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THE CONFESSIONS OF A PHYSICIAN

V. VERESAEFF

Translated by
SIMEON LINDEN

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BY

"V. VERESAEFF"

(V. SMIDOVICH)

TRANSLATED FROM THE RUSSIAN

(WITH THE AUTHOR'S PERMISSION)

BY

SIMEON LINDEN

LONDON

GRANT RICHARDS

1904

INTRODUCTORY NOTE TO THE ENGLISH TRANSLATION

THE "Confessions of a Physician" made their initial appearance in the well-known Russian monthly literary magazine and review *Mir Boji* during the first half of 1901, and from the outset created a deep sensation in all educated circles. This was in a great measure due to the interest their subject represented in itself, mainly, however, to the convincing sincerity and frankness that they breathed.

No sooner had they run through their serial course than the "Confessions" appeared in book-form, and the first edition was rapidly followed by a second; while shortly afterwards their translation was published in French and German.

And here it may not be out of place to mention that for nearly two years the entire Russian Press devoted a large amount of its space to innumerable ariicles and letters on Dr "Veresaeff's" work, some of the foremost authorities in the Russian medical world taking part in the heated polemics which raged around the "Confessions" and their author. To-day it were hard to find any educated Russian who had not read "Veresaeff's" remarkable book. There is no exaggeration in the statement that at one time the bulk of the reading public seemed to be divided into two antagonistic parties, dubbed respectively "Veresaevites" and "Anti-

Veresaevites"—a new word specially coined for the occasion.

The author's unreserved account, based upon personal experience, of all that the medical aspirant has to go through, and the candid disclosure of certain aspects of the profession not generally known, naturally impressed most of all those who were intending to consecrate themselves to medicine. In fact, it is no secret that the ardour of many was appreciably cooled after a perusal of this level-headed *exposé* of actuality, not a few students giving up the idea of becoming doctors and applying themselves to other branches of learning—so profound was the impression made by a nearer acquaintance with medicine, viewed in the sober light of hard fact.

Thus, Dr "Veresaeff's" essay is most instructive as a presentment of those aspects of medicine, as a vocation, that are little known to the great public, while at the same time it is far removed from a wholesale denunciation of the noble healing art and its exponents.

Originally intended for Russian readers, this work deals in places with facts more or less peculiar to Russia. But in the general broad and human interest of what the author has to say, touching as it does the larger issues of the whole question, irrespective of minor national distinctions and narrow professionalism, lies the main importance of his book.

Naturally, the very subject which serves "Dr Veresaeff" as theme, frequently necessitates plain speaking, but there is every reason to believe that the thinking British public will accept such outspokenness in the right spirit, and accordingly the trans-

lator has abstained from a policy of bowdlerising, and presents before the reader the original version unmodified.[1]

The great dissimilarity in construction and the distinctive spirit of the two languages, however, made it inexpedient to follow the outward form of the Russian text too slavishly, but every effort has been made to transmit with exactness the meaning that the writer intended to convey, and the translator trusts that he has not entirely failed in his task.

THE TRANSLATOR.

[1] The only alterations that we have considered desirable to effect in the translation's original text (apart from a few insignificant modifications scattered throughout the book) is the omission of part of the description on page 8, and also of a few unimportant lines on page 161. —THE PUBLISHERS.

PREFACE

"Is it possible that there is no voice in your mother's heart, which forbids you to destroy your son's ideals?"

"But what will then become of truth?"

"What will then become of ideals?"

"Oh! ideals, ideals! . . ."

H. IBSEN: "The Ghosts."

THESE "Confessions" have brought down upon me a storm of indignation emanating from a certain section of my readers. How could I have the hardihood to expose with such unreserved candour in the press and before the laity all that a doctor has to go through? What could my aim have been in so doing? Ought I not to have known that a great distrust in medicine and in doctors exists in the public mind as it is? Such an exposure as that furnished by my "Confessions" could only serve to strengthen this distrust. The cheap newspapers, which constantly run the doctors down, would pounce with glee upon the material I had provided, to make use of it for the furtherance of their own obscure ends. Rumours might reach the lower strata of society—the ignorant masses—and estrange them from medicine, in the assistance of which they stand in such pressing need. The author — himself a medical man—ought to have realised what he was about, when thus starting to undermine the confidence of the public both towards doctors and medicine.

This outburst of indignation struck me as very significant. All of us fear the truth so much, we are

so little conscious of its necessity, that it suffices to lay bare its smallest corner—and people begin to feel uneasy. "Why? What good can it do? What will the uninitiated say? What construction will they put upon the truth, as offered them?"

From the moment of my matriculating at the Faculty of Medicine of the University, and more especially, of my taking up practice, one by one all manner of questions began to arise before me, each more complicated and more difficult than its predecessor. I sought their answer in my medical books and in the medical press—and found it nowhere. Medical ethics were elaborating, painstakingly and pedantically, a tiny circle of petty questions dealing with the rules which regulate the attitude of doctors towards their patients and towards each other. But all the problems which confronted me hardly existed for them. Why? . . . Was it really necessary to be endowed with extraordinary perspicacity and sensitiveness to be able to note and raise the questions which I touch upon in my "Confessions"? Why, every medical man is assailed by them, they torment *every* doctor who has not yet retired into the shell created by affluence or the ease of an assured position. Why then does no one discuss them, why should each be compelled to seek their answer single-handed.

It seems to me that there can be but one explanation: all fear that if such questions be stirred up and made the subject of open discussion, the public's confidence in the profession might suffer. Accordingly, an impenetrable veil is cast upon the most serious and burning problems of the physician's art, and they are studiously ignored—as if entirely non-

existent. And in the meanwhile this systematic hushing-up has worked much evil and continues to do so. Thanks to it there is an absence of that which is most important of all—of an all-pervading atmosphere pregnant with the consciousness that these problems still remain unsolved, and that their clearing up is of the most pressing necessity. These questions are settled in solitude and in secret, this way or that. Often they find the wrong answer, and more often still, are stifled without any answer being given them at all. I have had occasion to hear contentions of such a nature put forward by my colleagues, in regard to my "Confessions," that I simply cannot bring myself to quote them—so extraordinarily grotesque and professionally egoistical are they; and nevertheless I have had to listen to them from many quarters. I think that such objections could only have been generated from that dense, voiceless murk, in which the mind only then begins to quicken when it stumbles right up against a question; and under these circumstances, it is vain to expect the embracing of a problem with anything like breadth of grasp.

Others have queried: "If you considered it necessary to raise these questions, why did you not make use of the medical press, why did you lay bare your doubts before the lay-mind? The lay-mind is incapable, in any case, of finding an answer to them. Moreover, it ought to remain in ignorance of the very existence of such questions!"

In the Middle Ages a certain physician of Worms, Rösslin by name, published a medical work in German, not in Latin as was the custom in those days. Thoroughly conscious of the enormity of such

a "profanation" of his science, he excused himself before his readers in his preface, and earnestly begged them to keep his book well under lock and key, "to prevent its falling into the hands of the uninitiated, that thus pearls should not be cast before swine."

These times have long passed into oblivion. The professional press makes exclusive use of the idiom of the country it belongs to, the idiom understood by, and intelligible to, every "uninitiated" person. It would not have altered matters one jot even if I had put my "Confessions" into less popular language and published them in a professional periodical—in any case the press at large would not have failed to extract and make all that was "interesting" general property. Only it would have been enabled to serve the facts according to its own tastes and illuminate them in its own way—perhaps inaccurately and ignorantly.

Anyhow, the kernel of the nut lies elsewhere: why should the man in the street remain ignorant of those questions? To whom and by whom was the right given to play guardian to him? By all means let judges, school-masters, *literati*, lawyers, engineers and police inspectors publish their confessions!

If I were told that, as an outsider, I ought not to be introduced to the hidden aspects of the professions enumerated, I would answer that not being a child, I was fully competent to judge for myself of what was good for me and what was not. "On learning the truth the lay-person may lose his or her confidence in medicine and its exponents." . . . How strange that that old, old rotten fallacy should still be countenanced—the stifling of publicity for fear of the truth shaking established authority! As if it were possible

to create a box strong enough to keep Truth a voiceless captive! You may use the stoutest iron bars to bind your box with, but it will start at every seam and joint, and the truth will ooze out—distorted, mutilated, disjointed, irritating in its incompleteness, and, for that reason, leading one to suspect the very worst. Doctors carefully guard the public from all that may shake its faith in medicine, and, pray, what is the result? Is the confidence of the public very great? Is not the public ever on the alert to seize upon the most grotesque gossip regarding the faculty, does it not proffer the most absurd accusations and demands? At certain times, in serious cases, it is occasionally necessary to deceive the patient for his own good; but society at large is not an invalid, and momentary mendacity should not be elevated into an eternal principle.

One of the two: either the truth can lessen our faith in medicine and doctors, because medicine is in itself unworthy of our confidence—in that case the truth is beneficial (nothing is more harmful nor causes so much disillusion as exaggerated faith in anything). Or else, the truth is capable of shaking faith in doctors because it exposes the seamy side of their profession, which can be, but is not, remedied—in that case the truth is *indispensable;* for if the dark sides were obliterated, confidence would spring up once more. But until this is accomplished, complete faith were out of place. And here I repeat once more what I have already said in my "Confessions": that personally I would never apply to a doctor fresh from the student's bench, would not submit myself to a surgeon who was about to perform his first operation,

would not allow my child to take a new, little-known medicine, nor would I permit of its being inoculated with syphilis.

And I believe that no other doctor, in his turn, would act differently. Once this fact is established, how dare one hide all this from the "outsider," how dare one leave him to face that which the "initiated" would most sensibly decline?

It is perfectly correct that the lay-public is not in a position to find the true answer to these problems. But it has every right to demand that a solution be discovered, and its interest in these questions is perfectly legitimate; they concern the public too closely. Further still—the public discussion of these questions is, in my opinion, the only guarantee to their being satisfactorily answered. If this task were left to doctors alone, the latter might easily err, to a greater or lesser degree, in the direction of one-sidedness.

Yet another accusation is levelled against me. A certain much-read medical journal affirms that I "generalise single facts of medical practice in an unjustifiable manner," and that "for some unknown reason" I permit myself "undoubted exaggerations and lay my paints on too thickly." Of course, such an accusation calls for the most serious consideration; but unfortunately, it is not formulated with any further preciseness, and therefore a rejoinder becomes a rather difficult task.

That such accusations would be made against me I foresaw from the very beginning, and it was for this reason that I took pains to supply my text with abundant and exhaustive quotations, which appeared to me to be sufficiently characteristic and convincing —to the direct detriment of the literary merit of my

essay. As a matter of fact, I have even been reproached by the general press of "going into too great detail," and am told that my "Confessions" occasionally "assume the character of a professional article in a medical journal." If I do not adduce further substantiation of the correctness of my "Generalisations," this, at any rate, can in no case be put down to a lack of the necessary material.

THE AUTHOR.

P.S.—In my "Confessions" in various places I call the patients and doctors, with whom I came into contact, by their full names. In view of the inquiries that have been addressed to me, I consider it necessary to explain, that in those parts of my "Confessions" where I am not dealing with documental facts, not only are the names, but the persons themselves and the scenes fictitious —not photographed from life.

INTRODUCTION

SEVEN years ago I completed my studies at the Faculty of Medicine. The knowledge of this fact will prepare the reader's mind for what is to follow.

My reminiscences are not those of an old, experienced physician summarising the results of his life-long observations and reflections, having evolved definite answers to all the complex questions of medical science, its ethics and the exercise of its profession. Also, they are not those of a physician and philosopher who has deeply penetrated into the essence of his science and completely mastered it.

I am but an average practitioner, with average ability and average knowledge. I find myself entangled in a web of contradictions, and I am utterly powerless to solve many of the hard problems which, importunately demanding an answer, arise before me at every step. The only advantage I possess lies in the fact of my not having had time to become a pure professional, and that those impressions, to which one involuntarily becomes inured in time, have, in my case, still retained their freshness, their power, and their vividness. I am about to describe my sensations on my first acquaintance with medicine, what I expected of it, and how it actually affected me; I will write of my

first independent steps on the high road of my professional career, of the impressions I obtained from my practice. I will endeavour to set down *all*, hiding nothing, and I will strive to write with absolute frankness.

THE AUTHOR.

THE
CONFESSIONS OF A PHYSICIAN

CHAPTER I

I STUDIED with diligence while at the Gymnasium and was considered a good scholar, but in common with the majority of my fellows, I held the curriculum of my school in the greatest contempt. Those studies oppressed me as an irksome and distasteful burden, in itself lacking all personal interest, but, for some reason, essential for me to carry. What did I care about the date of canonisation of some obscure Byzantine Saint, the parentage of Otto the Great or the passive conjugation of *persuadeo tibi*? The advance of my mental development was quite independent of my school, and it was outside school hours that I accumulated the knowledge of those facts which interested me. But all this underwent a sharp change as soon as I became a student at the University. The first two years at the Faculty of Medicine are devoted to theoretical study of the various branches of natural science: chemistry, physics, botany, zoology and physiology. I was entirely carried away by these subjects—so new and so important to me was the information they imparted. All the phenomena which surrounded me and filled me, which I contemplated before with the eyes of a savage, now became plain and comprehensible; and I was surprised that I should have lived to the age of twenty without any knowledge of, or interest in,

those facts. Every day, every lecture brought new "discoveries" in their wake and I was astounded to learn, for instance, that the meat I ate in the form of beef-steaks and cutlets was that mysterious matter called "muscle," which hitherto my imagination had vaguely pictured as balls of grayish thread; formerly I thought that solid food left the stomach for the intestines, and the fluid—for the kidneys; it appeared to me that in breathing my chest expanded *because* some inexplicable force introduced the outside air; I was cognisant of the laws of conservation of matter and energy, but in my heart of hearts did not believe in them. Afterwards I made the discovery that most so-called educated people retained no less childish conceptions in regard to all that lay within their vision, and were not discomfited by the fact. They will blush for shame if unable to name the century of Louis XIV., but are not in the least disconcerted when it comes to displaying their ignorance as to the process of asphyxiation or the reasons for the luminosity of phosphorus placed in the dark.

In regard to anatomy, one often has to hear of the unpleasant and repulsive side of its study, owing to the necessity of dissecting and preparing dead bodies. Certainly, many of my comrades took some time to become accustomed to the sight of the anatomical theatre, filled with mutilated corpses with glassy eyes, grinning teeth, and claw-like fingers; one of them even had to repudiate medicine, and take up another branch of learning; he began to have hallucinations—to his disordered imagination at night his room seemed to fill with corpses, and from every corner bleeding limbs crawled towards his bed.

For my part I very soon became familiarised with

the corpses and used to sit for hours engrossed, heart and soul, in their preparation, which laid all the secrets of the human body open before me. For seven or eight months I devoted myself entirely to the study of anatomy,—and for the time being my views on mankind became wonderfully simple.

When walking in the street watching a pedestrian in front of me, I saw in him but an animated corpse; now his *glutaeus maximus* would contract, then his *quadriceps femoris* ; that swelling of the neck denoted a strong development of the *sternocleidomastideus* muscle. If he dropped his walking stick and bent down to lift it up, I knew that the *musculi recti abdominalis* had contracted, drawing his thorax down towards the pelvis. People who were near and dear to me seemed to assume a dual quality : that young girl for instance—there is so much originality and attractiveness about her! When in her presence I feel happy and light of heart, but at the same time all that goes to make her —is well known to me, and there is really nothing extraordinary about her : her brain is corrugated by the same convolutions, such as I have seen upon hundreds of brains ; her muscles are permeated through and through with fat—which makes the dissection of feminine corpses such an unpleasant task ; in a word, there is really nothing in her either attractive or suggestive of poetry.

But I was even more powerfully impressed by the method which reigned in this new knowledge, than by what that knowledge offered me in itself. It led one forward carefully, with circumspection, but without wavering, without leaving the most insignificant detail unverified or uncontrolled at

every step with the most painstaking severity by experiment and observation; and what had once been passed was passed finally, without there being the slightest chance of the necessity arising for the retracing of one's steps. This method was all the more fascinating because it had nothing in common with the class-room rules of abstract logic; it was the necessary outcome of the very matter in hand. Every fact, every explanation of a fact seemed to exemplify the golden words of Bacon: *Non fingendum aut excogitandum, sed inveniendum, quid natura faciat aut ferat.* No need even to know of the existence of logic—science itself would force one to acquire its method more effectually than the most exhaustive treatise on methods! It educated one's mind in such a manner as to make all deviation from its straight path a sheer impossibility.

With the closing of the last term of my second year, these theoretical studies came to an end. I passed my intermediary examination, and our clinical work then began.

The whole character of the knowledge to be acquired underwent a radical change. Instead of abstract science, living man came to the fore; the theories of inflammation, microscopical preparations of tumours and bacteria, gave place to real wounds and sores. An endless procession of sick, maimed and suffering humanity began to pass before one's eyes. Slight cases are not admitted to the University hospitals; and here the sufferings were real and grave. Their abundance and variety had a benumbing effect on me; I was struck by the immensity of existing suffering, at the great multitude and variety of the different forms of the most

refined, incredible tortures prepared for us by nature —torments, the very sight of which made one's soul sick.

Soon after the commencement of our clinical studies, a market gardener with lock-jaw was brought to the senior students' ward. We went to look at him. Stillness reigned in the big room. The sufferer was a thick set and muscular sun-tanned working man of gigantic stature ; bathed in sweat, with lips distorted from the hideous agony, with rolling eyes, he lay on his back. At the slightest noise—when a tram bell rang in the street below or a door slammed, the sick man began to bend out slowly: the nape of his neck was drawn down, his jaw convulsively locked together, until the teeth cracked audibly, and a terrible, prolonged convulsion of the dorsal muscles lifted the body from the bed, while a large moist spot of perspiration gradually spread over his pillow away from his head. A fortnight ago, while he was at work bare-footed amongst his vegetable beds, a splinter entered his big toe ; that insignificant particle of wood had been the cause of what I now saw before me.

The mere fact of the existence of such frightful sufferings was not the most terrible side to the question ; the ease with which they could be acquired, and the absence of guarantee against them for the healthiest of men, were what appalled.

A fortnight ago anyone would have envied that very same gardener his splendid health and physique. A strapping young ostler, in passing across his stable-yard, slipped and struck his back against a trough. For six years by now he has been in our clinique ; his legs hang lifeless as wisps of straw, he cannot move them, and he passes water and

evacuates unconsciously. Helpless as a babe in arms, there he lies on his back for days, months, years, lies until he develops bed-sores, and there is no hope of his ever regaining a particle of his former vigour. . . . A government clerk with inflammation of the ischiatic nerve, goaded to madness by his sufferings, yells at the professor :—

"Oh, you low quacks! Kill me, for God's sake, kill me, that is all I beg of you!"

One fine summer's evening he had rested on the dewy grass.

Every moment and at every step we are warned of all manner of dangers; to defend ourselves were in vain because they are too varied, flight is useless because they are everywhere. Even when we are in a state of health, our organism is not quiescent; in swallowing, in breathing, billions of bacilli find an entrance into our bodies; the most deadly poisons are generated without intermission; unnoticed all our vital powers wage remorseless war with injurious substances and influences, and we dare not for a moment consider ourselves safe-guarded against the possibility of our internal forces proving inadequate in this endless struggle. And when this happens, our cause is lost; a small abrasion develops into erysipelas or a phlegmon, or causes blood-poisoning; a slight bruise results in the formation of cancer or sarcoma; a trifling attack of bronchitis contracted through exposure to a draught, ends in consumption. . . . Ideal and exceptional circumstances of existence would be required to make sickness a "chance" occurrence; as things stand at present all suffer from disease: the poor because of their want, the rich owing to their superfluity; workers because their strength is overtaxed,

drones by reason of their idleness; the careless as a result of their carelessness, the cautious because of their over-caution.

Decay lies hidden in man from the tenderest age, his body begins to decompose before it has even had time to complete its development. In Boston the mouths of four thousand school children were examined and it was found that healthy teeth, especially in children of over ten years of age, were *an exception.* In Bavaria only *three* children were found to have perfectly sound teeth out of a total of five hundred pupils of the elementary schools that were examined. Dr Babes dissected one hundred infantile corpses, and in the case of seventy-four he found tubercular bacilli in the bronchial glands; all those children had died of non-tubercular diseases. Children wake with "sleepy" suppurating eyes; from childhood we all begin to suffer from chronic nasal catarrh and cannot dispense with a pocket handkerchief; for a healthy man a pocket handkerchief is superfluous, but this simple truth will astonish most people. As for women who have reached the age of puberty, they are normally and physiologically condemned to be ill for several days each month.

I began to regard the people surrounding me with a new and strange feeling, and I was more and more struck by the rarity in their midst of healthy individuals; nearly every one of them had some ailment. To me the world began to assume the aspect of one gigantic infirmary: normal man was sick man; the healthy person merely represented a happy freak, a sharp deviation from the normal; this fact was ever becoming more plain. When I first entered upon the theoretical study of obstetrics

and commenced the perusal of my text-book, I remained engrossed in it that whole night, unable to withdraw my attention from the subject. The picture of the "normal," the "physiological" process of parturition unfolded itself before me like an oppressive and feverish nightmare. . . .

I remember the first confinement at which I was present, as if it had occurred but yesterday.

Tut, tut, ma'am, try and bear it quietly!" the assistant house-surgeon remarked in the calmest of voices.

The night dragged out endlessly. The labouring woman had long abandoned all efforts at self-control; her moans filled the ward, while she sobbed, trembled and clasped her clenched hands; her groans could be heard in the passages and were lost far away in the great building. After an unusually painful access of the throes, catching hold of the assistant's hand, pale, with a face racked by the agony, she looked at him with a piteous and beseeching glance.

"Doctor, tell me, shall I die?" she asked in mortal fear.

