those days it was unknown and unrecognised, and amongst the few who began to recognise it, there were scarcely any who saw to what wide practical results such truths ought to lead.

My grandfather, however, saw that if the principle were once established, not only would the quarantine laws, at that time absurd and inefficacious, be modified; not only would our merchant ships be released from spending long weary months in unhealthy ports, while their crews were perhaps contracting, from their confinement, the very diseases which they were supposed to have brought with them from foreign lands; not only would the poor sufferers from

plague and yellow fever cease to be imprisoned in the poisoned districts whose air had just given them the pestilence;—not only would these *false* precautions cease, but the true ones would be taken: the *causes* of disease would be removed; and thus, wherever a knowledge of this law spread and was acted on, disease and death would diminish.

Might not, he thought, something practical be done *now* and *here* if these facts were once generally known? Epidemics throughout follow the same laws. Were not the very causes which produce plague in Egypt operating now to produce typhus fever in Bethnal Green and Whitechapel? We might not be able to stop the pestilential, moisture-laden wind that came down to Cairo each year at the time of the inundation of the Nile, but could we not do something towards purifying that which crept into the rooms of our own poor from undrained courts and stagnant pools? Could we not, if people once believed and acted on their belief, banish the yearly epidemic fever from the back-streets of our large towns?

Dr Southwood Smith believed that this great

result would follow from the general acceptance of the truth of the principle he had announced. He gave his life to spreading the knowledge of it.

By the articles in the 'Westminster Review' something was done towards enlightening the public mind, for I find that they attracted the attention of leading men in and out of Parliament, and were often referred to in the debates in both Houses.

Five years more of daily experience and constant thought passed before his 'Treatise on Fever' was published.[1] It entered fully into all the phenomena of the disease and into the question of its treatment. It added largely to the knowledge of fever existing at that time, and was welcomed by the medical profession. 'The Medico-Chirurgical Review,' the highest authority of that day, pronounced it to be "the best work on Fever that ever flowed from the pen of physician in any age or country." It was for a long time the standard work on the subject with which it dealt. The most important part of the work, however, as might be expected, is that which relates, not to the treatment of disease

[1] Longmans, 1830.

(which has since his time much changed) but to its *causes*. And here we find an elaboration of the principles laid down five years before in his articles in the 'Westminster Review.' Those articles had been the result of a rapid glance which had gone to the very root of things, though when they were written their writer had held his position at the Fever Hospital for one year only, and had therefore not acquired the large experience of fever which he subsequently attained. But the five years that had passed since they were written could not change — could only strengthen — his conviction of the truth of the principles which he had previously expounded.

In the 'Treatise on Fever,' as in the articles just quoted, it is enforced upon us, that since epidemics are everywhere the same, when they reach our own country we must expect to find conditions similar to those which produce pestilence in foreign countries. He writes as follows :—

"*The room of a fever patient, in a small and heated apartment of London, with no perflation of fresh air, is perfectly analogous to a stagnant pool*

in Ethiopia full of the bodies of dead locusts. The poison generated in both cases is the same; the difference is merely in the degree of its potency. Nature with her burning sun, her stilled and pent-up wind, her stagnant and teeming marsh, manufactures plague on a large and fearful scale. Poverty in her hut, covered with her rags, surrounded by her filth, striving with all her might to keep out the pure air and to increase the heat, imitates Nature but too successfully; the process and the product are the same, the only difference is in the magnitude of the result. Penury and ignorance can thus, at any time and in any place, create a mortal plague."[1]

Dr Southwood Smith has been accused of ignoring the fact that those suffering from fever can communicate the disease to others—of "infection," as it is called. But he did not. He shows, on the contrary, that the atmosphere of a room such as that spoken of in the passage just quoted must have the power of inducing fever in others besides the patient. He even says that "the poison formed by the exhalations given off from the living bodies of those affected by fever is by

[1] Treatise on Fever, p. 324.

far the most potent febrile poison derived from animal origin."

Then, it might be asked, of what consequence is it to insist on the disease being non-contagious? If fever-patients can give fever to others, it is a mere matter of words whether you choose to call it "contagious" or "infectious."

It is, however, of the utmost consequence to fix the attention on the difference; because, if that is done, the real seat of the danger will be clearly seen, and those whose duty it is to enter the rooms of the sick will know that their danger rarely lies in touching the patient, and may be prevented by abundance of fresh air and scrupulous cleanliness.

In order to emphasise this side of the truth my grandfather wrote as follows (and, though it may seem to require qualification, the *general* truth of his remark will be admitted by all): "No fever produced by contamination of the air can be communicated to others in a pure air — there never was an instance of such communication."

The form of poison given off from a fever patient is, besides, not so much to be feared as other forms of that poison, because, though

it is potent, it has not a wide range; when let out into the fresh air, it is so far diluted that its power is reduced to a minimum.

An epidemic, he asserts, can only arise from some cause sufficient to affect a whole district. Continually we are brought back to observe this universal cause of fevers; to see that, whether in the sudden falling off of an army to half its numbers, or in the prostration of a whole ship's crew on approaching shore, or in the plague devastating Cairo, this one source may be traced as the true one. Bad air comes from the marsh near which the army is stationed; bad air, poisoned by decaying vegetation, comes off shore to the ship; bad air enters the houses of Cairo. We are shown that Cairo is the birthplace of the plague, because it is a city crowded with a poor population; because it is built with close and narrow streets; because it is situated in the midst of a sandy plain at the foot of a mountain, which keeps off the wind, and is therefore exposed to stifling heat; and, above all, because it has a great canal which, though filled with water at the inundation of the Nile, becomes dry as the river gets lower, and thus emits an

intolerable smell from the mud and from the offensive matter that is thrown into it.