In the morning her husband, agitated and nervous, came to the hospital, to inquire after his wife's condition. I regarded him with a feeling of odium; this was his second child; therefore he *knew* that his wife had to go through this torment, and still he remained undeterred by the knowledge. . . .

"This was an easy case of confinement, and of small interest," remarked the surgeon.

All this was "normal" too. And civilisation could not be held responsible for having made child-birth more difficult: women always gave birth in torment and the ancients were struck by this

strange phenomenon and could only explain it as the curse of God.

Such impressions as the above weighed the soul down and, following each other without intermission, intensified the general sombre colouring of everything around me.

One night I woke up. I had dreamt of being run over by a carriage while traversing a narrow and dark alley; the pole struck me in the side, and pneumothorax had supervened. I sat up in bed. The pale night stared me in the face through the window, a cricket kept up its monotonous chirping behind the stove; somewhere in the house I could hear my landlady's sick child crying fitfully. All that I had seen and brooded over of late came home to me with a sudden clearness, and I was appalled to see how utterly human life lacks all protection against extraneous chances, and on what a slender thread man's health depends. If only it were possible to keep one's health! with such a reserve no trials could have any real terrors. Its loss meant loss of one's all; without health there could be no freedom, no independence, a man becomes the slave of those who surround him, of his environment; it is the highest and most inestimable of all blessings and it is so difficult to retain it! To try and do so were to consecrate one's whole existence, all one's strength, to the attainment of the one object; but how ridiculous, how insulting to one's self-esteem, were such an aim in life! And after all, it would be of small avail, even if we were to live to that sole end! Supposing that we were ever on our guard; loss of adaptability would result. And wherein ought our precautions lie? We are absolutely ignorant of the origin of cancer, sarcoma, a multitude of nervous

affections, diabetes, the majority of the painful diseases which attack the skin, and so on.

It is quite within the bounds of possibility, no matter how careful I may be in the interval, that a year hence you will find me struck down by *pemphigo foliaceo*, a disease which causes the skin to blister; these blisters burst, lay the subcutaneous surface bare and heal no more, so that the sufferer, deprived of his skin, can neither lie down or sit up, for the slightest touch causes burning agony. Very likely you will call me ridiculous! But remember that the man with *pemphigo foliaceo*, whom I saw in the clinique the other day, was hale and hearty and free from misgivings half a year ago! We are not assured of a single hour of health. At the same time we all want to live, to live and be happy—and this is denied us. . . . And why does love exist with all its poetry and bliss? Why should there be such a thing as love if it causes so much torment? Can it be that "love" is not a cruel mockery of love, if a man has it in him to cause the woman he adores such sufferings as I had witnessed in the lying-in hospital? Suffering, suffering without end, in every shape and form—it is thus that the essence of the entire life of the human organism may be summed up.

Such was the gist of my cheerless reverie during the small hours of the morning. I had not long to wait before I had a personal experience which seemed to bear out the above. A small mole under my left arm-pit, without any apparent cause, suddenly began to increase in size and become painful. I was afraid to believe the evidence of my senses, but it grew and grew, and hurt me more every day. At last the swelling attained the size of a hazel-nut. There was

no room for further doubt: the mole had developed into a sarcoma, that terrible *melano sarcoma* which generally originates from innocent-looking beauty spots. I went to attend the consulting hours of our professor of surgery, feeling as if I were about to have a final interview with the hangman.

"Professor, I believe . . . I have a sarcoma of the arm," I said in an unsteady voice.

The professor scrutinised me attentively.

"Are you a medical student of the third course?"

"Yes."

"Show me your sarcoma!"

I undressed. The professor removed the growth by severing its narrow stem with a pair of scissors.

"Your sleeve had merely irritated the mole, nothing more. Take your sarcoma with you as a keep-sake!" he said, smiling good-naturedly and handing me a small fleshy pellet.

I went away happy, although much ashamed, and I felt abashed at my childish apprehensiveness. But soon afterwards I began to notice that something abnormal was taking place within me: I experienced a general lassitude and distaste for work, I lost my appetite and I constantly suffered from thirst. I lost flesh too, and every now and then abscesses formed on different parts of my body; I passed water very abundantly; I tested it for sugar—it contained none. All these symptoms pointed to *diabetes insipidus*. In deep dejection I perused the chapter devoted to that disease in Strumpell's text-book: "The causes of *diabetes insipidus* still remain quite obscure. . . . Most sufferers are either young or of middle age, men are somewhat more subject to the disease than women. . . . The relationship between this disease and diabetes proper is obvious, and often

the one passes into the other. . . . The disease may continue for years and even decades, and cures are extremely rare. . . ."

I went to our professor of therapeutics. Without telling him of my fears, I simply detailed my symptoms. As I proceeded the professor's brows contracted more and more.

He cut me short.

"You suppose that you have *diabetes insipidus.* It is very praise-worthy that you should have studied Strumpell so painstakingly; you have not omitted a single symptom. I hope you will be as well up in the subject when the examinations come round. Smoke less, eat more, take more exercise and leave off thinking of diabetes."

CHAPTER II

WE were now obliged to study the sufferings of living men ; but at first it was not so much the sight of these, as the fact of our having to make them the subject of study, that was the most distressing. Let me illustrate my meaning : a patient with a dislocated shoulder is affected by heart disease ; chloroform cannot be administered, and the shoulder is reset without anæsthetic ; the hospital attendants hold the patient tightly, he struggles and screams from pain ; at the same time one has to give one's full attention to the professor's manipulations in returning the limb to its proper position, one must remain deaf to the cries of the man being operated upon, blind to the agonised contortions of his tortured body, one has to choke down one's feelings of sympathy, and control one's agitation. This was very difficult until one got used to such scenes, attention invariably becoming divided ; it was constantly necessary to repeat to oneself : "I am perfectly well, it is not I but another person that is being hurt."

Torrents of blood during operations, the groans of labouring women, the convulsions of patients with lock-jaw—in the beginning all these jarred upon the nerves badly, and interfered with one's work. Habit had to be acquired.

However, this habit comes sooner than might be thought, and I know no case of a medical student, who had once got over the dissecting of corpses,

leaving the field of medicine because he could not get used to the sound of groans and the sight of blood. And Heaven be praised that this should be so, because, without a doubt, such comparative "hardening" is both essential and desirable.

However, the study of medicine on the living patient has another side, in dealing with which we are confronted by what is infinitely more complex and painful, where there is far more room for question and doubt. We learn from the patient; to enable us to do so, the doors of the cliniques are thrown open to the sick; at the same time, refusal to submit to examination by the professor or students is met with prompt expulsion of the obstreperous one. Are these examinations and demonstrations, however, a matter of such indifference to the patient?

Of course, every effort is made to spare his or her feelings. But, unfortunately, it is not always feasible to do so; certain limits *have* to be passed: if, for instance, the patient is suffering from some rare and instructive disease, or else if there be a dearth of clinical material—which is frequently the case, not only in small university towns, but even in the capitals. This is what we learn from Professor Eichwald's report, read at a conference of the Medico-Chirurgical Academy (of St Petersburg): "In the late seventies the I. Therapeutic Section of the Clinical Hospital simultaneously served the students of the III. and V. courses, and also the female students, for the purposes of practice, which arrangement was, of course, a great hardship upon the patients. The latter not only complained of these practical studies on numerous occasions, ascribing to the above their slow recovery, but not infrequently left the clinique for this reason."

In general, however, one must confess that such cases are exceptional. When the patient is subject to examinations for the purposes of study, it is usual to adhere strictly to the rule that the latter should have no detrimental effect upon his health. But the matter does not only lie in the evasion of direct physical harm to the sufferer, for there is a moral side to the question. A semi-dark ward during our evening round, seems to arise before my eyes ; we students, stethoscope in hand, stand around the house-physician who demonstrates amphorical respiration upon one of the patients. The latter, a cotton-mill hand, is in the last stages of consumption. Terribly wasted, his youthful face is slightly cyanotic ; he breathes rapidly and superficially, while his eyes are turned to the ceiling with an expression of intense inward suffering.

"If you will apply your stethoscope to the patient's chest," explains the house-physician, "and at the same time strike the mallet upon the plexi-meter close by, you will hear a clear metallic, so called 'amphorical resonance.' . . . Here, colleague," he continues, turning to a student, and then, addressing the patient, "Sit up" . . . and so on.

Serving the purposes of study and the object of coldly impersonal explanations, such lonesome suffering stands out glaringly. Even if it strikes no one else, the sufferer at least feels the incongruity acutely.

All examinations unconnected with those necessitated by their treatment, have a particularly depressing effect on the bad cases—at the same time, from an instructional point of view, the latter present most value. The intensity of this aversion for such examinations is best exemplified by the

fact that even those with the slenderest means decline to go to the cliniques; although, apart from the described discomfort, they are better cared for in every respect in these infirmaries than would be possible elsewhere.

In 1878 the Medico-Chirurgical Academy nominated a commission for the devising of some means whereby the number of patients in its hospital might be increased. The Commission, among other measures, recommended adding to the number of free beds.

"The reserving of beds for paying patients," it declared, "is inexpedient, because people with means do not go to the cliniques, apprehensive of being inconvenienced by the students' examinations." In 1880 the academical authorities again petitioned the government for powers to increase the number of free beds, pointing out that those reserved for paying patients remained unoccupied almost throughout the year.

Of course the free beds will never be vacant—all-powerful Mother Want will see to that. . . . I not infrequently hear it said, that although all these examinations and practical demonstrations may be distasteful to the patient, on the other hand, he enjoys exemplary nursing gratis. Quite true: but wealthy people enjoy exemplary nursing *without* being subject to all this. The question often occurred to me: What would medical science do if *all* were wealthy? Probably it would find itself in a tight place. In any case, even now, efforts to shield patients from these examinations with an instructional purpose, have been made. In 1893, for instance, the working classes of Berlin boycotted the *Charité* hospital; amongst the demands formu-

lated by those who joined the movement was the following: "absolute freedom shall be given the patients in acquiescing or declining to allow of their being used for the purposes of instruction." If the patients enjoyed such liberty everywhere, many and many of them would say: "Leave me in peace. I understand that this is necessary to science, but I am too ill to take science into consideration."

The patient dies. The same rules which demand that he should readily submit himself to be examined by the students, also require obligatory autopsy in the case of the bodies of those who die in the University hospitals.

Every morning in the lobby and at the main entrance of each clinique, a crowd of women may be noticed for hours together, on the look out for the house-surgeon or physician. When he passes, they intercept him and implore that the remains of child, husband or parent be given up for burial. Sometimes the most heart-rending scenes are enacted. Naturally, a categorical refusal meets all such requests. Having failed to gain her point from the house-surgeon, the petitioner goes further, importunes all those in authority, finally gets at the professor and supplicates him on bended knees not to have the deceased dissected.

"Why, his malady was a well-known one—oh, why should you continue to worry him after death?"

Of course, here again, she meets with the same refusal: it is absolutely necessary to perform autopsy on those who die; without that, clinical study becomes senseless. But to the mother, the autopsy of her child is no less terrible than its death; even educated people are very unwilling to give their

consent to a post-mortem examination of their dear dead, while for the ignorant poor the former assumes the shape of something absolutely horrible. I have seen a female factory hand earning 40 kopecks a day, try to press a three-rouble note on the acting house-physician, in the vain hope of saving, by this bribe, her dead child from "desecration." Of course, such an attitude towards autopsy is but the result of prejudice, but notwithstanding this the grief of the mother remains unaltered.

Once, during the summer, I was present at the post-mortem of a little girl who had died of croupous pneumonia. Most of my fellow-students had left for the vacation ; the only persons present were the house-physician on duty and myself. The attendant, a black-bearded man of gigantic stature, opened the body and took out the internal organs. The dead reposed upon the table with head thrown back, her blood-besmeared abdominal region yawning open ; on the white marble, in pools of blood, lay the removed vitals. The house-physician was dissecting the right lung with a knife, on a small wooden slab.

"What are you doing?" suddenly gasped a choking voice from the threshold. A man with a small red beard, dressed in a pea-jacket, with a deathly pale face, distorted with horror, stood in the doorway. It was the little girl's father, a journeyman cobbler ; he was on his way to the mortuary, to enquire when the deceased might be laid out, and blundered into the dissecting-room instead.

"What are you doing here, you brigands?" he yelled, shaking all over and staring at us with wide open eyes. The knife remained paralysed in the anatomist's hand.

"Now then, what's your business here? Be off!" said the attendant, recovering himself and approaching the intruder.

"So this is where you cut our children up, is it?" he cried with a kind of sobbing howl, stamping his feet and shaking his clenched fists; "what have you done to my little girl?"

He made a run towards us. The attendant seized him under the armpits from behind and wrenched him away; the man caught hold of the door-post and yelled for help. . . .

At last the attendant managed to push him into the passage and locked the door from the inside. The cobbler persisted in his efforts to force an entrance for a long time, crying for help the while, until the house-physician lost patience, summoned the porters from the window and had him removed from the premises.

If another child of that man's falls sick, he will ruin himself in nursing it at home, will allow it to die without proper aid, but will never consent to take it to the clinique: the desecration of his precious dead were too high a price to pay for the advantage of hospital nursing.

By the way, the right to dissect the bodies of patients that die within their walls has not only been annexed by the University infirmaries, but by all the hospitals, and quite illegally too: for the law gives them no such powers. According to the law, in the ordinary hospitals autopsy is obligatory only when required for the purposes of judicial investigation; and yet I don't know of a single hospital where the deceased's body, in accordance with his relatives' wishes, would be delivered to them without autopsy being previously performed. The relatives

of such patients do not, however, suspect that they have the right to *demand* the above.

The post-mortem examination of each patient that succumbs is extremely important to every doctor, even in the case of the most "common" diseases: it shows him his mistakes and the way to evade them in future, accustoms him to attentive and all-round examination of his patient, enables him to obtain a clear and detailed anatomical presentment of every illness. Without autopsy the making of a good physician is impossible, without it medical science cannot advance and perfect itself.

It is absolutely indispensable that all should understand this as clearly as possible and willingly consent to the autopsy of their relatives' bodies. For the present, the public mind has not yet grasped this truth; and hospitals attain their ends by dissecting the dead in opposition to the wishes of friends and relatives. The latter humiliate themselves, go down on their knees before the doctors, try to bribe them—all in vain. For fear of a post-mortem examination in the event of death, the friends of the patient do all they can to prevent his being taken to the hospital, and he often perishes at home through lack of proper attendance, or owing to ignorant nursing.

At the hospital in which I subsequently worked the following episode had taken place: there was a typhoid patient, a little boy five years old; symptoms of perforated intestine appeared. In such cases absolute quiet is of the last importance, but the mother suddenly made known her wish to take the child home, refusing to listen to all remonstrances. "He's bound to die. Better that he should die at home, for then he won't be cut up," she said. The

house-physician was compelled to give the woman her way, the boy succumbing *en route*. . . . This case gave rise to considerable comment amongst the hospital-staff; of course, the profound ignorance and senseless barbarity of the Russian lower-classes was referred to, the right of the house-physician to permit the boy's removal was called in question, as well as his moral and judicial responsibility for the child's death. But the main interest of the case lies elsewhere: how great must the mother's fear of autopsy have been, if she was prepared to risk her offspring's life to escape it! The house-physician was of course neither an "ignoramus" nor a "brute," but that the simplest, and one would think, the most natural solution of the problem, never entered his head, is characteristic: he might have given the mother a solemn assurance that if the child died it would not be dissected.

But those who have to suffer most from the necessity which compels us to study medicine on the living, are the women who lie in the cliniques. My recollections connected with this phase of the question are especially painful, because I have to blush for myself. But there is no help for it, as I have pledged myself to write all.

It was in the propædeuthic clinique. A young woman suffering from pleurisy mounted the professor's dais accompanied by the two students appointed to watch her case. Having read her "anamnosis," one of the students stepped up and touched the shawl which enveloped the patient's shoulders, thereby intimating that she was to undress. The blood mounted to my face: this was my first experience of the demonstration of a young female patient. She took off her shawl and bodice

and lowered her chemise as far as her waist; her face was serene and proud.

Then commenced the usual auscultations and soundings. I sat there, hot all over, trying not to look at the patient; I felt as if the looks of all my comrades were turned my way; when I lifted my eyes, the same proud, cold, beautiful face bent over her pale bosom, met them, it seemed as if those strange male hands were not feeling *her* body. When we rose, my glance encountered that of my neighbour, a fellow-student and almost a stranger to me; in some inexplicable way we read the same thoughts in each other's eyes and exchanging an angry stare, turned aside quickly.

Was there any voluptuous feeling in me when the patient stripped beneath my eyes? There was, but very little; the *fear* of such a feeling predominated. But later on, when back home, the recollection of that experience acquired a delicately voluptuous tint and I reflected with a secret pleasure, that in the future I should often be the witness of such scenes.

And of course there were many similar occurrences. I especially well remember one patient, Anna Gratshoff by name, a young girl of eighteen, of rare beauty. She had heart disease with a very characteristic præsystolic resonance; the professor advised us to sound her frequently. When one approached, she submissively and deftly threw off her night-shift and sat up in bed, bared to the waist, while we auscultated her in turn. I tried to look upon her with the eyes of a physician, but could not help observing that she had handsome shoulders and a beautiful breast, and the fact of my comrades taking an exaggerated interest in the præsystolic

resonance did not escape my notice, making me feel ashamed that this should be so. I could not help suffering on behalf of the girl, the more so, because I was conscious of the impurity of our glances. What power was it that forced her to strip before us? Would not all this have a lasting and derogatory effect upon her in future?—I conjectured, trying to read upon her pretty, almost childish face, the whole story of her sojourn in our clinique, to imagine her indignation, when forced to appear naked before all for the first time, and how she had resigned herself to the inevitable, because her people were too poor to nurse her at home, and how she got used to her position little by little. . . .

Once during an out-patient day of our professor of syphilodology, a young woman came, with a note from her doctor, in which the professor was begged to determine whether the rash the patient had was of syphilitic origin or not.

"Let us see the rash!" said the professor. She showed her hand.

"Oh, that's nothing. Healed *furunculi*. Anywhere else?"

"On the chest," faltered the patient, "but it isn't a bit different."

"Let us see it."

"But it is exactly the same there, nothing to show," persisted the patient, blushing.

"Any way, please show us your rash: we are very inquisitive!" remarked the professor with a humourous smile.

After demurring considerably the patient took off her bodice.

"Oh, that's also a mere trifle! Anywhere else?

Tell your doctor that there is nothing serious the matter."

Meanwhile the assistant had drawn down the patient's chemise from behind and examined her back.

"Serguei Ivanovitch, look here!" he said in an undertone.

The professor complied.

"Ah . . . a! That is very different!" he remarked. "Undress entirely—retire behind that screen. . . . Next!"

The patient reluctantly did as bidden. The professor examined several patients.

"Ah yes! And the other patient, has she undressed?" he asked at last.

The assistant went behind the screen. She stood fully attired and was crying. He made her strip to her chemise. Placing the patient on a lounge they began to examine her; she was examined at length in a detail revolting to the lay-person.

"You may put your things on!" the professor said at last, and turning to us, while drying his hands after having carefully washed them, remarked: "It is difficult to say anything definite for the present, gentlemen. There, my dear," to the woman, "come again in about a week."

The patient was already dressed. She stood breathing heavily, gazing motionlessly at the floor with unseeing, wide-open eyes.

"No, I won't!" she answered in a trembling voice and, turning on her heel, rapidly quitted the room.

"What was the matter with her, I wonder?" asked the professor in a surprised tone, glancing round.

The same evening a young lady-student friend came in to see me. I described the scene of the morning.

"Yes, it's very hard!" she said, "but after all, what's to be done? One can't learn in any other way. We must reconcile ourselves to such occurrences."

"Quite true. But answer me this; if *you* had to undergo anything of the kind—only try and realise things clearly—would you come to us?"

She was silent for a moment.

"No, I wouldn't. . . . For nothing in the world!" she smiled apologetically—"I would rather die!"—with a shiver.

And mark you—she deeply venerated science and understood thoroughly that "one couldn't learn in any other way." The other woman understood nothing of such questions; all she knew was that she had not the means to pay for a private consultation and that she was burdened with three children.

It is the harsh hand of necessity which drives the poor to the cliniques, to the profit of science and the medical schools. Unable to find the money, they have to pay for their treatment with their bodies. . . . But for many the price is too high, and they prefer to die unsuccoured. This is what the celebrated German gynæcologist Hoffmeier says: "Teaching in cliniques for women is made more difficult than that anywhere else, through the natural shame of women and their perfectly comprehensible aversion to demonstration in the presence of students. According to my experience, I think that in small towns it would hardly be possible to conduct a gynæcological clinique if all patients, without exception, were not chloroformed for the purposes of examination. At the same time, examinations conducted by an inexperienced hand are often exceedingly painful, and examination by a large number of students is unpleasant in the highest

degree. For this reason, in most cliniques for women, the patients are demonstrated and examined under an anæsthetic.

"Least of all feasible is the teaching of practical gynæcological out-patients relief work, at any rate in small towns. He that desires to obtain real knowledge in this branch, must personally examine the patients. And this is what the latter dislike most. *The fear of such examinations in the presence of students—especially by the students themselves—in our country at any rate—often proves more powerful than the patients' pressing need for help.*"

In the abstract such niceness may appear foolish; the students are practically doctors—and bashfulness in the presence of one's medical adviser is out of place. But the whole aspect of the case changes when you put yourself in the patient's position. We men are naturally less modest than women, nevertheless I can vouch for myself that I would never consent to be led out perfectly naked beneath the eyes of a hundred women, or tolerate these women to feel me all over, examine me minutely, question me *about everything*, stopping at nothing. Thus, I came to see that although this niceness may be unreasonable, nevertheless it ought to be taken very much into consideration. Still, the axiom remains—"it is impossible to study in any other way." In the Middle Ages medical study went no further than theoretical lectures, in which the works of the Arabian and ancient physicians were commented upon; for the practical schooling of the students did not enter into the programme of the universities of those days. According to Pirogoff,[1] as recently as the late "forties," in some of the

[1] Pirogoff was one of Russia's most celebrated surgeons.—TRANSLATOR.

out-of-the-way German universities "bleeding was taught on pieces of soap, and amputation on turnips." Fortunately for medicine and the sick, those times have vanished for ever, and to sigh for them were criminal, because nowhere can the lack of practical preparation work so much harm as in the physician's art. And practical preparation is, I repeat, impossible, without the accompaniment of all that has just been described.

There we stumble against one of those contradictions which we are destined to encounter so often as we proceed: we, the representatives of the most *humane* of the sciences, are compelled to trample the most elementary humanity under foot. Availing itself of the inability of the poor to pay for medical aid, our school takes advantage of their need and converts the sick into dummies to be used for the purpose of study, ruthlessly setting at nought woman's shame, adding to the sorrow of the bereaved mother by "desecrating" her dead child, etc. But there is no middle course: no patient would ever consent to serve the cause of science of his own free will!

I am quite at a loss to suggest any practicable way out of this dilemma; all I know is, that we cannot do without medicine, and that no other way of acquiring knowledge is possible. At the same time I must confess that if want were to force *my* wife, or sister, into the position of the unhappy patient who consulted the professor of syphilodology, I would cry out that I did not care a fig for all the schools of medicine in the world and that no one was given the right to degrade the feelings of his fellow-creatures, merely because the latter chanced to be poor.

CHAPTER III

DURING my third year, about a fortnight after the term had begun, I was present for the first time at an autopsy. The body of a woman of forty, wasted to a skeleton, lay on a marble table. The professor of pathological anatomy, a leathern apron tied round him, was drawing on a pair of rubber gloves, cracking jokes the while; at his side stood one of his colleagues—a surgeon, in whose clinique the woman had died—dressed in a white gown. The benches encircling the dissecting table in the amphitheatre were crowded with students.

It was obvious that the surgeon was not at his ease; he pulled at his moustache nervously and his eyes roamed over the serried ranks of students with an assumed expression of boredom; when the professor of pathology made a joke, he hastened to smile pleasantly; altogether his manner towards the pathologist was that of a school-boy before his examiner; he seemed anxious to ingratiate himself with the other. As I gazed upon him, it struck me as strange that this should be the same awe-inspiring N——, who comported himself with such Olympian majesty in his clinique.

"So she died of peritonitis?" shortly inquired the professor of pathology.

"Yes."

"Was she operated upon?"

"Yes, she was."

"Humph!" grunted the pathologist, slightly lifting

his brows, and commenced the autopsy. The prosector made a long incision in the skin from the chin to the *symphisis pubis.* The pathologist carefully opened the abdominal cavity and began to examine the inflamed peritoneum and the glued intestines. In his clinique, the day before, the surgeon had expressed to us his opinion as to the cause of the patient's death: the tumour which he had intended to remove was found to adhere extensively to the intestines; probably, while disengaging these adhesions, the intestine sustained a slight injury, which resulted in purulent inflammation of the peritoneum. This supposition was confirmed by the post-mortem examination. The pathologist sought out the wounded part and removed a section of the intestine with a small abrasion: this he handed the students on a plate, for examination. While we scrutinised the sinister little wound, surrounded by a film of pus, curiously, the surgeon frowned and worried his moustache. I followed his movements with concentrated and malicious attention: here was the tribunal before which all their sins and mistakes were mercilessly exposed and punished! That woman applied to him for aid and, thanks to his intervention, she now lay before us a corpse; it were interesting to learn whether her relatives knew this, whether the operator had seen fit to explain the cause of her death to them?

The autopsy was at an end. In his "epicrisis" the pathologist declared that peritonitis had undoubtedly been caused by the wounding of the intestine, but owing to the mass of adhesions and ligatures of the growth, it was extremely difficult to notice the scratch, and that in such complicated

operations the best surgeons could not be guaranteed against untoward accidents.

The two professors then warmly shook hands and departed, the students crowding out of the building in their wake.

That first experience of a post-mortem examination left a strange and painful impression behind it. "Peritonitis was caused by a wound to the intestine; it is difficult to notice such an abrasion; unfortunate accidents happen to the best surgeons." How very simple it all sounded! One might be led to think that the whole question concerned an experiment in chemistry which had fallen flat, its mere want of success being the most important consideration. The reasons for the miscarriage were stated with complete *sang froid*, the person responsible, even if he were agitated, experiencing uneasiness merely because his *amour propre* was at stake. . . . In reality, however, it was a matter which concerned the destruction of a human life, no more nor less, a matter which involved something incomparably more terrible in its import. And the inevitable question arose: how dared such an operator continue to pursue his vocation? A physician whose duty it is to heal, kills his patient! Such a crying contradiction was inadmissible and at the same time it seemed to pass unnoticed.

I felt as if I had suddenly found myself in a school of augurs.

We students were future augurs—no need to be squeamish in our presence—and therefore we were introduced, without more ado, to the seamy side of our business. The lay mind might rebel at the existence of such a reverse to the medal; we, however, had to accustom ourselves to view matters in a "broader" light. . . .

The further I penetrated into medicine, the more that impression of my first autopsy grew upon me. In the cliniques, at the theoretical lectures at the post-mortems, in the text-books—it was the same everywhere. Side by side with that brilliant medicine of the foot-boards, which heals and resurrects, and for the sake of which I had taken up its study, another medicine slowly revealed itself to me —a helpless, impotent, erring and false science, which undertook the treatment of diseases which it could not identify, painstakingly diagnosed illnesses which it could not cure.

In the text-books I often came across descriptions of diseases winding up with the following remark: "The diagnosis of this disease is only possible on the dissecting table"—as if such timely enlightenment could do anyone any good! Perhaps a child with tubercular pyo-pneumothorax would be shown us; emaciated and shrunken, with protruding bones and a bluish face, it would sit there breathing rapidly. When laid upon its back it would commence to cough as if about to render up its soul. The professor with serious mien, as if performing an act of the greatest importance, would localise the region of condensation, determine the extent of the transposition of the mediastinum, etc., while I followed his movements, sneering covertly to see all the trouble he took over his examinations, only to state in the end, that the patient's case was hopeless and that we were powerless to cure him. What sense was there in his diagnosis? Never mind how subtle the latter might be, after all it was but equivalent to Moliere's pithy words, "They will tell you in Latin that your daughter is ill" ("Le medecin malgré lui"). All this is pitiful and ludicrous. I

recalled Mephistopheles' definition of the spirit of medicine:—

> "Der Geist der Medicin ist leicht zu fassen:
> Ihr durchstudiert die gross und kleine Welt,
> Um es am Ende geh'n zu lassen
> Wie's Gott gefallt."[1]

In the treatment of diseases I was always struck by the extreme instability and indefinite character of their symptoms, the large number of remedies offered against every ill—and, at the same time, at the utter uncertainty of the latter's efficacy. Let me quote an extract from Strumpell's well-known text-book: "Up to the present the treatment of aneurism of the aorta gives very doubtful results; nevertheless, in every case, we have the right to try the effect of either one or the other of the remedies recommended." . . . "To prevent recurring fits of *angina pectoris*," we find in the same work: "Many remedies are recommended: arsenic, sulphate of zinc, nitrate of silver, bromide potassium, quinine, etc. No harm can be done if we try any one of these remedies, but one should not promise oneself any sure success." And so on *ad infinitum*. "One may try this or that. . . . No harm can be done by essaying this. . . . Some have greatly approved of the following. . . . To give so-and-so a trial were not a bad idea." . . . I came to the university to be taught how to cure the sick, and I was asked to "try" this or that drug; and, mark you, without any guarantee of success!

Not a day passed without my learning some new

[1] "It is easy to grasp the spirit of medicine:
You carefully study the great and lesser world
To allow things in the end to take the course
It pleaseth God."

facts which still further undermined my respect for, and faith in medicine. Pharmacology introduced us to a whole series of remedies, *known to be* utterly ineffective, and nevertheless recommended their use. If the nature of the patient's disease is not as yet clear to me and I must await further developments before being enabled to diagnose it definitely, or else, if it be incurable, I am told that "one cannot allow the patient to go without medicines." In such cases it is customary to prescribe *neutral* remedies; there is a special term for the latter: *ut aliquid fiat* (an abbreviation for *ut aliquid videatur*). This trick is practised so as to make the patient think that something is being done for him.

Our professor would enlarge upon such matters in the most serious and unemotional manner. I looked him in the face with internal laughter and thought: "Now really, aren't you an augur? Wouldn't we laugh like augurs, if we could see our patient anxiously glancing at the clock, afraid to be ten minutes late with his weak mixture of acidulated syrup?"

Soon the existence in medicine of a fairly large assortment of very instructive so-called "special terms" became known to me. "To diagnose *ex juvantibus*, according to what can help," for instance! You prescribe a certain course of treatment, and if the above proves efficacious, you conclude that the patient is suffering from such and such a disease; thus the second step is taken before the first has been made, and the whole science of medicine turned upside down; the patient's illness being unknown, he is treated in a given way, so as to ascertain according to the result obtained, whether he ought to have been thus treated.

I became more and more impregnated with a species of absolute medical nihilism, that nihilism which is so characteristic of all "half-knowers." It seemed to me that I had now penetrated to the core of medicine, having at least grasped the fact that it possessed but two or three efficacious remedies, the rest being *ut aliquid fiat*; that with its pitiful and imperfect means of diagnosis, it blundered in the dark, pretending to wisdom. When talking on the subject with the laity, I smiled knowingly and said that to confess frankly, "all our doctoring was merely humbug."

The question arises as to why the foregoing should have been instrumental in my arriving at such sweeping and final conclusions? I think that the foundation for such an opinion was based upon the following popular foible, which I also unconsciously shared: "You are a physician, therefore you ought to be able to recognise and cure every ill; if, however, you are powerless to do so, it follows that you must be a quack."

Because medicine could not accomplish *all*, I held it up to derision, shutting my eyes to its positive achievements and declining to take into consideration the actual means at our science's disposal and their limitations. The attitude of the great unthinking majority towards medicine is identical with the above. . . . In 1893, a "cardial polypus discovered by chance at a post-mortem examination," was displayed among the pathologico-anatomical specimens on show at the Hygienic Exhibition held in St Petersburg. That polypus greatly amused a writer in a certain important newspaper of the metropolis: "See how clever our doctors are! An edifying sort of a 'chance' find!"

Such was his theme. The same Hygienic Exhibition which furnished such rich proof of what medicine could do, was non-existent to the writer of the "leaderette"; of all the wealth of material it offered, he only had eyes for that solitary polypus, and accordingly indiscriminately loaded both doctors and medicine with his ridicule and contempt, without caring to find out whether it were *possible* to locate such a growth during life. Nothing should be impossible to the physician; this is the standpoint held by the masses. And at that period I judged in the same way.

But a certain episode wrought a complete change in me. A woman of about fifty was admitted to our clinique. She had a large swelling on the left side of the abdomen. I was appointed to watch her case. It devolved upon me to examine the patient, define her illness and record its course; when the patient was demonstrated before the students, it was my duty to give the history of her complaint, acquaint my audience with the results of my examinations and state my diagnosis. After this the professor would point out my mistakes and omissions, himself minutely examine the patient and finally make known his own opinion.

My patient's swelling occupied the entire left half of her ventral regions from the hypochondrium to the osiliacum. What was the nature of the swelling? From which of her organs did it originate? Neither my questionings nor my examinations availed to furnish me with any more or less approximate indications; it was just as easy to suspect cystic tumour of the ovarium, echinococcus of the spleen, hydronephrosis or cancer of the pancreas. I ran-

sacked every text-book I could lay hands on, and this is what I found in them :—

" It is very easy to confound echinococcus of the kidneys with hydronephrosis ; we have also frequently discovered soft sarcomatous tumours of the kidneys when we had been sure that we were dealing with hydronephrosis " (Tillman's " Special Surgery ").

" Cancer of the kidneys is often mistaken for retroperitoneal tumours ; tumour of the ovarium or of the spleen, for large abscesses in the pelvic region, etc." (Strumpell).

" In cases of cystoma of the ovarium very unpleasant mistakes in diagnosis are made. The distinguishing of cystic tumour of the ovarium, as differentiated from hydronephrosis, is one of the most dangerous of rocks ; because, if hydronephrosis be extensive, superficial examination furnishes an identical picture with the first named affection ; thanks to this, such diagnostical mistakes are far from rare " (Schroeder's " Gynæcology ").

" The clinical symptoms of cancer of the pancreas are rarely sufficiently clear for a true diagnosis " (Strumpell).

In a frame of mind both sceptical and hostile towards medicine, a contemptuous sneer curling my lip, I perused these confessions of impotence and incompetence. It seemed almost as if I were pleased at being unable to make head or tail of my case ; for was I to blame because our " science " (save the mark !) proved powerless to furnish me with anything approaching a reliable clue to the truth ? The statement of the bare fact that my patient had a swelling in the abdominal region was the only one I could conscientiously make. The rôle of a charlatan being distasteful, I refused to choose at random and boldly

declare in favour of hydronephrosis, knowing full well that sarcoma, echinococcus or anything else, were just as likely.

The day for the demonstration of my patient arrived. She was brought into the lecturing-room on a stretcher and I was called to her side. I read her "anamnesis" and described the results of my examinations.

"And what is your diagnosis?" asked the professor.

"I don't know," I answered sulkily.

"Well, approximately?"

I silently shrugged my shoulders.

"I certainly agree that the case is by no means a simple one," said the professor, and proceeded to interrogate the patient himself.

He began by allowing her to give her own account of her illness. I based all my subsequent investigations on the latter; the professor, on the other hand, took her recital into consideration very little. When she had done, he began to question her very carefully and minutely on the state of her health prior to her present malady; upon its commencement, asked her all about her functions during her sickness. Thanks to this skilful catechism alone, things assumed quite a new aspect; instead of a chaotic array of symptoms, a complete presentment of the diseased organism's life unfolded itself before us, in all its deflections from the normal. Next, the professor examined the patient's swelling, laying great stress upon its consistency, noted whether it was displaced by respiration or had any connection with the womb, determined its position in relation to the colon, etc. And at last the professor began his deductions. He approached them slowly and warily, as a blind man

groping his way along the edge of a precipice ; he did not leave the smallest symptoms without attentive and searching consideration ; to explain the most insignificant symptom, which I never would have noticed, he turned the whole tremendous arsenal of anatomy, physiology and pathology upside down ; he himself met every contradiction and obscure point half way, and passed on only after completely clearing the matter up. . . . And when, finally, he arrived at his diagnosis of " soft cancer of the left kidney " after having sifted all the evidence, his verdict was obviously the logical outcome of the foregoing.

I listened dumfounded and enraptured : how petty and childish my own investigations and all my scepticism appeared to me now ! The tangled and obscure *tableau*, which it seemed to me *impossible* to unravel, had become crystal-clear and perfectly comprehensible—and this was merely due to the professor not having deemed any trifle unworthy of attention.

A week later the patient died. Again, as of yore, the corpse lay upon the dissecting table, once more the students crowded around the same professors, following the autopsy with strained attention. The pathologist extracted from the abdomen of the deceased a tumour the size of a human head, and after careful examination pronounced it to be medullary cancer (soft cancer) of the left kidney.

I can hardly describe the feeling of enthusiastic pride in science which welled up within me on hearing those words. While looking at the soft crimson mass, that lay upon a wooden dish, I suddenly called to mind our country bailiff, Vlass—a fiery hater of medicine and doctors. " How are the doctors to know what goes on inside me ? Can

they see through one?" he used to ask with a scornful snort. Yes, it was just a case of "seeing through one." . . .

From that day forward, my attitude towards medicine underwent a radical change. On commencing its study I expected it to accomplish *everything*; seeing that medicine could not do all, I concluded that it could do nothing. Now, however, I saw how *much* it could still do, and that "*much*" filled me with reliance in, and respect for, that science I had so recently despised from the bottom of my soul.

A patient lies before me; he is feverish and complains of pains in the side; on auscultation the deadened sound shows that in one part of the thorax the air contained by the lungs has given place to morbid secretion; but the question arises whether the latter be located in the lung proper or the pleural space. I place my hand on the patient's chest and make him loudly say "ninety-nine." The vibration of the thorax on the affected side is weakened, this circumstance telling me as plainly as if I could see all with my own eyes that the secretion is located in the pleural sac—not in the lung. Another patient has paralysis of the left leg; I strike the sinews of the knee with my mallet—his leg leaps up violently; this shows that the affection does not lie in the peripheral nerves, but somewhere above their starting-point in the spinal marrow; but where? I carefully ascertain whether the skin has retained its sensitiveness, whether the other limbs are affected, whether the functions of the cerebral nerves are in order, etc.—and can at last say with complete certainty that the affection which has called forth paralysis of the left leg is located in the cortex of

the central convolution of the right cerebral hemisphere, near the sinciput. What stupendous preparatory work of centuries was necessary to evolve such seemingly simple methods of examination ; how much power of observation, genius, laborious research and knowledge must have been expended !

Truly the conquests of science are vast !

By sounding a diseased heart it is possible to tell which of the four valves is defective in its action, and determine the cause thereof ; by employing corresponding mirrors, we are able to examine the inside of the eye, the nose and gullet, the larynx, vagina, even the bladder and stomach. Invisible, mysterious and obscure "infection" has been explained ; we can now cultivate it in test-tubes, in its pure form, and investigate its properties beneath the microscope.

In midwifery the whole complicated mechanism of child-birth has been studied with almost mathematical precision, and no matter what the child's position, we know exactly which artificial manipulations ought to be recoursed to for assisting the natural process of delivery. . . . We cauterise the nasal conchils of a child with white-hot metal, after having made them insensible to pain through the agency of cocaine : the living flesh hisses and crackles, a smell of burned meat is wafted through the air, while the child sits still smiling, contentedly puffing the smoke from its nostrils.

But it is impossible to enumerate all. Of course, much, very much still remains to be done, but this is merely a question of time. We cannot guess how far science may go. Why, a few years past the very idea of actually seeing through the human body would have struck one as an absurdity ; now, how-

ever, thanks to Roentgen, that absurdity has crystallised into fact. *Forty years ago three-fourths* of those operated upon died of septic infection : pyæmia was the curse of surgery, against which the skill of the operator was helpless. "I positively do not know what to say of that terrible curse of surgical practice," wrote Pirogoff, in 1854, despairingly ; "all is enigmatic about it : its origin and development. So far, it is as incurable as cancer." "When looking back upon the cemeteries," he writes elsewhere, "where lie buried all those who have been infected in the hospitals, I do not know what to wonder at more : the stoicism of the surgeons, who continue to devise new operations, or the confidence which hospitals continue to enjoy amongst the public." Then Lister appeared upon the scene, introducing antiseptic treatment ; this gave place to the still more perfect aseptic method and the surgeon, ceasing to be the slave of septic infection, became its master ; nowadays if a patient dies of it after an operation, the operator is to blame, not science.

If so much has already been done, what may not science attain to in the future ! The bright vistas which were revealed before my gaze filled me with buoyant gladness, for I felt that the true road had been found and there was no swerving aside from it. *Natura parendo vincitur*—nature is conquered by him who obeys her ; and when all her laws were fathomed, man would become her lord and master ! The present-day one-sided methods of treatment would disappear along with the artificial prevention of disease : man would have learned to develop and render invincible the curative forces of his own organisms, he would have no need to fear infection or colds, spectacles would become unnecessary,

dental surgery following, headaches and neurasthenia ceasing to be known. Man would be strong, happy and healthy, and would be born of strong and healthy women, the latter knowing neither the surgeon's forceps, chloroform, nor *secale cornutum*.

But although my fascination grew, I could not help being struck at the tremendous cycle of subjects embraced by the study of medicine, and this circumstance disconcerted me not a little. My head spun round at the mass of new, totally divergent information to be assimilated—which, however, it was impossible to dispense with. We were busy from morning till evening, we had no time to read up in medicine, let alone outside subjects. We were in a sort of fever, flitting from clinique to clinique, from lecture to lecture, from laboratory to laboratory, in a kind of delirium. As in a rapidly revolving kaleidoscope a great procession of the most dissimilar subjects passed before us: dissection of the knee-joint, lectures on the properties of digitalis, the incoherent ravings of a paralytic patient, the application of accoucheur's forceps, the position occupied by Sydenham in medical literature, the probing of the lachrymal canal, the methods of colouring Loeffler's bacilli, the locality of the subclavian artery, massage, the symptoms of death from asphyxiation, ringworm, the various existing systems of ventilation, the theory of chlorosis, our laws on prostitution, etc., etc., were all jumbled up together.

All this was absorbed mechanically, undigested. The desire to reflect on the information acquired, to linger upon this or that subject, succumbed beneath the pressure of that endless torrent of new facts. All that could be done was to store the latter up as mechanically, seeking comfort from the thought,

"Later on, when I have more leisure, I will think all over and put everything straight." But the impressions obtained gradually became obliterated, the questions which arose at the time were forgotten and their interest was lost; the assimilation of knowledge was thus rendered superficial and "school-boyish."

During our entire academic course we hardly ever had the chance of thinking or acting independently. Our professors skilfully performed the most difficult operations in our presence, unravelled those complicated and tangled riddles which are called patients before us, while we . . . looked on and hearkened. Everything seemed to be so simple, harmonious and obvious. But whenever I had to deal with a patient on my own initiative, as would occasionally happen, something invariably turned up to nonplus me completely. At first this hardly worried me, for was I not a student, who knew but little as yet, and to whom the necessary knowledge and experience would come later on? Time passed, however, and my knowledge had increased, I had completed my fifth year, the final examinations were in progress—while I continued to feel as helpless as ever, clumsy and incompetent, incapable of taking the smallest independent step. At the same time I could see that I was in no way behind my comrades; on the contrary, I stood above the majority. . . . What, oh what would turn out of us?