Besides being thus shown that, in all places in which epidemics appear, some sanitary defect may be found, we are shown that they come back and back to the same places, and that, if these defects are removed, the epidemics will not return. So we are led on to the great idea that they are *preventible*.

The facts advanced to prove these principles have not, of course, the wide range, the distinct statistical exactness, of those which the further progress of sanitary science has now enabled people to bring forward; but it is very interesting to see how all further advance has been but a development of the principles brought forward in this 'Treatise on Fever,' just as it was itself but a development of those brought forward five years before. Hardly any investigations had yet been made, but the results which research would bring to light are here foreshadowed. Even the direction which such research would take is indicated, for we are told, at the end of the chapter which treats of the "Causes of Fever," that—

"Further inquiries are necessary — such as, whether the vegetable and animal poisons we have been considering be the *only* true, exciting cause of fever;[1] by what means its general diffusion is effected; on what conditions its propagation depends; by what measures its extension may be checked and its power diminished or destroyed; what circumstances in the modes of life, in the habits of society, in the structure of houses, in the condition of the public streets and common sewers, in the state of the soil over large districts of the country as influenced by the mode of agriculture, drainage, and so on, favour or check the origin and propagation of this great curse of civilised, no less than of uncivilised, man."

Not a mere article or book contained the result of such inquiries. They occupied the greater part of his life, and that of many others. Their outcome is the present state of sanitary knowledge.

If some people think there was nothing new in the view of epidemics insisted on in this

[1] Modern investigations have proved, for instance, that contaminated water or milk will produce an epidemic as well as contaminated *air*. But all these poisons arise from bad sanitary conditions.—G. L.

Treatise, they have only to see what was the common opinion at that time amongst medical men. A few shared the writer's opinions, but the majority of English physicians then certainly took quite the opposite view. When Asiatic cholera first broke out in 1831, it was of no avail that the physicians of Bengal had declared unanimously that "the attempt to prevent the introduction of cholera by a rigorous quarantine had always and utterly failed"; it was of no avail that the articles on "Quarantine Laws" had, six years before, urged the same truth; the London College of Physicians issued, notwithstanding, a notification that, wherever cholera appeared, the sick should be collected together in houses, which should be marked conspicuously *Sick;* and that, even after the sufferers had been removed, and the houses purified, *Caution* should be marked on them. That the dead from cholera should be buried in separate ground; that food to be delivered at a house where any one was sick should be placed outside, and only taken in when the person who brought it had gone away; and that no one who had communicated

with a cholera patient should, during twenty days after, communicate with the healthy.

If cholera resisted all these precautions, and became fatal in the terrific way it had done in other countries, the authorities announced "that it might become necessary to draw a strong body of troops or police round the affected places."

This proclamation of the physicians of 1831 was published throughout the land in the form of an Order of the King in Council. It might have been more to the purpose to have cleansed the affected town.

"But," says Mr Howell,[1] "the strong good sense of the public averted many of the mischiefs which these scientific advisers would have produced had their counsels been carried into execution. The preventive measures, which were eventually adopted by them, consisted in prohibiting intercourse between one town and another by sea, and permitting it by land: thus communication between London and Edinburgh by stage-coach was perfectly free and uninterrupted, while communication between those capitals by sea was prohibited with such rigour

[1] Origin and Progress of Sanitary Reform. T. Jones Howell.

that no interest, however powerful, could procure an exemption! Francis Jeffrey—at this time holding the high office of Lord Advocate of Scotland, and whose influence from his personal and official connections was very great—was unable to obtain permission for his faithful servant, in the last stage of dropsy, to go from London to Leith by water, lest he should carry with him to his native country by that mode of conveyance, not the dropsy which he had, but the cholera which he had not.

"'You will be sorry,' writes Jeffrey to Miss Cockburn, 'to hear that poor old Fergus is so ill that I fear he will die very soon. I have made great efforts to get him shipped off to Scotland, where he wishes much to go; but the *quarantine regulations are so absurdly severe that, in spite of all my influence with the Privy Council, I have not been able to get a passage for him, and he is quite unable to travel by land.* . . . He has decided water in the chest and swelling in all his limbs. The doctors say he may die any day, and that it is scarcely possible he can recover.'"[1]

[1] Cockburn's Life of Jeffrey, ii. 247.

Mr Howell adds that these examples are not adduced for the purpose of casting obloquy on the eminent physicians of that day, who vainly endeavoured to reduce to practice in the nineteenth century the standard, but obsolete, doctrines taught almost universally in the medical schools, but solely for the purpose of displaying the state of the science of Public Health in the year 1831-32, as far as the physicians of highest reputation and largest practice may be taken as its exponents.

It need hardly be said that it is with this purpose only that these facts are again cited here.

CHAPTER III.

LONDON CONTINUED—LITERARY AND OTHER WORK, 1820–1834.

THE 'Treatise on Fever' held an important place in the development of that sanitary ideal to the realisation of which my grandfather afterwards devoted himself almost exclusively; but in the course of the years which are treated of in this chapter, he wrote much on other subjects.

During this time severe money losses had necessitated the breaking up of the establishment in Trinity Square; retrenchment became a duty; Mrs Southwood Smith went abroad with the three children of the second marriage[1] to carry on their education; and (his two elder daughters, Caroline and Emily, being engaged

[1] Herman Southwood, born 1820, died 1897; Christina and Spencer, died in childhood.