Our final examination lasted for about four months. These examinations are especially difficult at the Faculty of Medicine, owing to the overwhelming number of subjects required. During the terms I worked a great deal, and I was endowed with fair capacity; nevertheless, one was forced to read from ten to twelve hours daily, as long as the examinations

continued. The amount of knowledge demanded of us was tremendous, at least three-fourths being ballast, which the memory discarded as soon as the tests were passed. Add to this, that most professors see nothing beyond their own particular branch of science and rarely rise above their narrow specialities. One of my comrades was "ploughed" in anatomy because he did not know whether the *duodenum* was covered with peritoneum or not—a question of great interest to the anatomist, doubtlessly, but without the slightest importance for a doctor.

It was necessary to be able to enumerate the names of several dozen surrogates of milk, although every one of them was to us but an empty sound; it was indispensable to have all the chemical reactions of atropin at one's finger's ends, although we have not experimented upon a single one of them ourselves. . . .

But most important of all was to know the individual hobbies and foibles of each examiner—hobbies which were often wonderfully absurd.

The student who had neglected to acquaint himself with them was sure of being "plucked." The favourite question of one of the professors was as follows: "If we administer an enema to a certain animal, the water will flow from its mouth. Pray, name that animal." The professor of general therapathy put the following question to me: "What is the difference between pouring a spoon of cold water over one's head and swallowing it?" The student who told the professor of dermatology that leprosy was contagious received a bad mark, and *vice versa* in the case of our professor of general surgery.

In a word, success or failure depended entirely

upon the personality and character of the examiner: a "kind" professor passed into the profession the student who proposed to give a three-months-old infant five drops of opium; while a strict professor "ploughed" the luckless one who was ignorant of the action of narceinum—an insignificant component of that very same drug.

This system of purely "school-boy" tests turns them into a monstrous farce, which is as little sensible as wise. Instead of the real knowledge essential to every doctor, an incredible jumble is required, which it is possible to retain in one's memory only as long as the examinations last.

It was Virchow's dream once upon a time that doctors should be subjected to renewed examinations at given intervals; as things stand at present, such a scheme, however reasonable in its idea, were impracticable: all examinations are so organised that only youths with fresh and elastic memories are capable of passing them, neither experience nor solid knowledge of medical science being essential.

The above fact is impressed upon one with special force in the case of the "Doctor's" examination; the qualifications for this test are practically identical with those for the "Surgeon's" degree, only more comprehensive. Queer things result from such a state of affairs. I know an old physician, distinguished both as a practitioner and a scientific worker through his researches. To be eligible for the post of chief physician of a hospital[1] he must bear the title of "Doctor"; but age renders him incapable of "cramming" in all the scholastic wisdom required thereto—and he remains a "Surgeon." On the other hand, many of my comrades—men of scant

[1] In Russia.—TRANSLATOR.

knowledge and less experience—immediately after obtaining their "Surgeon's" diplomas, with their memories still fully stocked, applied themselves to the task of passing their "Doctor's" examinations and experienced no difficulty in winning that learned degree.

Such a degradation of scholastic honours is only possible in medicine; a mathematician or historian, who has not lost touch with his subject, can obtain his "Doctor" at any moment of his career, if so inclined. If, however, you were to subject, after the lapse of five years, a fully-fledged doctor of medicine to the same ordeal, without previous warning, he would fail ignominiously. I make bold to assert that not a single eminent physician living would be able to pass his examinations a second time without laborious preparation—unless his inquisitors showed leniency in consideration of past services; *i.e.* were to require a real knowledge of medicine—not the acquisition by rote of endless *minutiae* of no value whatever to anyone.

CHAPTER IV

OUR final examinations terminated, we assembled in the University hall to sign our oaths and receive our diplomas. The latter were embellished with the Imperial arms and the great University seal, and bore witness to our having successfully passed all tests, both practical and theoretical, the Faculty of Medicine declaring us worthy of the degree of Surgeon, "with all the rights and privileges appertaining to that calling according to the law."

I bade good-bye to our Alma Mater in a depressed and unhappy frame of mind. The vague misgivings which had begun to assail me as my university career drew to its close, at last assumed definite shape and confronted me in all their nakedness. I, whose entire mental stock consisted of a chaotic accumulation of fragmentary, undigested, and unassimilated information, I, who had hitherto only looked on and listened to others and never acted independently, who was ignorant of the most elementary practical knowledge—had suddenly attained the dignity of physician and patients might apply to me at any moment! In the name of goodness, what could I do for them?

All my comrades experienced the same feelings as myself. We looked with bitter envy upon the happy few who had been retained in the cliniques as assistant house-physicians. For the latter would continue to learn, working under the superintendence of experienced and skilled professors, not at

their own risk. While the rest of us—we had to start in life forthwith as independent medical men, not only enjoying the "rights and privileges," but also bearing the duties and responsibilities which the law imposed upon us "in accordance with our calling!"

A few of my comrades were fortunate enough to obtain hospital appointments elsewhere, others entered the service of the "Zemstvos"; but those who remained—including myself—failed to secure any such positions, and the only thing left us was to try and gain our bread by private practice.

Accordingly, I took up my residence in a small governmental town of middle Russia. I arrived upon the scene at a particularly propitious moment; a short time previously the doctor, who lived on the outskirts of the township, and had worked up a fair practice, died. I took lodgings in the same district, put up my brass plate with the legend: "Dr ——," and began to wait for patients.

I awaited them, and at the same time I dreaded their advent. Every pull at the bell made my heart beat in a panic; each time that it turned out that no patient had called, I sighed with a feeling of relief. Would I be able to diagnose, would I be capable of prescribing the right treatment? My store of information was neither so large, nor was I so well at home in what I possessed, to feel certain of being able to apply it *impromptu*. All well and good if the patient's case was not too urgent and he could be allowed to wait: after prescribing something neutral, I would look up my text-books at home and ascertain the right thing to be done. But what if I were called to an emergency case? It is just this sort of case

that beginners are generally summoned to. . . . What would I do then?

There is a book by a certain Dr L. Blau, called "Diagnostics and Therapeutics in cases showing Alarming Symptoms." I got it and transcribed its main contents into my pocket memoranda, supplementing this conspectus from my text-books. I grouped the different diseases in accordance with their symptoms; for instance, *dyspnœa*: (1) croup; (2) pseudo-croup; (3) œdema of the glottis; (4) spasm of the larynx; (5) bronchial asthma; (6) congestion of the lungs; (7) croupous pneumonia; (8) uremic asthma; (9) pleurisy; (10) pneumothorax. Each disease in turn was accompanied by an enumeration of its symptoms and the corresponding treatment. This note-book did me yeoman service and I could not dispense with it for a long time afterwards—about two years. When summoned to the bedside of a patient, I would unclasp my trusty friend under the pretext of taking notes, seek out the disease most resembling the patient's, and prescribe accordingly.

I was the only medical man in the part of the town where I lived, and little by little the patients began to arrive. . . . I soon worked up a practice amongst the local townspeople which could be considered very fair for a beginner.

Among others I attended the wife of a certain shoemaker, a woman of about thirty, suffering from dysentery. All went well and the patient was on the way to recovery, when one morning she began to complain of violent pains in the right side of her stomach. Her husband immediately ran to fetch me. I examined the patient. Pressure caused diffused pain throughout the abdominal

region, while that of the liver was so tender that she could not bear the slightest touch ; the stomach, lungs and heart were in good order and the temperature was normal.

What could the matter be? I mentally reviewed all the different diseases of the liver I knew of and could not fix upon a single one. It was the most natural thing in the world to connect this new complication with the original trouble ; in cases of dysentery, abscesses of the liver sometimes form ; but in the present instance the normal temperature seemed to negative such a supposition. Having injected some morphia, I went home entirely baffled.

However, towards evening the temperature went up to 40° C., violent rigors setting in, the patient's respiration became somewhat laboured and the pains in the side increased in severity. All my doubts vanished : an abscess resulting from dysentery must have formed in the sick woman's liver, while the shortness of breath was accounted for by the pressure exercised upon the lung through the swelling of the first-mentioned organ. I was really pleased with myself for the subtility of my diagnosis.

But once the patient had an abscess, an operation became imperative (a very easy thing to say in a clinique). I advised the husband to place his wife in hospital ; I told him that the situation was extremely grave, that his wife had an abscess in her vitals, and that if it ruptured internally, death was inevitable. He hesitated for some time, but finally allowed himself to be persuaded.

Two days later, on calling at the hospital to enquire after the sufferer's condition, I was astounded to hear that the real mischief was croupous pneu-

monia! I could hardly believe my ears. . . . The house-physician conducted me to her ward and showed me my late patient.

I then recollected that at the time it did not even occur to me to ask whether she had a cough; I had not even repeated my auscultation of her lungs, so pleased was I to hear of the rigors and fever which I unhesitatingly accepted as an indisputable confirmation of my diagnosis. Truly, the thought had flitted through my mind that it would do no harm to sound the lungs once more; but the patient screamed so at every movement, that I simply did not dare examine her.

"But her abdomen is very tender," I ventured, in confusion.

"Yes, there is a slight pain in the liver," answered the doctor, "although the right pleura causes her much more discomfort."

I persisted, touching her stomach almost imperceptibly, at which the patient screamed aloud. The house-physician then started chatting with her, enquiring about the previous night, gradually sinking his whole hand into her stomach in the meanwhile, without the sufferer so much as noticing his action.

"Now then, my good woman, sit up!" he ordered.

"Oh, I can't."

"Tut, tut, nonsense! Sit up."

And she obeyed. We could then sound her at leisure: it was a most typical case of croupous pneumonia. . . .

How could I have conducted my previous examinations so superficially and carelessly?

It was absolutely indispensable to examine every patient from head to foot, no matter what he might

be suffering from—all our professors never wearied of repeating the above ; this was sufficiently dinned into our ears, and at an examination I would have adduced endless corroborative examples. But theory is one thing, practice—another. It struck me as absurd to proceed with the examination of a patient's eyes, nose and heels, because he or she complained of indigestion. In these matters the only real teacher is personal experience—theory is helpless to force us to accept the truth. In the cliniques, unfortunately, we could not acquire that experience.

Further, it was characteristic, that in diagnosing, I invariably fixed upon the rarest of all the diseases which might be suspected. The case just described was by no means unique in my practice : I would take colic of the bowels for the beginning of peritonitis, a simple case of piles assumed the aspect of cancer of the rectum, and so on.

My acquaintance with everyday illness was very limited—the first diseases which occurred to me were those serious, rare and "interesting" cases to which I had become accustomed in the lecture-room.

Nevertheless, in the distinguishing of diseases I was still more or less sure of my ground ; while in college, diagnoses used to be made in our presence, although we took but very little part in them ; still we *saw* enough. But I was quite at sea when it came to predicting the course that each patient's illness would take, and I was entirely ignorant of the action of the different curative remedies prescribed by me, being solely acquainted with them through the text-books. At the university it was considered very satisfactory if the same patient were demonstrated before us four or five times. During my whole student life I only had the opportunity of

following from beginning to end the maladies of ten or fifteen patients, when appointed by the professor to watch their cases. Such a small number is just about as good as none at all.

One day, about a couple of months after settling down in practice, I was requested to call on the wife of a certain cloth manufacturer; this was the first occasion upon which I was asked to a wealthy patient. So far my *clientèle* had been made up of mechanics, small shopkeepers, petty officials, and so on.

"Have you been in practice long?" was the first question my patient, a young and intellectual looking lady of about thirty, asked.

Ashamed to tell a lie, although longing to say "Two years," I answered truthfully.

"Well, I am very glad!" was the satisfied rejoinder. "That means that you are abreast of the times; to be candid, I feel much greater confidence in young doctors than in all these 'celebrities': the latter have forgotten everything, and merely try to hypnotise us with their reputations."

The patient was suffering from acute rheumatism of the joints—as it chanced, one of those complaints for which medicine possesses an efficacious specific remedy in the shape of salicylic acid. No case could have been more favourable for a first *début*.

"Will her illness last for long, doctor?" the patient's husband asked in the hall.

"N—no!" I answered. "The pains ought to become less every day and her condition will improve, only see that the medicine is taken regularly."

A few days later the following note reached me: "Sir! not only is my wife no better, but she feels much worse. Be so kind as to call."

I came. At first the patient's right knee and left

foot had been affected ; now she felt pains in the left shoulder joint and left knee in addition. I was greeted with a cold and unfriendly stare.

"Why, doctor, you told me that I should be well soon?" she said, "but I get worse and worse. Oh! such terrible pains. My God! I never imagined that such sufferings were possible!"

So much for my sodium salicylate—that sure specific!

I silently began to remove the cotton-wool impregnated with an ointment of vaseline and chloroform, in which were enveloped the affected joints.

"I wonder whether it is the ointment which has that putrid smell, or whether I am beginning to decompose while still alive!" the patient ejaculated capriciously. "If I am to die, let me die; I don't care! But why should I be made to suffer so?"

"Compose yourself, madam! How can you lose heart in that way!" I remonstrated. "There can be no question of dying, you will soon be quite well."

"Oh yes, you say so to console me. And shall I continue to suffer like this for long?"

I vouchsafed an evasive answer and promised to call on the morrow.

Next day the pain had considerably subsided, the temperature had fallen, my patient looked bright and cheery. She warmly shook me by the hand. "I believe I am getting better at last!" she said. "Confess, doctor, that I have been a horrid nuisance. My husband took me to task and I am ashamed of my impatience. Tell me, can I now hope that things will begin to mend at last?"

"Certainly! You expected the salicylic powders to work like magic, which was impossible. They may not take effect as promptly as one might wish, but

their action is sure. Mind you keep on taking them."

"But they make me perspire very much; last night I had to change my chemise three times."

"Have you felt any buzzing in the ears?"

"No."

"Then continue the powders, unless you want the rheumatism to become acute once more."

"Oh no, no!" she laughed. "I would rather change my things a dozen times."

Next day I called again. My patient did not stir when I entered the room. However, at last she unwillingly turned her head in my direction; her face was drawn and there were dark circles beneath her eyes.

"My right shoulder has begun to ache, doctor," she slowly said, eyeing me with hatred. "I couldn't sleep the whole of last night for the pain, although I have been taking your salicylic powders religiously. I suppose this comes as a surprise?"

Alas, she was right there! Perhaps it had been a mistake to promise a rapid recovery from the beginning: my text-books made the reservation that salicylic acid was sometimes inefficacious in the case of rheumatism; but I never suspected that once it had begun to work, its action could be suddenly arrested without visible cause. The books were schematic perforce, and it was only natural that I, who had to rely upon them exclusively, should be no different.

On taking my leave, I was not asked to call again. However wounded I might have felt at this slight, nevertheless, in my inmost soul, I was glad to be rid of my capricious patient, for she had worried and harassed me exceedingly.

Generally speaking, there was little to cheer me in my practice at large. I was chronically in a terribly nervous state. Although, goodness knows, I had appraised my medical knowledge at a very humble figure, when it came to the point I found that even my modest estimation had been too high. I was on the verge of giving up in despair, for nearly every case disclosed to me more and more plainly all the depth of my ignorance, my utter unpreparedness and incompetence. My abstract bookish wisdom, which had not stood the test of experience, prepared constant pitfalls. Actual life could not adapt itself to the stiff and unpliable moulds furnished by my erudition which, on the other hand, I was incapable of rendering more elastic. So often did I err in my diagnoses and prognostications, that I was ashamed to look my patients in the face. When asked whether the medicine prescribed would be palatable, I was unable to answer; it generally happened that I had never set eyes on it before, much less tasted it. The bare idea of being summoned to a complicated case of child-birth threw me into a cold sweat: while at the university, I had only assisted at five confinements, and the only thing I knew well in midwifery was the great danger arising from unskilled assistance.

To me the life and the soul of the patient were a closed book; we used to visit the clinical wards in the guise of "young gentlemen," passing ten or fifteen minutes at the bedside of each patient; we barely had time to give their *diseases* the necessary attention; as for the suffering *man*, he remained an entirely unknown quantity.

But why should I dwell upon such subtleties as the psychology of the patient? The simplest things constantly found me wanting. It was mortifying to

discover that I lacked that knowledge and address which every nurse possesses. When ordering an enema or poultice, I was in constant fear of being asked how they should be applied. As students, we were never instructed in such "trivial" details: that was the hospital attendant's or the nurse's work, the doctor merely issuing his orders. Having neither hospital attendants nor nurses to do my bidding now, I was compelled to give instructions personally to those who asked for them. The larger and more "serious" text-books had to be laid aside; their place was taken by such works as "Nursing," by Billroth, a primer written for Sisters of Mercy. And I, who had artistically amputated a corpse's knee according to Sabaneeff's method, when passing my final examinations, I now conscientiously studied the methods of lifting a weak patient up in bed and the technique of blistering.

Not far from where I lived resided an old doctor, Ivan Semenovitch N. by name, who had retired from practice through old age. If ever these pages should meet his eye, may he once more accept my warm gratitude for the kind sympathy he showed me during that trying period of my career! I used to unbosom myself to him about my perplexities and mistakes, would ask his advice on all knotty questions, and even dragged him about with me to see my patients. With purely paternal responsiveness, Ivan Semenovitch was ever ready to come to my assistance with his knowledge and experience, or to help me in any other way that lay within his power. And every time that we stood together at the bedside of a patient—he calm, confident and resourceful, I helpless and timid, the fact that we should be considered each other's equals and

possess the same diplomas, struck me as a crying incongruity.

One of my patients, a grocer in a small way, was suffering from a very severe attack of typhoid fever, complicated by mumps of the right gland. Early one morning the tradesman's wife urgently summoned me through the errand boy: her husband had become much worse during the night and was suffocating.

I found the patient in a semi-comatose state: his respiration was stertorous and thick, as if something were compressing his throat; at every breath his hypochondrium was deeply drawn in; a film of dried slime of a brownish hue covered his teeth and the edges of his lips, while the pulse was very feeble. Owing to the swelling of the glands, the patient could not properly open his mouth, which prevented my examining his throat. Under the pretext of fetching my syringe to inject some camphor, I hastened home, and sat down to study those chapters of my text-books which dealt with typhoid. That difficulty in breathing had to be accounted for, and the only thing indicated by my authorities was œdema of the glottis, owing to inflammation of the arytenoid cartilage. In such a contingency my note-book ordered the following treatment: "energetic laxatives, swallowing of small lumps of ice; if neither take effect, immediate tracheotomy." I went back to my patient, injected some camphor subcutaneously, ordered ice, and sent to the chemists for one of the most powerful purgatives known, colocynth.

I came again a few hours later. Notwithstanding colocynth having taken effect, the patient's breathing had become still more laboured. Tracheotomy alone

remained. I went for Ivan Semenovitch. He attentively listened to what I had to say and merely shook his grey head. A moment later we were driving away together.

On examining the patient, Ivan Semenovitch made him sit up, filled an indiarubber bulb with warm water, and introducing the mouthpiece between the patient's teeth, syringed out his mouth ; a lot of sticky and oozy slime came out. The patient sat coughing and spluttering while Ivan Semenovitch energetically continued his syringings ; I marvelled that he should have no fear of the patient choking. Each time more and more of the stuff came out. I was amazed to see what an incredible quantity of slime could be contained in the mouth of a single man.

"Now then, cough it up, spit it out!" repeated Ivan Semenovitch loudly and imperiously. And the patient came round, blowing and spluttering.

His breathing was quite free by now. "To think that I had prescribed colocynth," I muttered in dire confusion, when we left the sick-room.

"Oh, oh, oh!" said Ivan Semenovitch, shaking his head, "and the patient so weak too! It doesn't take long to kill a man that way, and what the dickens was there to suggest such treatment? When a man lies unconscious and can hardly swallow, it's the most natural thing in the world for a lot of muck to collect in his mouth."

Of course, the books never hinted at the possibility of such "complications" in typhoid, because they could not foresee every minute contingency.

My dejection was profound : I was so stupid and unresourceful that I would never make a doctor ; my competence went no further than that of a

common hospital attendant only able to act according to cut-and-dried routine. Now my despair strikes me as ludicrous : as students, the necessity of individualising in each case was constantly being impressed upon us, but the faculty could only be acquired through time and experience.

But, at the period described, things appeared in a very different light.

Thanks to what incredible misunderstanding had I become possessed of my medical certificate? Every day this question arose before me with more and more insistence ; for my right to call myself a doctor merely on the strength of that document misgave me not a little, while life cried with ever growing emphasis : " No, you have no such right ! "

At last a thing came to pass, the bare recollection of which plunges me into sadness and horror.

On the very outskirts of our town, in a tumble-down cottage, dwelt a widowed washerwoman with her three children. Two of these died in hospital of scarlet fever, and soon after their death, her only remaining child—a gaunt, ugly boy of about eight years of age—sickened. His mother decided to nurse him at home, unable to bring herself to send him to hospital. She applied to me. Her boy had the fever in a very bad form : he was delirious and tossed about restlessly ; his temperature was 41° C. and his pulse could hardly be felt. After having examined the patient, I told the mother that his recovery was very doubtful. The poor washerwoman fell on her knees before me.

" Oh, sir, save him ! He is the only one left me ! I was rearing him to be a support and comfort to me in my old age. I will pay you all I can, I will wash for you for nothing as long as I live ! "

The boy's life hung in the balance for a week. At last the fever abated, the rash grew faint, the patient began to recover ; and that sickly boy, with ugly peeling face and apathetic stare, became dear to me. His happy mother thanked me rapturously.

A few days later the patient's fever returned, and the right submaxillary gland became swollen and painful. The swelling increased day by day. For the moment no danger threatened ; if the worst came to the worst, suppuration might set in and an abscess form. Still, I relished the possibility of such a complication very little. If an abscess formed, it would have to be opened ; the incision would have to be made in the neck, which contains a great number of veins and arteries. I was afraid that if I severed some important vessel by accident, I should be unable to stop the hæmorrhage. Hitherto I had *never* touched the living flesh with my knife. Of course I had seen the most complicated and difficult operations performed, but now, left to my own devices, I was afraid of the slitting of an ordinary gathering !

In the first stages of inflammation of the glands, treatment with grey ointment is very beneficial ; when applied in time it often arrests the inflammation before suppuration has had time to set in. Accordingly, I made up my mind to treat my patient with the mercurial ointment.

The swelling was very painful and therefore I rubbed the stuff in very lightly at first. Next day the boy looked brighter, ceased to complain, his temperature went down ; he smiled and asked for food. The glands were much less tender. I repeated my application of the salve, this time rubbing

it in more vigorously. His mother almost worshipped the ground I trod and bitterly regretted that I had not attended her other children ; she was sure I would have saved them.

On coming to see the patient next day, I found that an abrupt change for the worse had taken place. The boy lay on his back with his head bent to one side and moaned continuously ; in the right supraclavicular fossa, below the original swelling, a large new one stood out red and angry. I went pale and began to examine my patient with throbbing heart. The thermometer registered 39.5° C., the right elbow-joint was swollen and so painful that it could not bear the slightest touch.

The mother, although much alarmed, followed my movements with confidence and hope. . . . I went away utterly wretched. No need to break my head —it was as clear as day : my *massage* had driven the pus all over the boy's system, general blood-poisoning had set in, and he was doomed to a certainty.

All day I roamed about the streets aimlessly, plunged into a state of numb stupor : I could think of nothing, and my soul was gripped by a feeling of horror and despair. Every now and then the thought : " why, I have killed a human being ! " stood out in my consciousness with merciless vividness. Self-delusion was out of the question ; things could not have been plainer if I had deliberately cut the boy's throat with my own hand.

The patient lingered for over a week ; every day new and new abscesses formed in his joints, in his liver, in his kidneys. . . . He suffered unspeakably, and all that could be done was to inject morphia. I came to see him several times daily. When I

entered the room, I was greeted by the suffering eyes and the drawn and darkened face of the child; with clenched teeth, he groaned pitifully without intermission. His mother already knew that there was no hope.

At last, one evening, when I entered thc hovel, I saw my patient laid out on the table.[1] All was over. . . . With a strange feeling of tortured curiosity I approached the corpse. The setting sun illuminated the wax-like pinched features of the boy. His face wore an expression of sorrowful reverie, and his eyebrows were contracted. While I, who gazed upon him, was his murderer. . . .

The bereaved mother sobbed in a corner. Dusty cobwebs hung from the bare walls of that miserable abode, the dirty earthen floor smelt of damp, all was cold, cold and empty. With a lump rising in my throat I went up to the mother and essayed to console her.

Half an hour later, as I was on the point of taking my departure, the washerwoman opened her box and offered me a greasy three-rouble-note.

"Take it, sir . . . for your trouble," she said. "Oh, how you tried to save him, may our Mother in Heaven bless you!"

I declined the fee. We stood together in the semi-dark passage.

"It was God's will!" I murmured, looking away.

"His holy will. He knows best," she answered, and once more her lips began to tremble and her sobs broke forth afresh. "Oh thank you, thank you, sir, for having been so good to my boy!" . . .

[1] In Russia it is customary to lay the dead out on a table covered with a white cloth.—TRANSLATOR.

And she tried to kiss my hand, still crying, thanking me for my kindness and consideration. . . .

. . . . .

No! I would throw everything up, renounce all and go to St Petersburg to study further, though I starved in the attempt.

CHAPTER V

On arrival in St Petersburg I entered my name at the Courses of the Helena Clinical Institute. That institution is specially intended for medical men who are anxious to perfect themselves further. After a brief attendance, however, it was borne upon me that I would derive but little from those Courses, for the system was identical with that existing at the University; once more we were allowed to look on *ad infinitum* and there the matter ended. I considered that I had done so quite sufficiently as it was. These lectures are very useful to doctors who have already been long in practice and accumulated many questions demanding an answer; but for us beginners they were of small value: we chiefly stood in need of hospital work under the direction of experienced mentors.

I began to hunt for a suitable position. I would have been satisfied with the wretchedest pay, for my ambition did not go beyond what would suffice to keep me in bread and cheese and from sleeping on the doorstep—for I had no private means whatever.

I visited all the hospitals in turn, interviewed all the chief-physicians; they received me with cold nonchalant civility, invariably informing me with a superior smile that there were no vacancies, explaining further that I was mistaken in thinking it were possible to obtain a salaried hospital appointment for the mere asking. Soon I myself understood plainly how *naïve* such hopes had been.

In every hospital dozens of doctors work gratis; those who aspire to the beggarly pay of house-physician must wait from five to ten years; the majority do not even expect anything of the kind, and give their services in exchange for that which their colleges ought, but have failed, to supply. Various corporations avail themselves widely of the advantages to themselves resulting from such a state of affairs, especially our municipalities, which accordingly exploit the faculty to an incredible extent. It is not the same everywhere, however. The Copenhagen municipality helps to serve the ends of medical education by liberally distributing appointments amongst young doctors in the city hospitals, at the same time cutting down the term of service to two years, so as to make room for fresh candidates. Throughout France the municipal hospitals likewise act in the same liberal spirit. While in 1894 one of the members of the Town Council of St Petersburg proposed that the salaries of the physicians of the municipal hospitals be entirely withdrawn, because there would always be a sufficient number of applicants content to give their services gratis. "Doctors," he declared, "ought to be glad of being given mere access to the hospitals."

I gave up all hope of obtaining a salaried position and entered myself at one of the hospitals as a "Supernumerary." I often found myself in the greatest want: in the evening I used to trim the "fringes" of my trousers and mend the rents in my boots with black thread; I used to envy my patients when ordering them extras, because I myself subsisted mainly on bread and cheap sausage. During those hard times I experienced and came to understand a phenomenon which was formerly quite

beyond my comprehension—how one could take to drink through hunger.

At that period, whenever I passed a public-house, the latter had an irresistible attraction for me; at such moments I used to think that it was the height of bliss to step up to the brilliantly illuminated bar, covered with tempting "zakouskas," and to toss off a glass or so of vodka; strange to say, half-starved as I was, the spirits attracted me more than the eatables, although I was never a dipsomaniac. When I had a rouble in my pocket, I could not resist the temptation, and got drunk. Never before or after, when I was properly nourished, did vodka have any fascinations.

There was a great deal of work at the Infirmary, and it was plain to me that my labour was simply *indispensable* to the hospital; the amiability extended to me, whereby I was "allowed" to perform my duties, being of the same order as the philanthropy of the contractor who "gives bread" to his workmen, only with this difference: the bare permission to work was all the pay I received for *my* services. When I returned home dead beat and broken, after a sleepless vigil, and cogitated profoundly as to the most nourishing dinner that could be procured for eight kopecks (2d.), I used to be seized with rage and despair: to think that in return for this drudgery I could not even claim the right to be decently fed! And I would begin to repent having thrown up my practice and come to St Petersburg. Billroth says that only a doctor without a drop of conscience can permit himself without more-a-do to make use of the rights which his diploma gives him. But who were to blame? Not we! It was the public's fault that we had no other alternative

open to us—so let them pay the piper!—thought I vindictively.

In addition to my regular hospital duties, I continued to attend certain lectures at the Clinical Institute and also worked in other hospitals. And everywhere the scant consideration given to our doctor's diplomas, "with all the rights and privileges appertaining to that calling according to the law," by the medical world, became more and more apparent.

At our hospital every prescription I wrote, every diagnosis I made, was strictly controlled by our chief house-physician for many a day. Everywhere I was only allowed to prescribe for the patients and to operate upon them independently, after the authorities had become convinced in person of my competence—they ignored my certificates. At the Nadejdensky Lying-in Hospital a doctor, desirous of studying midwifery, for the first three months is solely allowed to examine the patients and to be present at the operations; only at the close of this probationary term, on passing his "colloquium," is he admitted to operate in person, under the supervision of the resident-surgeon on duty. . . . Could contempt for our "rights" go further? My certificate declares me to be a fully qualified physician; the law compels me, under pain of dire penalties, to respond to the first summons of midwife in a difficult confinement case, while here I am not trusted with the easiest child-bed, and—it must be admitted—with entire justification.

"I demand," wrote the well-known German surgeon Langenbeck in 1874, "that every doctor called to the battle-field should possess the technique of operations as perfectly as a fighting soldier wields his weapons." . . .

After all, who would think of sending into battle soldiers who had never held rifle in hand and had only seen others shoot? And, nevertheless, doctors not only go to the battle-field, but enter upon life, in the guise of clumsy recruits unable to handle their arms.

The medical press of all countries exhausts itself in its clamour for reform, which should render such a crying contradiction impossible, but unavailingly. How is this? I am absolutely at a loss to suggest any explanation. Whose interests would suffer, were the fact clearly established that practical preparation is absolutely essential, if doctors are to perform their duties conscientiously? Of course not those of society, no more than of the faculty, which is ever repeating to the public: "Pray understand that we learn upon *you*, that we obtain experience at the expense of *your* lives and healths!" . . .

CHAPTER VI

I WORKED indefatigably at our hospital, and under the direction of my elder colleagues, gained experience by degrees.

As far as the latter concerned prescribing and treatment, things were fairly simple and went smoothly enough ; I prescribed or gave my orders, and if I made a mistake, a senior comrade pointed the fact out and I rectified my error. But matters assumed a very different complexion when it became necessary to attain either technical or operative skill. Mere instruction did not suffice here : however experienced my mentor, that skill had to be acquired by me personally. Only he who has the habit, can operate with confidence and composure. But how is this proficiency to be obtained if you have not operated previously, were it even with faltering and unsteady hand ?

In the middle of the late eighties the American surgeon O'Dwyer invented a new method of treatment for stricture of the larynx, threatening danger to children suffering from croup. Formerly, in such emergencies, it was usual to perform tracheotomy : the windpipe of the patient was opened in front and a metal tube introduced into the orifice. Instead of this sanguinary operation, so terrible to the relatives of the patient and requiring chloroform and the assistance of several doctors, O'Dwyer proposed his own method, which consisted of the following : the operator inserts his left index into the child's mouth,

catches the epiglottis, and with his right hand introduces, by means of a special instrument, a metal tube with an enlarged head which he guides along his left finger into the child's larynx. The tube is left there; its enlarged head reposes upon the vocal cords and prevents it from slipping into the windpipe ; when required no further, it is removed from the throat. This operation is known under the name of "intubation," and by means of it the most wonderful results are often attained, asphyxiation being immediately arrested. In diphtheria cases it is employed more and more, displacing tracheotomy, the latter only being resorted to now-a-days upon those comparatively rare occasions when intubation ceases to answer.

As already stated, this salutary operation is both simple and painless . . . when performed by a skilled hand. Prolonged habit is necessary for the introduction of the tube into the larynx of screaming and frightened children smoothly and without hitch.

In our diphtheria ward I worked under the direction of a colleague, Stratonoff by name. I had seen him perform intubation dozens of times and frequently practised it myself upon corpse and dummy. At last Stratonoff allowed me to try my skill on a living child. The latter was a chubby little boy of three, with sweet blue eyes. He tossed about his cot fitfully, gasping for air, and his face was livid. They brought him into the operating room, where he was placed on a lounge and his arms pinioned. Stratonoff opened his mouth by means of a dilator, and a Sister of Mercy held the boy's head. I began to introduce the instrument. The small and soft larynx of the child jumped and throbbed beneath

my fingers and I could not make sure of its position. At last I thought that I had found the entrance to the larynx; I began to introduce the tube; however, it was stopped by something and would not budge. I pushed harder, but the tube would not move.

"Steady! I say, don't press, you can gain nothing by employing force," remarked Stratonoff. "Lift the handle a bit and slip the tube in without any effort whatever."

Taking the intubator out, I began to introduce it afresh; for a long time I continued to fumble about in the child's throat with the end of the tube; at last it found its way in and I removed the director. The tortured and breathless child immediately spat the tube out, together with some bloody saliva.

"You had inserted the tube into the gullet, not the windpipe," said Stratonoff. "First locate the epiglottis, firmly press it forward, retain it in that position and introduce the tube when the child sighs. The main thing is to employ no force!"

Red and perspiring, I took breath and again proceeded with the operation, trying not to look at the protruding and agonised eyes of the child. Its larynx had become swollen and I found it still more difficult to be sure of my whereabouts. Once more the end of the tube was obstructed by something and I could not resist the impulse to try and surmount the obstacle by violence.

"No, I can't!" I declared at last, frowning, and removed the guide.

Stratonoff took the intubator and rapidly put it into the child's mouth; the boy struggled, his eyes starting, his breathing was arrested for a second; Stratonoff pressed the screw and deftly removed the director. The characteristic blowing sound of

breathing through a tube became audible; the child coughed, trying to eject the foreign body.

"No, my fine fellow, you don't this time!" said Stratonoff, smiling and pinching the child's cheek. Five minutes later, the little fellow was fast asleep, breathing freely and regularly.

A difficult time dawned for me. It was absolutely necessary that I should master intubation; at the same time,all demonstrations and explanations availed nothing, and my previous practice on the dummy and corpse proved to be of small value. It was only after a week of failure that I managed to introduce the tube successfully; and for long afterwards, when about to intubate, I lacked the conviction that I would be successful.

It would happen sometimes that after having tortured the child and myself as well, in the end I had to send for the house-surgeon, who performed the operation for me.

All this was terribly hard, but I had no choice. The operation was so obviously useful and salutary. . . . I am conscious of this especially now that those painful experiences are things of the past, and that I can undertake to perform intubation at any moment and under any circumstances. Quite recently, while on night duty, I had to perform it upon a little girl of five; the day before, the tube had been inserted, but she had coughed it out. She was carried into the operating room and I began to prepare my instruments. The little girl sat on the nurse's knees, pale, with drops of sweat on her forehead and an expression of that terrible depression which is peculiar to those who are struggling for air. At the sight of the instruments, her dull eyes brightened slightly; she opened her mouth

and kept still, evidently following my movements with timid and expectant hope. My heart contracted with a sweet spasm of joy. Rapidly and dexterously, delighting in my own skill, I introduced the tube into the little sufferer's larynx. The little girl raised herself and sat up on the sofa, taking in the air with full and greedy breaths; her cheeks regained their colour and her eyes sparkled with happiness.

"That's right! You can breathe easier now, can't you?" I asked.

She silently nodded.

"Now then, dear, say 'Thank you' to the doctor," put in the nurse.

"Thank you!" came the grateful whispered answer.

On returning to my room and lying down, I remained awake for a long time. The darkness seemed to re-echo that weak lisping 'Thank you,' and the happy childish face rose up before me again and again. Yes, such moments soften the recollection of the hard road which it is necessary for us to traverse and in a measure reconcile us to actuality; without the bitter there could not be the sweet. But still, those first ones who had to suffer for the others' sake—what cared they for the benefits to the latter, purchased at the price of their own martyrdom?

Alas, this suffering is incalculable. How many ruined lives lie in the wake of every doctor!

"Our progress is over mountains of corpses," sadly confesses Billroth in one of his private letters.

Most vivid of all stands out the recollection of my first and only tracheotomy; that experience will ever haunt me as a ghastly nightmare. I had often assisted at the operation, when carried out by my

colleagues, and had on numerous occasions performed it myself upon the dead.

Finally, the day arrived for me to try my hand on a living girl; in her case intubation had ceased to help. One of the doctors administered chloroform, while Stratonoff acted as my assistant, ready to come to my aid at any moment.

With the first incision I made in the white and plump throat of the little girl, I felt that I was powerless to control the agitation that possessed me: my hands trembled visibly.

"Keep cool, all goes well," Stratonoff said quietly, carefully seizing the fascia covered with blood with his forceps.

"Retractors! There is the thyroid gland, detach the fascia, proceed with a blunt edge! There, that's right."

At last I reached the windpipe with my probe, hurriedly tearing aside the loose tissue and parting the black, swelling veins.

"Have a care, don't press so," said Stratonoff. "Why, man, you'll break all the cartilages of the trachea at that rate! *Don't* hurry!"

The smooth gristly rings of the windpipe moved regularly beneath my fingers with the child's respiration; I fixed it with a retractor and made an incision; the air began to whistle faintly through the aperture.

"Dilator!"

I introduced the latter into the incision. . . . Thank God, it would soon be over! But that characteristic hissing sound, which shows that the air has free egress, was absent.

"You have missed the right opening; you have introduced the dilator into the mediastinum!"

suddenly exclaimed Stratonoff nervously. I pulled the instrument out and, with fingers trembling from excitement, inserted it a second time, going astray once more. I was losing my head fast. The deep funnel-shaped wound kept filling with blood, which a Sister of Mercy promptly soaked up with wads of cotton-wool; the blood frothed at the bottom of the wound from the air which escaped through the dissected trachea; the incision itself was hideous and jagged, while a little lower down yawned the aperture caused by my clumsy introduction of the dilator. The Sister of Mercy stood by with suffering face, and the nurse holding the little girl's legs bent her head low, so as not to see. . . .

Stratonoff took the dilator from me and began to insert it himself. For a long time he had great difficulty in locating my incision, but finally succeeded: a hissing noise resounded and a fit of coughing expelled drops of bloody slime. Introducing the cannula, Stratonoff bent down and began to suck the blood out of the windpipe.

"Colleague, it is self-evident and needs no explanation," he said, when the operation was over, "the incision ought to be made in the very middle of the trachea, while you somehow managed to make it at the side. And why on earth did you make such a long cut?"

"Why!" Upon the corpses my incisions were of the proper length and situated exactly in the middle of the windpipe.

The child developed diphtheria of the wound. The dressing had to be changed twice a day, the temperature keeping at 40° C. The tube would not hold firm in the tremendous suppurating funnel-shaped wound; it became necessary to stop it tight with

gauze, but even then the cannula kept its position badly. Stratonoff used to do the dressing. On removing it one day, we found that part of the trachea had become mortified—a most unfortunate complication. Deprived of its support, when introduced into the incision the tube pressed against the posterior wall of the windpipe, and the child began to suffocate. Stratonoff placed the cannula in its proper position and propped it round carefully with gauze and cotton-wool. The little girl lay with dilated and suffering eyes, trying to struggle from the nurse's grasp, kicking out frantically with her legs; her face was puckered up from crying, but no sound could be heard: when tracheotomy is performed, the air from the lungs escapes through the cannula without reaching the vocal cords and the patient is absolutely dumb. The process of dressing was very painful, but the weak state of the patient's heart forbade chloroform.

At last Stratonoff completed his task; the little girl sat up; Stratonoff scrutinised her narrowly.

"Breathing is still unsatisfactory," he said, knitting his brows, and again began to readjust the tube.

The child's face ceased to pucker; she sat still, as if in deep thought, and motionlessly gazed into the distance, over our heads. Suddenly a strange, feeble, irregular grating sound became audible. . . . The child was grinding its teeth with convulsively set jaws.

"Deary darling, bear it a little longer, it won't hurt any more in a minute!" said Stratonoff in an agonised voice, tenderly stroking her cheek.

But the fixed stare of the poor mite never relaxed and she continued to grind her teeth rapidly; her

whole mouth grated, as if she were crunching a piece of sugar; it was a horrible sound, and my fancy pictured her teeth reduced to a powder and her mouth filled with a mass of bone-splinters. . . .

Three days later she died. I swore never again to attempt tracheotomy.

But what did I gain thereby? My comrades, who had commenced work simultaneously with myself and who were no less tender-hearted, can now save the life of a fellow creature, where I must stand idly by, helpless to assist. About eighteen months after my first and last tracheotomy, while I was on duty, a workman suffering from syphilitic stricture of the larynx was brought to our hospital. The contraction had been gradually developing during a whole month, and for the last day or two the patient had hardly been able to breathe. Wasted and haggard, with his thin hair dishevelled, and a bluish earthy complexion, he sat clutching his chest, breathing with a heavy, rattling noise.

I sent for my colleague—the assistant house-surgeon, and ordered the patient's removal to the operating room.

The surgeon made a rapid examination.

"We shall have to perform an operation, cut your throat open," he said.

"All right, all right! . . . Only be quick about it, for God's sake," the patient muttered in deathly trouble, nodding jerkily.

While the instruments were being prepared, he was given oxygen to inhale.

"Now lie down!"

The patient crossed himself and, supported by the assistants, clambered on to the operating table. While we washed his neck, he continued to inhale

oxygen. I wanted to take away the tube, but he held on to it supplicatingly.

"Only a little more, let me breathe the 'air' a little longer!" he whispered huskily.

"You've had enough! You'll be easy in a moment!" said my comrade. "Shut your eyes."

The suffering man once more crossed himself and closed his eyes tightly.

The operation was performed under cocaine. After one or two incisions, I parted the edges of the wound with my hook-retractors, the surgeon opened the cricoid cartilage and fragments of bloody phlegm flew out of the slit with the usual fit of coughing. My comrade introduced the cannula and bound the wound up.

"It's all over!" he announced. The patient got up, taking greedy and deep breaths; his face expanded into an endlessly happy and perplexed smile, and he shook his head with astonishment.

"Eh, haven't we fixed you up smartly, my friend?" laughed the surgeon. All around were laughing, the nurses, Sisters of Mercy, the attendants. . . .

In the meanwhile the patient, smiling as before, in happy bewilderment, whispered something inaudible and kept on shaking his head, lost in admiration for the wonderful resources of our science.

Next day I visited the ward where he lay, to see how he was getting on. He greeted me with the same silly and pleased grin.

"How goes it?" I asked.

He nodded his head and made a comprehensive gesture, to show how comfortable he felt. . . .

I went away with a heavy heart: *I* could not have saved him. If my colleague had not been at hand, that man must have perished.

No, all my oaths were nonsensical! It could not be helped! What Billroth said was true: "our progress is over mountains of corpses." There was no other way. We had to study on, undeterred by failure. . . . But that grinding of the little girl's teeth resounded in my ears — and I felt, with despair, that I could not, *I could not*; that my hand would never again be lifted for such another operation.

By what should one be guided under the circumstances? Because I had run away, it did not mean that the problem had been solved. Personally, I might choose such a course, but what if all were to follow suit? A certain old doctor, who was chief of the surgical division of the Hospital of ——, used to tell me of the pangs he suffered when allowing a young doctor to operate. "Of course, I can't forbid it—they too must learn; but how can I tranquilly look on, expecting every moment to see him blunder in the most damnable way with his knife?"

And he used to take away his junior's knife and complete the operation himself.

Of course, this sort of thing is very conscientious, but . . . but from others, from doctors who had been under him, I heard that it was not worth while working in my friend's division: he was a good surgeon certainly, but it was impossible to learn anything of him. There is nothing strange in this. A surgeon who is so careful of his patients cannot be a good teacher. Here is another illustration of the fact. A certain Russian doctor and traveller relates his impressions of the great Lister, the inventor of the antiseptic method: "Lister takes the interests of his patients too near to heart and

places his moral responsibility in regard to each of those upon whom he operates, too high. Lister, accordingly, rarely trusts his assistants with the binding of arteries and, as a rule, he performs personally all that is connected with the direct treatment of his patients. Thanks to this, his junior assistants lack operative skill." If the individual interests of each patient are to be held paramount, of course this is the only way to treat the matter. The same traveller—Professor A. S. Tauber, in giving his impressions of the German cliniques, remarks :—

"A great difference is noticeable in the subsequent progress of the wounds, when amputation has been performed by the experienced hand of the professor and when by his young assistants—the latter often bruise the tissues, crush the nerves, sever the muscles too short off or else lay the arterial vessels bare of their adventitiæ (external coat of the artery) too high,—all these are factors unfavourable to the rapid healing of the stumps."

But is it necessary to cite further proofs of such an obvious truth as that, which tells us that without experience it is impossible to become a skilled operator? How remedy such a situation? From the doctor's point of view, it may be possible to resign oneself to the inevitable, with the reflection, that "such is fate—there is no alternative!" But when I think of the patient about to submit himself to the knife of the surgical novice, on the point of performing his first operation, I find that such arguments cease to satisfy me, I am conscious that there must be another way out of the labyrinth, which ought to be discovered at any cost.

In the late "thirties" such a way out of the difficulty was proposed by the eminent French physiologist Magendie. The latter was of the opinion that a good surgeon of the anatomical theatre was not necessarily a good operator. Every minute he might expect to make the grossest mistakes, until having acquired the faculty of operating with confidence; that faculty could only be attained through long practice, although it ought to have been there from the very beginning, if only the surgeon's education had been better directed. The chief fault lay with the contemporary methods of teaching, prevailing in the medical schools. The students passed directly from dead nature to the living, and were compelled to gain experience at the expense of humanity, at the cost of the lives of their fellow-creatures. Apart from man, there were creatures, whose lives were less precious, and upon which it were permissible to perform initial experiments. Magendie expressed the wish, that in addition to the usual medical education, skill in operating upon living animals should be required of all physicians; for he who had familiarised himself with the above kind of operation, could afford to laugh at those difficulties which baffled so many surgeons of the day.

There is nothing to prevent Magendie's advice being followed; nevertheless, so far, it has not been put into practice. When inventing some *new* operation, the surgeon generally performs it on animals first. But as far as my knowledge goes, nowhere in the world is experience in operating on living animals held as a necessary qualification, previous to the young surgeon being allowed to operate on living man. As things now stand, our

surgical novices are even inexpert in operating on the dead—let alone the living body.

In the "thirties," the surgeon who studied anatomy invited derision. This is how Diffenbach, a German professor of surgery, refers to the young French surgeon Velpeau: "He is a kind of anatomical surgeon." "In Diffenbach's opinion," remarks Pirogoff, "that was the worst possible recommendation for a surgeon."

So much for the "thirties"; but let me quote once more from Prof. A. S. Tauber, whom I have already had occasion to mention. Speaking of modern surgery, he says:—"In Germany, it is usual for the junior assistants in surgical cliniques to learn upon the living, not upon the dead. No one will dispute that the warm blood flowing beneath the strokes of the knife, or the contractions of the living muscles during operations, develop in the young surgeon intrepidity, presence of mind and confidence, but, on the other hand, I believe that there can be no doubt, that such practising of the inexperienced hand in operations upon living man is inhumane and generally at variance with the aims of the physician."

It appears to me that only the most strict and systematic application of the rule recommended by Magendie would save the patient—to a certain degree at least—from the necessity of paying with his blood, and even with his life, for the education of skilled surgeons,—but not entirely. For how determine the precise moment when a surgeon has become sufficiently expert? Where draw the line?

In 1873 when in his prime and at the apogee of his fame, Billroth wrote to one of his old friends, a lady, thus: "I have many patients whom I have

operated upon and still more upon whom it will be necessary to do so; they occupy all my thoughts year by year, their numbers increase, and the burden grows heavier and heavier. An hour ago I left the side of an excellent woman upon whom I had operated yesterday—a terrible operation. . . . With what a look did she gaze upon me this evening! 'Will I live?' I hope that she will live, but our art is so imperfect! I wish I had a century of ever-increasing knowledge and experience behind me,—perhaps then I might accomplish something. But as things are now—our progress moves rather slowly and it is so difficult to transmit to another that little which one has attained oneself! The one that receives must accomplish the most important himself."

Surgery is an art, and as such, demands, above all else, creative power, and reconciles itself least of all to cut and dried standards. Where the latter exist there are no mistakes, where creative power comes into play—errors are possible at every moment. A long apprenticeship of such mistakes and false strokes evolves the master, and as before, his road lies over "Mountains of corpses." . . .

While still a young "docent" (lecturer) of surgery, the same Billroth wrote to his master Baum about a certain patient, whom he had subjected to forcible extension of the leg three times in the course of the same week, without suspecting that the capitulum of the tibia was broken. "The effect of the extension upon the inflamed parts naturally turned out extremely harmful; mortification supervened, followed by death. . . . That case was very instructive to me because, like many others, it taught me *what not to do.* But of course, this is *entre nous.*"

The English surgeon, Sir James Paget, Bart., tells us of a like case in his own practice:—"A young man had a tumour removed from deep in the back of his thigh, and at the end of the operation I know not whether by myself or someone else, a broad strip of plaster was put round the thigh completely encircling it, and over that for some further means of security, a bandage. Next day the limb was swollen, but apparently not much more than it might have been swollen from ordinary inflammation following an operation. But the day after the limb was swollen much more; and the day after that, there was acute inflammation of all cellular tissue about the wound; and then came hæmorrhage; and then the man sank and died. The sole cause of his death was the strip of plaster which was put round his limb and not removed for two days. From that time to this I think no one ever saw me put a strip of plaster round a limb unless spirally. Small as such a thing may seem in the act of dressing, it cost that man his life."[1]

A vivid picture of the process necessary for the development of experience is given by Pirogoff in his "Annals of the Dorpath Surgical Clinique," which were published in German towards the close of the "thirties" and in their day caused a great sensation. With the frankness of genius he recounts in these confessions of a practical surgeon, all the mistakes and miscarriages for which he was responsible, while in charge of the University Hospital.

That, which others only venture to mention in private letters *entre nous*, was published in the face of the whole world to the great confusion and scandal

[1] See "Clinical Lectures and Essays": "Calamities in Surgery" (Clinical lecture, 1868; chapter ii. p. 51).

of all. The lurid picture painted by him was shocking in the extreme.

Yes, once more, all this is entirely unavoidable; there is no other way. Things will have to remain as they are: the torments of conscience must become silent in the presence of the inevitable. And, nevertheless, I myself would on no account, of my own free will, consent to become the victim of that inevitability, and no victim ever wished to be a victim.

Countless is the number of such cursed problems in this terrible science of ours, in the pursuit of which it is impossible to step without stumbling against living man!

CHAPTER VII

In 1888 Professor Petrescu of Bucharest proposed that croupous pneumonia should be treated with very large doses of digitalis (tenfold of that customary). According to his observations, which extended over a number of years, when this treatment was employed the death-rate dropped from 20-30% to 3%, the disease was arrested instantly and vanished "as at the wave of the magician's wand." Petrescu's paper on his treatment, read before the Parisian Academy of Medicine, attracted general attention—the results published were really most striking. Other doctors adapted it and in most cases were very pleased with the results obtained.

At that time I had the pneumonia ward of our Infirmary under my care. Fascinated by the above communications, I decided, with the permission of the chief house-physician, to try Petrescu's method. Quite recently I had read an article, which appeared in *Botkin's Hospital Gazette*, by Dr Rechtsamer, dealing on the subject. Although the author regarded Petrescu's hopes as somewhat exaggerated, still he did not deny that the recovery of certain of his patients could only be ascribed to the new treatment. In his opinion, it was recommendable as a last remedy in grave cases affecting old people and drunkards. "In none of my own cases could I put a patient's death down to digitalis poisoning," so the article ended.

An old house-plasterer, who had been suffering

from pneumonia for two days, was brought to my ward; his entire right lung was involved through and through, he breathed rapidly, groaned and tossed about; his wife told me that he had been a hard drinker from childhood. This was a suitable case and I prescribed digitalis according to Petrescu.

In the act of signing my prescription I paused, involuntarily struck by its extraordinary appearance. It ran thus :—

"R^p Inf. fol. Digitalis ex 8.0 (!) : 200.0
D.S. every hour (!) a tablespoonful."

This means a decoction of eight grammes of digitalis in two hundred grammes of water, while the notes of exclamation were required by law for the benefit of the dispenser: in common practice, the greatest quantity of digitalis leaf, which may be administered to the human being in the course of the twenty-four hours, is put down at 0.6 grammes; those notes of exclamation showed the chemist, that in prescribing my monstrous dose, I had not been guilty of a clerical error, but acted quite consciously. I perused my prescription again and again. Those notes of exclamation stared at me provokingly, almost insolently, as if saying: "Yes, you dare not give a man more than six decimals of digitalis unless to poison him be your intent, while you order thirteen times that amount!"

When I left the hospital the notes of exclamation in my prescription still haunted me. I recalled Dr Rechtsamer's words: "In none of my cases could I put a patient's death down to digitalis poisoning;" but what would I do, if the sad necessity of "putting a patient's death down to digitalis poisoning," were reserved for me? Had I not dashed off those

eloquent notes of exclamation with my own hand?

Next day the patient was worse; he stared at me dully with glassy eyes, the tip of his nose had assumed a bluish tinge, his pulse, continuing rapid, was fluctuating now. Was this in consequence of, or notwithstanding the digitalis? The patient's heart was weak and these phenomena might be ascribed to the course of the disease, which the digitalis had been powerless to stem. But, on the other hand—what if this were owing to the drug? I did my best to suppress such reflections: why, many had tested the remedy and found it to be efficacious and beneficial. So I renewed my prescription.

Two days later the old man died. The weakness of the heart had ever been on the increase, accompanied towards the end by deafness. I stumbled up against his wife at the gates of the hospital; she was in the act of leaving the mortuary chapel, mumbling to herself, her face and swollen eyes almost hidden by her shawl. With an indefinable sensation of shame and fear I read the deceased's clinical register over again: a minute description of his illness continued from day to day, showing its gradual aggravation, the prescriptions with their glaring notes of exclamation, and in conclusion—a laconic footnote by the doctor on duty: "The patient died at 2 A.M."

Now I was at a loss to account for the mental aberration which had prompted me to prescribe such bold and unverified treatment. Possibly the old man would have died in any case, but could I undertake to affirm that his death had not been caused by that monstrous amount of powerfully acting digitalis, introduced by me into his system?

And at a time too, when all the forces of his organism were required for combating his disease.

Soon afterwards I read an article in the *Physician* by Dr Rubel, who, after carefully studying his own experiments, those of Petrescu and of the latter's disciples and partisans, proved irrefutably that "Petrescu's treatment is obviously injurious and in many cases threatens the patient's life; it only remains to advise its complete discontinuation."

And I registered a vow in future only to employ those remedies upon my patients, which had stood ample test and left no room for doubt as to their effects. The closer I became acquainted with current medical literature, the firmer did this decision become. An appalling state of affairs was revealed to me. Every number of every medical journal contained communications on dozens of new remedies; and thus it went on, from week to week, from month to month; a gigantic, insane and endless torrent, which bewildered the eyes: new doses, new medicines, new methods of introducing them, new operations—and dozens, nay—hundreds of human lives lost and healths ruined. Some of these innovations, like bubbles on the frothing surface of a torrent, leaped up and immediately burst, leaving behind one or two corpses.

Thus, for instance, in 1888 Dr Rosenbusch stepped forward with an article in which he advocated the injection of a solution of creosote into the lung tissue of consumptives, which, according to his assurances, gave the best results. Dr Stakhewicz tried to apply this method of treatment upon two of his patients; the results speak for themselves: "The cough of the first patient increased after the injection, and the destruction of the left apex, into

which the injection had been made, proceeded with much greater rapidity than before. Blood appeared in the sputum of the other patient immediately after the injection and next day an abundant hæmorrhage supervened." And creosote injections disappeared from the stage.

Professor Mehring caused animals to inhale pental and arrived at the conviction of the above substance being a very good anæsthetic. This was followed by Dr Hollaender experimenting upon his patients with the drug, and he obtained brilliant results with it. At the Congress of Naturalists and Physicians, held at Halle during September 1891, he expressed himself rapturously in favour of pental. He declared that it had proved itself to be the best extant anæsthetic for short operations, thanks to the certainty of its action, the absence of disagreeable after-effects for the patient, and its entire freedom from danger; pental had no ill-effects either upon the cardial functions or those of respiration. So pental became the fashion. Six months passed. Then Dr Haegler made the following communication: a strong man, to whom he had administered the anæsthetic, developed dyspnœa and cyanosis, which were finally succeeded by cessation of respiration; only the most energetic means of revival saved his life. Two months more passed, and a lady died at Olmütz, after inhaling pental while having a tooth drawn. About the same time the *British Journal of Dentistry* published the following fact: a young woman of thirty-three, suffering from toothache, died after inhaling ten drops of the drug. Dr Breier nearly lost a healthy little girl, whose respiration and pulse ceased through inhaling pental. Two of Dr Sick's patients died from its

effects—one a strong and vigorous man, the other a young girl suffering from hip-disease, but otherwise sound and healthy. Hardly a year and a half had elapsed since Hollaender's first communication saw the light, when Professor Gurlt read a paper at a congress of German surgeons, in which he gave comparative statistics of the mortality from different anæsthetics. Supported by overwhelming statistical evidence, he showed that while ether, laughing-gas, brom. aetyl and chloroform produced one death in thousands, pental gave one death for *each 199 cases.* Professor Gurlt concluded his report with the very sensible remark, that in view of the data so far obtained it became necessary *positively* to warn the faculty against the employment of pental. And the ill-omened compound vanished as swiftly as it had appeared.

Has anyone forgotten the triumphal flourish of trumpets which announced the advent of Koch's tuberculine, and its shameful exit? Thousands of tuberculous patients were injected with the celebrated lymph at the time. While two years later, it became clear beyond doubt that nothing but mischief could result from its use.

Such is the history of a few of those new remedies which have, upon closer acquaintance, proved themselves to be worthless. However, the fate of others was very different: they emerged from trial, their position assured and recognised by all, with their indications and counter-indications strictly defined. But even then, a heavy toll in human life and health had to be paid.

A peculiar illness is frequently met with amongst the inhabitants of mountainous districts—gôitre (struma), when the thyroid gland, located about the

lower part of the throat, becomes enlarged. One of the methods for treating gôitre was the complete irradication of the organ. This operation gave very encouraging results: the patients left hospital in perfect health and their deprivation of the thyroid gland (the functions of which are entirely unknown) seemingly had no evil effects. But in 1883 Professor Kocher of Berne published an article in which he communicated the following: he had performed complete extirpation for struma in thirty-four cases and was very pleased with the results obtained. But one day a medical friend told the Professor of a girl under his treatment, upon whom Kocher had performed the above-mentioned operation nine years previously, and advised the eminent surgeon to examine her now. The *tableau* was a striking one. The patient had a younger sister; nine years ago both were so much alike that they were often mistaken for each other. "In the course of those nine years," Kocher tells us, "the younger sister developed into a blooming and pretty girl; the one operated upon remained stunted and has the repulsive appearance of a semi-idiot." Such a revelation prompted Kocher to enquire into the fate of all those he had operated upon for this peculiar disease. In the case of the twenty-eight patients who had undergone but partial removal of the thyroid gland, all were found to be quite healthy; of the eighteen who had been entirely deprived of that organ, only two remained in health; the rest had developed a peculiar complexity of symptoms, thus characterised by Kocher: "the retention of growth, the large head, knobby nose, thick lips, clumsy body, unwieldiness of tongue and thought, accompanied by strong muscular development—all these undoubtedly point to the

close relationship of the described disease to idiocy and cretinism." Mark you, the growth caused but little inconvenience to many of those operated upon, and practically, the operation merely had the æsthetic in view; the result, however, was idiocy. Later the close connection between the above symptoms and the removal of the thyroid gland—the opinion held by Professor Kocher—was disputed; but, nevertheless, nowadays no surgeon would ever venture to perform complete extirpation, unless the disease of the gland threatened the patient with unavoidable death.

In 1884, Koller introduced into general use one of the most precious remedies which medicine possesses—cocaine—ideal for local anæsthesia. Two years later, Professor Kolomnin of St Petersburg, while about to operate upon a woman, introduced into her rectum a solution of the alkaloid. Suddenly the patient went blue in the face, convulsions seized her, and half an hour afterwards she expired with all the symptoms of cocaine-poisoning. Professor Kolomnin went home, locked himself up in his study and blew out his brains.

In the reperusal at the present day of the different communications made on the employment of cocaine during the first few years after its introduction, one is struck by the excessiveness of the doses prescribed: for example, Professor Kolomnin introduced about a gramme and a half of the drug into his patient's system, and such doses were not exceptional in those days; Huseman considered that the fatal dose for an adult must be "very large." The bitter experience of Kolomnin, as well as others, has taught us that, on the contrary, the amount necessary is very small; that it is dangerous to introduce more than

six-hundreths of a gramme of the alkaloid into the human body; which quantity is *twenty-five times* less than what the unfortunate Kolomnin administered to his patient.

Towards the close of the "eighties," Professor Kast introduced sulphanol as an excellent and harmless soporific. Other doctors began to experiment with the drug and found it was really a "harmless hypnotic which does not evoke any accessory effects" (Oestreicher). But barely three months after the appearance of Professor Kast's article, Dr Schmei informed the medical world that two grammes, given to an old man suffering from arteriosclerosis and subject to fits of angina pectoris, "were terrible in their effect: shortly after taking the powder a most acute attack of suffocation set in and all night long these attacks followed each other at intervals of a few minutes." Dr Schmei accordingly counselled circumspection, when prescribing sulphanol in cases of angina pectoris and arteriosclerosis. Further observations showed that it should be administered with great precautions in cases of extreme anæmia, emphysema of the lungs, acute melancholia and morphinism; and further, that it is not safe to take it for a lengthened period without break.

What was the price paid for this information? In the course of five years following the first introduction of the drug, Professor Lepine aggregated the total number of fatal cases of sulphanol poisoning, which appeared in the medical press, at sixteen. . . .

Yes, certainly the deduction to be drawn from the above was obvious enough. I was never to employ a remedy which had not been thoroughly

tested beforehand, or threatened my patient with the slightest risk.

About three years ago, I attended a certain lady school-teacher suffering from phthisis. Just then the news arrived that Robert Koch, who had continued to work upon his discredited tuberculine, had improved the latter and was once more employing it. My patient consulted me as to the advisability of her subjecting herself to treatment with the "purified" lymph.

"Better wait a bit," I answered. "First let the superiority of the new stuff over the old be established!"

I had acted quite conscientiously, but could not help wondering at whose cost would the right answer be arrived at? *Somewhere*, far away and beyond my ken, the matter would be threshed out by experiment upon the invalid, and if it proved a success . . . why, I would avail myself of the result and apply the new treatment to my own patients, as I now employed such invaluable remedies as sulphanol and cocaine. But again, what would happen if *all* doctors regarded matters in the same way as myself?

We still know very little of the human organism and of the laws which govern it. In making use of a new medicament, the physician can only foretell its action more or less approximately. It may turn out beneficial; however, even if it were to work nothing but harm, astonishment would be out of place; the game being played in the dark, it stands to reason that one should be prepared for all eventualities. The chances of such surprises are limited to a certain extent, thanks to the possibility of previously trying the drugs on animals; this is a great help. But,

nevertheless, the organisms of the latter differ greatly from that of man, and one cannot draw unimpeachable inferences from these experiments. So man is approached, although it is a secret to no one that the remedy's efficacy—beneficial or the reverse—is but a matter of pure conjecture ; a greater or lesser risk is always present. Expectations may often be deceived, and what is more, in many cases this does not at once become apparent : clinical observation is laborious and complicated. Not unfrequently the action of the compound misleads one for a long time, the favourable impression it created turning out afterwards to have been merely due to self-suggestion on the observer's part.

Because medicine did not hesitate to follow this path, wrought with constant risks, upon which it was forced to blunder in the dark, falling into error over and over again, and then renouncing its mistakes, it gained most of those victories in which its pride is fully justified. Without risks being taken, no progress would have been made — the whole history of medical science stands to prove this.

During the first half of the nineteenth century, women were treated internally for tumour of the ovarium. The experiments made for the removal of these growths by surgical means—the dissection of the abdomen (ovariotomy)—ended so disastrously, that if I had been writing these confessions fifty years ago, I would have adduced ovariotomy as an example of unpardonable experiment upon the human being. At that time there lived in England a young surgeon, Spencer Wells by name. He had had occasion to assist at ovariotomy, and his impressions tended to show "that ovariotomy was not a justifiable operation." Soon after, he took

part in the Crimean War, in the capacity of surgeon; he saw many wounds in the abdomen and had followed many such cases. He remarks: "When I returned to London in 1856 I was certainly much less afraid than before of abdominal wounds." He now believed that ovariotomy ought to give good results, if the operation be properly carried out. At the same time, it was held in such universal distrust that in medical circles it had been dubbed "murderous," and the Crown lawyers openly declared that surgeons guilty of it ought to be prosecuted. Notwithstanding this, Spencer Wells decided to chance the risks as soon as occasion presented itself. He had not long to wait, and performed his first ovariotomy. The patient died. "I think," wrote Spencer Wells, "it would be difficult to imagine a position more disheartening than that in which I was placed when making my trials of ovariotomy. The first attempt was a complete failure, and strengthened not only in the minds of others, but in my own mind, the fear that I might be entering upon a path which would lead rather to unenviable notoriety than to a sound professional reputation. Everything was against the venture. The medical press had denounced the operation, both in principle and practice, in the strongest terms. At the medical societies, the speakers of the highest authority had condemned it most emphatically." Still, undaunted, Spencer Wells continued to operate, with ever-increasing success. Opinion began to veer round little by little. Already in 1864 "ovariotomy was very generally accepted as a legitimate operation and was, not long afterwards, cited as a triumph of modern surgery."

It was in the "eighties" that Spencer Wells thus spoke—covered with world-wide glory, one of the benefactors of humanity, thanks to whom the lives of tens of thousands of women had been saved. Who will dare to reproach him in his temerity? No one sits in judgment upon the conqueror.

A few years ago, when Behring introduced his anti-diphtherial serum, Professor Pouriège, in drawing attention to the unscientific way in which his experiments had been conducted, laid stress upon the hardihood required for the injecting of children with the diphtherial anti-toxin, without being quite sure as to the possible results.

However that may have been, the serum proved highly beneficial (at least, thus it would appear so far), and we can only be grateful to its discoverer. It would enter no one's head to enquire too closely whether Behring could have nerved himself to use his own child for a first experiment.

When, in his old age, Pirogoff developed cancer of the upper jaw, Dr Vivodtseff, who attended him, begged Billroth to operate upon the great veteran of Russian surgery. But on mastering the circumstances of the case, Billroth found that he dared not take the risks. "I am no more the fearless and bold operator you used to know in Zurich," he wrote to Vivodtseff. "Now, when an operation seems indicated, I always ask myself the following question: 'Would I submit to the operation I wish to perform upon the patient?'" Must we infer that Billroth used to perform operations on his patients which he would not permit in his case. Certainly. Otherwise we would not possess that series of brilliant new operations which we owe to him.

So to act up to the motto, "only employ what has been tested," which I had chosen for my own, was not so simple and plain as had seemed at first glance. As long as I applied the rule to myself I found it to answer admirably and to be the only admissible one; but when I tried to imagine all adopting it, I saw that such a mode of action would not only lead to the undoing of medicine, but to an absolute absurdity. "You say," wrote the French surgeon Péan, recently deceased, "you say, that it is only permissible to apply to man remedies which have been previously tried on man; but such a contention contradicts itself; if medicine were to follow it, to its misfortune, it would condemn itself to the purest empiricism, to the most dogmatic tradition. Experiments upon animals would only serve the purposes of speculative research; great benefit would accrue to veterinary medicine, of course, through these experiments, but human medicine would be unable to utilise them."

In effect, what would medicine turn into then? No new untried remedies might be applied, it would be equally impossible to renounce the methods already tested; the doctor who did not treat syphilis with mercury would be no less in the wrong, according to such a standpoint, than the one who employed some untried remedy for the same disease; it requires as much courage to discard the old, as to introduce the new. At the same time, the history of medicine tends to show that our science of to-day, notwithstanding all its positive acquisitions, has been enriched—to use Magendie's expression—chiefly through its losses.

The inevitable result would not be far to seek: practical medicine would become petrified until that distant date when science had attained to a perfect understanding of the human organism, the action of each new remedy proposed being foreseen in all its effects. But in the meanwhile, on every side we hear humanity cry: "Help us, why do you not do more to help us?"

My position became highly anomalous. My aspirations did not seem to rise above the one desire—not to do the patient who sought my aid any harm. At first glance such a rule would appear to be quite elementary, requiring no further explanation; at the same time, its systematic application would condemn me to complete inactivity, render me utterly incapable. Living man obstructs every path I would take. If I were to turn back I might perhaps preserve my peace of mind, but would be no nearer the truth. And it is the same in all.

How define the limits of the permissible? I leave someone else to give the answer. And it is just at the present time that these questions have become especially acute. The creation of bacteriology was the crowning achievement of a great epoch of capital discoveries in the province of medicine, and a temporary lull has fallen. And as always happens at such times, empiricism rears its head and practice is inundated with a sea of all sorts of remedies. Without end and without a pause, the most varied new chemical substances are offered to us—anesin, cosaprin, golocain, criofin, midrol, and thousands of others; every thinkable bacterial toxin and anti-toxin is injected into the patient, as well as extracts from every imaginable animal organ; all manner of operations are being

invented—both sanguinary and bloodless. May be much of value will remain behind, when this whirlwind has passed over us; but the heart sinks at the thought of the price it will be bought with—and one pities sick humanity, which, like a moth attracted by the flame, hurries onward towards its own destruction, often against the advice of us doctors.

One day, soon after my arrival in St Petersburg, I had occasion to visit an aged aunt, the widow of a general officer. She began to regale me with an account of her numerous complaints—palpitations, heart-burn, nervous ticks, insomnia and the like.

"My doctor has prescribed a new medicine to help me to sleep. *The very latest!* I suppose you don't know it yet. . . . How *do* they call it? Chlo-ra-lose. . . . Not *hydrate of chloral*, that acts upon the heart—this is quite harmless; an improved chloral."

She rose and fetched me a smart box of tabloids, ordered for her by a fashionable physician, and, with every sign of satisfaction, showed me the prescription.

"Poor, poor thing!" I thought.

CHAPTER VIII

FOR the nonce I will take leave of those tangled and difficult problems, which I am at a loss to solve, and in the face of which I must confess utter helplessness. I will now occupy myself with a question to which but one answer is possible, and that a perfectly straight one. It deals with gross and entirely conscious disregard for that consideration which is due to the human being.

I approach the subject with regret, but it is impossible to pass it by.

"A certain Dr Koch," we read in the Russian medical paper, *Physician*, "has published a pamphlet, entitled, 'Aerztliche Versuche an labenden Menschen' ('Medical Experiments on Living Man'), than which nothing were better calculated to further undermine the respect for, and confidence of the laity in, our profession. The author essays to prove that 'vivisection has long crossed the thresholds of our hospitals'—in other words, that experiments similar to those conducted upon the lower animals in the laboratory, are practised on living man in our infirmaries. As might have been expected, Koch's book was immediately seized upon by different feuilleton writers and newspapers chroniclers. It were highly desirable that our German colleagues should not leave a single one of Dr Koch's 'facts' without searching inquiry and explanation, as it is only possible by this means to nullify the effect of his book." (See *The Physician*, 1893, p. 906.)

I have not read the above-mentioned pamphlet, and do not know how far the "facts" mentioned by Dr Koch merit the ironical inverted commas which the editor of the *Physician* had seen fit to place them in. But unfortunately there is much substantial truth even in the title of Dr Koch's booklet alone. In proof of the above it would be easy enough to adduce a very long array of facts—facts of such a nature, too, that they could not be bracketed in inverted commas, for this simple reason—they are substantiated in black and white by the perpetrators themselves.

As we proceed, I shall point out the original sources of my information with every possible care, that the reader may verify my statements.

I shall restrict myself to the venereal diseases. Notwithstanding the delicacy of the subject, I was compelled in my choice to single out the above, because they furnish us with the greatest wealth of the facts I wish to draw public attention to. For venereal complaints are the exclusive lot of man, and not a single one of them can be transmitted to the lower animals. Owing to this, many questions which, in other branches of medicine, find their answer in experiments on animals, can, in venerology, only be decided through human inoculation, and venerologists have not hesitated to take the plunge: crime stains every step made by their science.

As is well known, three varieties of venereal disease exist: gonorrhœa, soft ulcer and syphilis. I shall commence with the first named.

The specific micro-organism of gonorrhœa was discovered by *Neisser* in 1879. His experiments, conducted with exemplary care, tended to prove, with a considerable degree of probability, that the

gonococcus he had discovered was the specific agent of that disease. But in bacteriology the proof positive of the specific quality of any micro-organism is only absolute when obtained through inoculation; if, on inoculating an animal with a pure culture of the micro-organism, we call forth a given disease, this fact proves that the above micro-organism is the specific agent of the latter. Unfortunately, not a single animal, as we already know, is liable to gonorrhœa. Either the discovery had to remain doubtful, or else it was necessary to inoculate man. For himself, Neisser chose the first alternative.

His followers were not so nicely conscientious. The first to inoculate man with gonococcus was *Dr Max Bockhart*, assistant to Professor Rinecker.

"Geheimrath von Rinecker," writes Bockhart, "held the view, that the discovery of the causes of venereal disease was only possible through the inoculation of human beings."[1] Acting upon the suggestion of his patron, Bockhart inoculated a patient suffering from creeping paralysis in its last stages with a pure culture of gonococcus: a few months previously the patient had lost his sense of feeling and his death was awaited very shortly.

The inoculation proved successful, but the discharge was very insignificant. To increase the latter, the patient was given half a litre of beer. "The success was brilliant," writes Bockhart; "the discharge became very copious. . . . Ten days after inoculation the patient died of a paralytic fit. Autopsy showed acute gonorrhœic inflammation of the urethra and bladder, with the commencement

[1] "Beitrag zur Aetiologie des Harnröhrentrippers": *Vierteljahrschr. für Dermatol. und Syphilis*, 1883, p. 7.

of the latter's mortification, and a large number of abscesses in the left kidney; numerous gonococci were found in the pus taken from these abscesses."[1]

The methods of pure culture employed by Bockhart were very crude, and his experiment had but small scientific value. The first undoubtedly pure culture of gonococcus was obtained by *Ernst Bumm*.[2] To prove that it was the specific agent, Bumm, by means of a platinum wire, introduced the culture into a woman's urethra, the latter having been found perfectly healthy after repeated examinations. Typical urethritis developed which required six weeks for its cure (*op. cit.* p. 147). Studying the various peculiarities of his cultures, Bumm inoculated his gonococcus upon another woman in the same manner, obtaining an identical result (p. 150). Here we must note that, more than twenty years previously, Noeggerath proved how serious and painful were the effects—especially in the case of women, following so-called "innocent" gonorrhœa, which the ignorant even now speak of with a smirk, although science has long ceased to have any doubts on the matter whatever. This is what such an authoritative specialist in these matters as Neisser, of whom we have already had occasion to speak, declares: "I do not hesitate to state that in its after effects, *gonorrhœa is an incomparably more dangerous* (ungleich Schlimmer) *disease than syphilis, and I think that all, especially gynæcologists, will agree with me.*"[3] Bumm himself declares, in the preface

[1] "Beitrag zur Aetilogie des Harnröhrentrippers": *Vierteljahrschr. für Dermatol. und Syphilis*, 1883, pp. 7-10.

[2] *E. Bumm*, "Die Micro-organismus der gonorrhosichen Schleimhauterkrankheiten." 2. Ausg. Wiesbaden, 1887.

[3] *Prof. Al. Neisser*, "Ueber die Nothwendigkeit von Spezialkliniken für Haut- und Venerische- Kranke": *Klinisches Jahrb.*, Bd. ii. p. 199.

to his work, that "gonorrhœic infection is one of the most important causes of painful and serious affections of the sexual organs"[1]; which knowledge did not, however, deter him from subjecting two of his patients to such a risk. It is true that, according to his accounts, "every measure of precaution (?) against infection of the sexual organs" was taken, but such precautions are extremely unreliable. We may further add that even gonorrhœic affection of the urethra alone is sufficient to cause the most painful complications later.

The next step in the culture of the gonococcus was made by *Dr Ernst Wertheim*,[2] who succeeded in obtaining a pure culture on plates. "To prove conclusively," writes Wertheim, "that the colonies growing on the plates were really those of Neisser's gonococci, it was naturally necessary to perform inoculation upon the urethra of man." Wertheim inoculated four paralytic patients with his culture and also a certain S. (an idiot of thirty-three). "Fairly abundant discharge was still noticeable in S. two months after inoculation."[3] Wertheim made no further experiments "owing to lack of suitable material."[4]

Wertheim's methods were verified by other investigators. *Gebhard*[5] was successful in his inocula-

[1] *Op. cit.* p. iv.

[2] Provisional report in the *Deutsche med. Wochenschrift*, 1891, No. 50 ("Reinzüchtung des Gonococcus Neisser mittels des Plattenverfahrens"). Detailed description in *Archiv für Gynaecologie*, Bd. 42 (1892): "Die ascendirende Gonorrhoe beim Weibe."

[3] *Archiv*, pp. 17, 28, 33-34, 37, 39.

[4] I will here draw attention to the fact of Wertheim having injected pure culture of gonococcus into *his own* body—each time with positive results.

[5] "Der Gonococcus-Neisser auf der Platte u. in Reincultur": *Berlin. klin. Woch.*, No. 11, p. 258.

tion of Wertheim's culture upon human beings (no details are given on his work). The experiments of *Karl Menge* also furnished positive results: he inoculated a woman suffering from a vesico-vaginal carcinomatous fistula, with gonococcus; it was he also, who inoculated a woman, suffering from tumour on the brain, with gonorrhœa, two days before her death.[1]

But especially comprehensive were the experiments of *Finger, Ghon and Schlangenhaufen.*[2] They inoculated fourteen patients, all of them hopeless cases, chiefly consumptives, who mostly died from three to eight days after inoculation. "Extremely valuable hystological material was furnished by the patient F. D., 21, who died three days after inoculation. Taking into consideration," remarked the joint authors, "the short duration of the process, which lasted but three days, one is surprised at its intensity, which caused such deep hystological changes."

Gonorrhœa is one of the commonest causes of inflammation of the eyes in newly-born infants. Many investigators studied the relationship of gonococcus to eye-disease in newly-born children. *E. Fraenkel* inoculated the eyes of infants, which could not have lived in any case, with the inflammatory secretions of gonorrhœic patients. One of the infants lived for ten days after inoculation, developing typical purulent inflammation of the eyes.[3]

[1] "Ein Beitrag zur Kultur des Gonococcus": *Centralblatt für Gynaecologie*, 1893, No. 8.

[2] "Zur Biologie des Gonococcus": *Archiv für Dermatologie und Syphilis*, Bd. 28, 1894, pp. 304-306, 317-324.

[3] "Bericht über eine bei Kindern beobachtete Endemie infectiöser Kolpitis": *Virchow's Archiv*, Bd. 99, Heft 2 (1885), pp. 263-264.

Tischendorff inoculated the eyes of atrophic children with gonorrhœic discharge of little girls suffering from that disease: purulent inflammation, with characteristic gonococci, was the result.[1] *Kroner* inoculated six adult blind persons with the muco-purulent discharge of pregnant and parturient women (with negative results).[2]

Such is the *very incomplete* history of gonorrhœa from the standpoint which interests us. I now ought to pass on to the inoculation of soft ulcer (*ulcus molle*), but I need not tarry for the purpose: firstly, because such inoculations are comparatively harmless in their after-effects—the investigator merely inoculates the patient's shoulder, thigh or abdomen with the ulcer and heals it a week or so later; that sort of thing is a "mere nothing" to the patient, for is not the living skin of man "the most natural nutritive *milieu* for the micro-organism of soft ulcer?" to quote Dr Spitschka.[3]

Secondly, the sum total of the above inoculations is so great, that one would have to devote several printed sheets to their description. Suffice it therefore to mention the names of Hunter, Ricord, Nadeau, Rollet, Buzenet, Cuillerier, Lindwurm, de Luca, Mannino, W. Beck, Strauss, Hubbenet, Baerensprung, Ducré, Kraefting, Spitschka, and many, many others.

So we pass on to syphilis. Without going far back into antiquity, I shall give an account of the history of that disease dating from the times of

[1] "Verhandlungen der 57 Versammlung deutscher Naturforscher u. Aerzte in Magdeburg, 1884": *Archiv für Gynaecologie*, Bd. 25 (1885), p. 114.

[2] *Ibid.* p. 113.

[3] "Zur Aetiologie des Schankerbulo": *Archiv für Dermat. und Syphilis* (1894). Bd. 28, p. 32.

the celebrated French syphilidologist, *Philippe Ricord.*

Ricord cleared up many obscure problems of his speciality and entirely reconstructed the science of venerology. But, of course, he did not escape error. One of his most lamentable mistakes was the affirmation that syphilis was not contagious in its secondary stage. This mistake was due to the fact that while Ricord performed endless inoculations upon venereal *patients*, he never ventured to experiment upon the healthy.[1] Let us see how this fallacy was set right.

One of the first to express himself in favour of secondary syphilis being contagious was the Dublin physician *William Wallace*, in his highly instructive "Lectures on Cutaneous and Venereal Disease." These Lectures are remarkable for the classical shamelessness with which their author tells us of his criminal experiments in inoculating healthy people with syphilis.

"The operation of inoculation," says he, "I performed in one of three ways: firstly, by making a puncture with a lancet and applying the matter of either an ulcer or the condylomata to the wound; secondly, by removing the cuticle with the ointment of *cantharides* and applying lint immersed in matter to the denuded surface; or else, thirdly, by removing the cuticle from a small extent of surface with the finger covered by a towel, and by applying the

[1] Rinecker, referring to this fact, very justly remarks: "It is hard to understand why Ricord condemned the inoculation of the healthy so absolutely; taking into consideration the vast number of his experiments, he could not have remained in ignorance of the fact, that the inoculation of the sick is not infrequently dangerous to the latter." The sum-total of Ricord's gonorrhœic inoculations, as well as those of syphilis and soft ulcer, amounted to *seven hundred.*

matter to the surface of the cutis thus exposed. The results were similar."[1]

In his subsequent lectures, he gives a detailed account of his inoculations performed upon five healthy individuals from 19 to 35 years of age. All developed characteristic syphilis.[2]

In his twenty-second lecture Wallace declared that the facts above mentioned were "only a portion, yes, a very small portion of those of a similar kind which I could adduce."[3] In his twenty-third he again lays stress on the circumstance that the experiments described were only a small part of those he had conducted.[4]

"Is it permissible to expect more convincing proofs of the contagiousness of the secondary stage of syphilis?" queries Dr Schnepf,[5] writing on the subject of these experiments. "No further experiments on the healthy are required. Wallace's make them entirely superfluous. The problem is solved, science desires no more victims; all the worse for those who close their eyes to this fact."

But the orgy was only about to commence. . . . In 1851 the "remarkable epoch-making" experiments of *Waller* were published. This is how he described them:—

"First experiment: Durst, a boy of 12, registration number 1396, suffered for a number of years from sores on the head. Otherwise quite healthy,

[1] *W. Wallace*, "Lectures on Cutaneous and Venereal Diseases": *The Lancet* for 1835-36, vol. ii. p. 132.

[2] "Clinical Lectures on Venereal Diseases": *The Lancet*, 1836-1837, vol. ii. pp. 535, 536, 538, 620, 621.

[3] *Ibid.* p. 539.

[4] *Ibid.* p. 615.

[5] "De la contagion des accidents consecutifs de la syphilis": *Annales des maladies de la peau et du syphilis.* Publ. par A. Cazenave. Vol. iv., 1851-52, p. 44.

never had rash or scrofula. As his disease required his detention in hospital for several months, and as he had not suffered from syphilis in the past, I found him to be very suitable for inoculation, which was performed on August 6th. The skin of the right thigh was incised and the pus taken from a syphilitic patient introduced into the fresh and slightly bleeding wounds. I rubbed the matter into the abrasions with a spatula, then I rubbed the scarified surface with lint soaked in the same matter, and after having covered it with the same lint, applied a bandage." About the beginning of October the child developed a typical syphilitic rash.[1]

"Second experiment: Friedrich, 15, registration number 5676, suffered for the last seven years from lupus of the right cheek and the chin. Up to now the patient had not had syphilis and was therefore eligible for inoculation. This was performed on July 27th. I introduced the blood of a syphilitic woman into fresh incisions made on the left thigh and then dressed the wounds with lint soaked in the same blood." About the beginning of October the success of the inoculation was beyond a doubt.[2]

"I showed both patients expressly to the director of the hospital, Riedel," adds Waller, "to the head physicians of the hospital (Boehm and others), to many of the city physicians, to several professors (Jackisch, Kubik, Oppolzer, Dietrich and others), to almost all the hospital physicians of the city and to many foreigners. All unanimously substantiated the accuracy of my diagnosis of the syphilitic rash

[1] *Waller*, "Die Contagiosität der secondären Syphilis": *Vierteljahrschr. für d. prakt. Heilkunde.* Prag. 1851, Bd. I. (xxix.) pp. 124-126.

[2] *Ibid.* pp. 126-128.

and declared themselves ready, if necessary, to step forward as witnesses of the reality of the results of my inoculations."

Is not this a complete and accurate . . . criminal report? All the details of the "case" are communicated, the victims are indicated and the witnesses cited name by name. . . . If the public prosecutor had peeped into this province, he would have found his task wonderfully simplified.

Waller's were the signal for general and universal experiments for the verification of the contagiousness of secondary syphilis.

In March 1852, *Professor Rinecker* inoculated a boy of 12, suffering from incurable St Vitus' dance, with the pus taken from a syphilitic patient. After the lapse of a month the inoculated part developed infiltration and induration. There were no constitutional symptoms in this case.[1]

In 1855, at a convocation of Pfalz doctors, while the contagiousness of secondary syphilis was under discussion (in connection with Waller's experiments), the assembly was acquainted by its secretary with the contents of a communication received from an absent colleague.

"A peculiar coincidence made it possible for the above-mentioned colleague to carry out experiments in connection with the contagiousness of secondary syphilis, without infringing the laws of humanity." These experiments consisted of the following.[2] The discharge of flat moist condylomata and the secre-

[1] "Ueber die Ansteckungsfähigkeit der constitutionellen Syphilis": *Verhandlungen der phys. medic. Geselbschaft in Wurzburg*, Bd. III. (1852), p. 391. In the clinique of the same Prof. Rinecker two physicians, Drs Warneri of Lausanne and W. P., consented to be inoculated and both developed syphilis.

[2] *Ibid.*

tion of the fissures of a female syphilitic patient, were inoculated upon eleven persons—three women of 17, 20 and 25 years of age respectively, and eight men of ages varying from 18 to 28 years. All developed syphilis. The pus of syphilitic ulcers was used for inoculating three women of 24, 26 and 35 years of age respectively. All three developed syphilis. Sores on the feet of six patients were smeared with blood taken from a syphilitic patient; three of the above contracted syphilis. The blood of a syphilitic patient was introduced into the wounds left after wet cupping of three persons. No result.[1]

Thus *twenty-three persons* were inoculated; seventeen of these developed syphilis; and it was found possible to do all this "without infringing the laws of humanity!" Truly, a wonderful coincidence! As we proceed, we shall see that such "coincidences" are not rare in syphilidology. . . . The identity of the author of these experiments never transpired; he found it best to keep his infamous name for ever in the dark, and he is known in science to this day as the "*Anonimus of Pfalz.*"

The same question of the contagiousness of secondary syphilis was the subject of the researches of *Professor H. von Hubbenet.* Among others, he made the following experiments:—

1. "F. Susikoff, medical orderly, 20 years of age, in February 1852, underwent inoculation with mucous papulæ of a syphilitic patient, while in blooming health. I blistered his left thigh, and, after thus removing the cuticle, transferred the matter of the mucous papule, by means of a spatula, to the

[1] "Auszüge aus den Protocollen des Vereins pfalzischer Aerzte vom Jahre 1855": *Aerztliche Intellegenzblatt*, 1856, No. 35, pp. 425, 426.

raw surface, and applied lint dressing impregnated with the same secretion. . . . Roseolæ appeared on his chest and abdomen in five weeks. From that moment the syphilitic affection made rapid progress. I kept the patient in this condition for a week longer, to enable me to demonstrate him before as large a number of physicians as possible, and thus allow them to assure themselves of the actuality of the fact. At last I applied the mercurial treatment, and the patient was cured in three months."

2. "Private Timothy Maximoff, 33, admitted to the surgical clinique on January 13th, 1858, suffering from an inveterate fistula of the urethra. As according to every calculation the patient was to remain in hospital for a considerable period, and there was thus sufficient time at our disposal to await results, this case struck me as being a suitable one for experiment. On March 14th, inoculation with the matter taken from the ulcerated tonsils of Private Nesteroff was performed. . . . By May 22nd characteristic roseolæ. . . . Mercurial treatment started on June 2nd, and in six weeks the patient was cured."[1]

Commenting upon these descriptions, Professor V. A. Manassein expresses himself as follows: "We do not know what to be more amazed at: the cold-blooded way in which the experimenter allows syphilis to develop more acutely for the purposes of clearer illustration and 'so as to show the patient to a larger number of physicians'; or at that logic of the superior, which permits him to subject a subordinate to the dangers of a serious and, not infrequently, fatal disease, without so much as obtaining

[1] *Prof. H. v. Hubbenet*, "Observations and Experiments in Syphilis": *The Meaical-Military Journal*, Part 77 (1860), pp. 423-427.

his consent thereto! I should very much like to know whether Professor Hubbenet would inoculate his own son with syphilis, even were he to acquiesce!"[1]

Professor von Hubbenet concludes his article with the following words: "I consider it necessary to remark that, having carried out a multitude of ineffective experiments on sick persons, I was perfectly convinced that, in the case of the healthy, I would meet with the same lack of success: this conviction alone made it possible for me to proceed with these dangerous experiments." Needless to say that a professor and specialist could not have been ignorant of Waller's successful inoculations. Besides, Prof. Hubbenet performed his first successful inoculation in 1852, while his last dates 1858. Are we to believe that in 1858 the professor proceeded with his inoculations full of the same "conviction"?

The publication of these observations, continues Hubbenet, "will perhaps restrain others, even with such a sceptical nature as my own, from making further experiments, often leading to the complete wrecking of the lives of the persons subjected to them. It would add considerably to my peace of mind in respect to the victims' fate, if these experiments were to spread the conviction that the secondary stage is contagious. If they lead to the establishing of such an important truth, the sufferings of a few individuals were not too high a price to be paid by mankind for the attainment of such a truly beneficial and practical result."

If that is the case, it is hard to understand why Professor Hubbenet did not inoculate *himself* with syphilis? Perhaps, after all, such a price would

[1] "Lectures on General Therapeutics," Part 1. St. P. 1879, p. 66.

have been too high to pay even "in the cause of humanity"?

In 1858 the French Government applied to the Parisian Medical Academy for elucidation on the still contested question of the contagiousness of secondary syphilis. A commission was nominated and *Dr Gibert* was appointed as its referee. Among other things, he stated that with a view to clear this question up, *Dr Auzias-Turenne* had inoculated two adult patients suffering from lupus, and that both developed syphilis.

The referee himself inoculated two patients, also suffering from lupus, and in both cases he obtained syphilis.[1]

Gibert's report gave rise to stormy and lengthy debates in the Academy; Ricord, who had hitherto obstinately denied the contagiousness of secondary syphilis, notwithstanding overwhelming confirmatory evidence, entered the lists with great heat, but was compelled, in the end, to confess his mistake, and went over to the opposite camp.

Thus the most powerful and authoritative opponent of the new view taken by science was vanquished. But, nevertheless, experiments, now absolutely unwarrantable, went on and on. . . . In 1859 *Guyenot* inoculated T. B. B., a boy of ten, suffering from sores of the head, with the secretions of syphilitic plaques, and obtained syphilis.[2]

In the same year *Professor Baerensprung* successfully inoculated Bertha B., a girl of eighteen, with

[1] *Bulletin de l'Academie Imperiale de Medecine*, Tome xxiv. Paris. 1858-1859, pp. 888-890.

[2] "Nouveau fait d'inoculation d'accidents Syphil. Secondaires": *Gaz. hebdomad. de med. et de chirurgie*, 1859, No. 15. Guyenot was terribly punished for his experiment: the Tribunal of Correction of Lyons condemned him to a fine of *one hundred* francs!

syphilitic pus. It was also he who inoculated the prostitute Marie G. with the secretions of hard chancre.[1]

Prof. Lindwurm, in 1860-1861, inoculated five women lying in his hospital, aged 18, 19, 30, 45 and 71 years respectively, with syphilis. We quote the description of the last of these experiments: "Mary E., aged 71 years, suffering for many years from an extensive and deep ulcer in the forehead. Both *sinera frontalia*, thanks to the destruction of the front walls, are open; the bottom of the ulcer is covered deeply with granulations, through which the probe easily reaches the bone, and, in places, traverses the latter. . . . On May 27th, 1861, the blood of a syphilitic patient was injected subcutaneously between the shoulder blades." The patient developed syphilis.[2]

According to *Zeissel*, *Dr Rosnerom*, acting under *Prof. Hebra's* directions, made the following experiments: "(1) The secretion of a flat condyloma, located on the breast of a certain wet-nurse, was inoculated upon a patient of 50, suffering from acute itch."—Syphilis. (2) A wet-nurse, suffering from innocuous syphilis, was inoculated in the forearm with chancrous pus. This woman, impregnated with syphilis, developed characteristic pustules. The pus of the latter was used to inoculate a certain leprous patient, who had not previously suffered from syphilis. . . . This inoculation also was successful."[3]

Dr Puche inoculated a patient lying at the *Hôpital*

[1] "Mitteilungen aus der Klinik für syphil. Kranke." *Annalen des Charite-Krankenhauses*, Bd. IX. Heft 1 (1860), pp. 167, 168.

[2] "Über die Verschiedenheit der syphilischen Krankheiten": *Würzburger medicinische Zeitschrift*, Bd. III. pp. 146-148, 174 (1862).

[3] *Herrmann Zeissel*, "Guide to the Study of General Syphilis." St Petersburg, 1866, page 29.

du Midi, in the ventral regions, with the secretion of an indurated ulcer of a syphilitic patient, but without results. Three weeks later Puche inoculated his victim with the matter of another syphilitic. This time the experiment was crowned with success: the patient contracted syphilis.[1]

To settle the question once and for all whether a person who had once had syphilis could contract it again, *Prof. Vidal de Cassi* made the following experiments. "M., age 37." (Had been cured of syphilis, entered hospital with paralysis of the lower extremities, formerly employed in a tannery and afterwards as a watchman). "The patient began to recover but wished to remain in hospital for a certain time longer, in expectation of a government post. In January 1852 small blisters were applied to each thigh because of the inactivity of the bladder; when the skin was removed, *the wounds were dressed with lint soaked in matter taken from the mucous papules of another patient.* This inoculation was barren of results. Later I proposed that the experiment should be repeated. On April 12th, 1852, when the patient began to complain of difficulty in breathing, blisters were applied to the upper parts of his arms; these were dressed on April 13th with lint saturated in the pus of the mucous papules of another patient. April 15th, the wounds on each arm had become covered with a greyish membrane, suppuration very copious and of disgusting odour; lint saturated with the same pus as previously was freshly applied to the wounds," etc.[2] Vidal was

[1] *Henry Lee*, "Hunterian Lectures on Syphilis": *The Lancet*, 1875, vol. ii. p. 122.

[2] *Prof. A. Vidal*, "On Venereal Disease." Transl. from the French. St Petersburg, 1857, p. 560-561.

very dissatisfied with the squeamishness of those savants who did not venture upon such experiments. "Unfortunately," he remarks, "the cleverest of syphilidologists, who could be of the greatest service to science thanks to their logic and clinical observations, regard experiment as immoral, and neglect it accordingly." [1]

Is syphilis contagious in the tertiary stage? The majority of the experiments conducted tend to negative contagiousness. *Didet* inoculated healthy persons with the blood of syphilitic patients in the third stage without result.[2] *Finger* performed more than thirty inoculations with the secretions of gummata and periostitæ upon ten healthy, *i.e.* non-syphilitic subjects.[3]

A long series of experiments were conducted by different scientists for the purpose of discovering whether the normal and pathological, but non-specific, secretions of the syphilitic patient in the second stage were contagious. Thus *Bassé* inoculated the skin of a healthy person with gonorrhœic pus taken from a syphilitic patient, with negative result.[4] *Prof. V. M. Tarnovsky* was more fortunate. "In the winter of 1863," he tells us, "in the Kalinkin Hospital, after eighteen (!) attempts, I was enabled to inoculate a woman, suffering from warty growths, who had had syphilis, with the mucous-purulent secretion of another

[1] *Prof. A. Vidal*, "On Venereal Disease." Transl. from the French. St Petersburg, 1857, p. 31.

[2] *Gaz. Med. de Paris*, 1846. Cited from *Lancereaux*: "The Study of Syphilis," p. 607.

[3] *E. Finger*, "Die Syphilis und die venerische Krankheiten." Wien, 1886, p. 7.

[4] *Rollet's* speech at the Congress held at Lyons in 1864. *Gaz. hebd.*, 1864, p. 706.

patient" (a syphilitic woman). Typical syphilis developed.[1]

It was in the same Kalinkin Hospital that Professor Tarnovsky conducted a series of experiments for the purpose of verifying *Cuillerier's* assertion that soft ulcer cannot be transmitted through unruptured mucous membrane. . . . "More than this," writes the professor, "in 1868-1869 I decided to experiment in the same manner with the discharge of hard chancre and that of the subsequent stages of syphilis. In the case of two female patients who had never had syphilis and absolutely lacked the slightest abrasions in their valvulæ . . . the secretion of indurated chancre and mucous papules was introduced into the vagina of each." Syphilis did not supervene.[2] By the way, the same Prof. Tarnovsky, testing Langleber's preservative fluid, made the two following experiments: the "secretion of indurated chancre in the one case, and that of moist mucous papules in the other, was transferred upon the inner surface of the upper arm of a healthy patient, where the cuticle had been previously erased with a lancet. The infectious matter was left in contact with the raw surface from five to ten minutes, after which the latter was rubbed with the preservative fluid. In neither case did syphilitic symptoms supervene."[3]

In the spring of 1897, Prof. Tarnovsky was superannuated and quitted his chair at the Military Medical Academy. His valedictory lecture was

[1] *V. M. Tarnovsky*, "Course of Venereal Diseases." St Petersburg, 1870, p. 67

[2] *Ibid.* p. 64.

[3] *E. Lancereaux*, "The Study of Syphilis." Translated into the Russian under the editorship of *Prof. V. M. Tarnovsky*. St Petersburg, 1876, p. 669. See Editor's note.

devoted to . . . medical ethics. The professor must have given expression to high-minded and noble sentiments, for the students accorded him a loud ovation.

Can syphilis be transferred through the agency of the secretions of the soft ulcer of a syphilitic patient? *A. G. Gay*, lecturer (now professor) of the Kazan University, essayed to clear this question up by experiment. "The experiment was performed upon a woman suffering from Norwegian leprosy who had never had syphilis and who gave her consent for the experiment" (*sic!*). The result was negative.[1]

The results of four inoculations by *Rieger*, conducted by him in Rinecker's clinique, were also negative in their result. *Biedenkapp's*[2] experiments were more successful. . . . Ah, no! I crave his pardon; one of those magic "coincidences"—quite improbable in everyday life, but which, as we know, occasionally crop up in syphilidology—came to his aid.

"First case: A young girl, admitted October 9th, 1862, suffering from blenorrhœa of the vagina and the urethra, inoculated herself, by means of a needle, with chancrous virus taken from the artificial ulcers of a female patient who was under treatment for syphilidisation. . . . Two ulcers formed, which were not accompanied by constitutional syphilis."

"Second case: A young girl suffering from eczema of the forearms, but who had never had any venereal affection, inoculated herself *out of mischief, similarly to the preceding patient*, with 18 (eighteen!) chancres;

[1] *Diary of the Physicians' Society of Kazan*," 1881, p. 12.

[2] See Bumler's "Syphilis" in the "Guide to Special Pathology and Terapathy," by Ziemssen. Rus. translation. Vol. III. Part i. p. 84. Kharkoff, 1886.

to these were added 12 more, inoculated as a test, with pus from the original pustules, as the cause of their origin was not at first known." The patient developed syphilis.[1]

For the sake of ascertaining whether the milk of women suffering from syphilis was infectious, *Pardowa* inoculated four healthy wet-nurses with the milk taken from a syphilitic patient; in each case the result was negative.[2]

The same question was the subject of *Dr R. Voss'* research. In the Kalinkin Hospital he inoculated three prostitutes, "*having obtained their consent*," with the milk of a syphilitic patient.

First experiment: P. A., age *thirteen*, a peasant from the Province of Novgorod; had had syphilis, but was cured. On September 25th, 1875, the milk of a syphilitic patient was injected into her back. The only result was an abscess the size of a "small fist."

Second experiment: Natalie K., age fifteen, had taken up prostitution but recently. Admitted with urethritis and vaginitis. Milk of a syphilitic patient injected. No result.

Third experiment: Lubov U., age sixteen, a prostitute; admitted into hospital suffering from urethritis; never had syphilis. September 27th, a full Pravaz syringe of milk from a syphilitic patient injected beneath the left shoulder blade. *The girl developed syphilis.*[3]

[1] See Bumler's "Syphilis" in the "Guide to Special Pathology and Terapathy," by Ziemssen. Rus. translation. Vol. III. Part i. p. 84. Kharkoff, 1886.

[2] *Lancereaux*, p. 614.

[3] "Ist die Syphilis durch Milch ubertragbar?" *St Petersburger med. Wochenschrift*, 1876, No. 23. In the original all three girls were named in full.

Dr Voss, as also Prof. Gay, assures us that his victims gave their consent to these experiments. Is this mockery? The eldest of the girls was but sixteen years of age! Even if their consent had really been obtained, did these children know what they were agreeing to, could any importance have been attached to their acquiescence?

This will suffice. I have mentioned far from all the facts at my disposal, dealing with the inoculation of syphilis upon man. But even those I have adduced seem to me to prove convincingly enough that these experiments are by no means exceptional or chance occurrences: they are conducted systematically, they are described with the greatest *sang froid*, without fear of being condemned by public opinion, as if it were but a matter concerning dogs and rabbits. In conclusion, I will only quote a few more experiments from other spheres of medicine. Although the latter are comparatively rarer (thanks to the possibility of experimenting upon animals), nevertheless their absolute number is more than sufficient.

While investigating the channels of human infection with worms, *Professor Grassi* and *Calandruccio* administered a pill, containing the germs of ascaris, to a boy of seven, who had not hitherto suffered from worms: in the course of three months the child evacuated 143 ascaris of lengths varying from 18 to 23 centimetres each.[1]

At the medical congress held in Halle, *Professor Epstein* communicated the results of his experiments in the same direction: the germs of ascaris were administered to three children in their food,

[1] *Prof. B. Grassi*, "Trichocephalus u. Ascarisentwicklung": *Centralbl. für Bacteriol. u. Paras.*, 1887, Bd. I. p. 131.

and in three months their excrements contained the ova of this parasite.[1]

Studying diabetes and anxious to know more of the changes made by the disease in the liver, Professors *Frerichs* and *Erlach* punctured the latter with a trocar, in the cases of various patients. "On removal of the stiletto, the tube of the trocar was generally found to contain a few drops of blood with liver cells and occasionally a more or less large sausage-shaped piece of the liver itself."[2]

Dr Fehleisen, who discovered the micro-organism of erysipelas, inoculated an old woman of 58, suffering from multitudinous fibro-sarcoma of the skin, with a culture of his streptococci, with positive results. "On the sixth day after inoculation a threatening collapse of the patient's strength set in, which necessitated the employment of stimulants."[3]

After this Fehleisen inoculated six more patients who suffered from lupus and various tumours, with erysipelas.[4]

In March 1887, a woman, suffering from cancer of the mammary gland, applied to the surgeon

[1] *The Physician.* St Petersburg, 1891, p. 972.

[2] *Prof. Th. v. Frerichs*, "Über den Diabetes." Berlin, 1884, p. 272.

[3] *Dr Fehleisen*, "Die Aetiologie des Erysipels." Berlin, 1883, pp. 21-23.

[4] *Op. cit.* p. 29. Essaying to vindicate his experiments, Dr Fehleisen makes mention of the alleged beneficial action of erysipelas in cases of malignant tumours and lupus, as observed by certain savants. He mentions his experiments on a man of twenty, who suffered from lupus for the last twelve years and had erysipelas many times. What were Fehleisen's grounds for expecting that erysipelas, inoculated by him, should heal a patient that had many times been attacked by that disease without deriving any benefit from it? "Desirous of discovering whether an individual, after having had the disease, retains immunity for a certain length of time," Fehleisen inoculated a little girl of eight for the second time with erysipelas.

Eugen Hahn, of Berlin. The performance of an operation was impossible. "Not wishing to divulge before the patient the hopelessness of her condition by declining to operate upon her, and so as to relieve and reassure her by the psychical illusion of having performed the operation," Dr Hahn removed a portion of the tumour of the patient's diseased breast and . . . transplanted it into the other healthy one; the inoculation was successful.[1]

Thus the very important fact that it was possible to inoculate cancer was definitely proved.

Subsequently *Professor Bergmann* successfully repeated Dr Hahn's experiment, and an anonymous surgeon did likewise, sending his communication on the subject to the Parisian professor Cornil.

Dr N. A. Finn studied the question of the infectiousness of typhoid fever in one of the military hospitals of the Caucasus. Following his instructions, assistant house-physician *Artemovitch* injected the blood of typhoid patients subcutaneously into the systems of seventeen healthy soldiers. Not one of those inoculated contracted the disease; "only ten of them developed ordinary abscesses at the places of puncture." In addition, twenty-eight young and healthy soldiers were placed by Dr Finn in the same ward with typhoid patients. They lay in hospital in the vicinity of the sick, "for four or five days, the beds being moved close together, and sometimes they were covered with the blankets of the typhoid patients."[2]

During December 1887, *Dr Stickler* read a paper

[1] *E. Hahn*, "Ueber Transplantation der carcin. Haut." *Berlin. klin. Woch.* 1888, No. 21.

[2] The minutes of the meetings of the *Imperial Caucasian Medical Society* for 1878-1879, No. 8, p. 107. Drs Finn and Artemovitch also injected the blood of typhoid patients *into their own systems.*

before the Academy of Medicine of New York on preventive inoculation against scarlet fever. He had observed that persons who had contracted hoof and other kindred diseases from the lower animals, became immune to scarlet fever. To verify his observations, Stickler inoculated children with the blood of sick horses and cows. After this he placed the children on bedding which had been in the use of scarlet fever patients and made them inhale the air exhaled by the latter; these children numbered twenty. Stickler also injected the blood of scarlet fever patients into the systems of the twenty children. Of their number several did not take the fever at all, the rest developed it in very mild form; there were no serious cases.[1]

Professor Robert Bartholow of Ohio, U.S.A., attended a female patient, the posterior part of whose cerebrum had become exposed, owing to cancer of the cranial integuments. The professor took advantage of this rare case for the purpose of conducting a series of experiments of electric irritation of his patient's brain. Galvanic irritation of the *dura mater* proved to be painless, while faradic current caused muscular contraction throughout the opposite side of the body. After this he "passed an isolated needle into the left posterior lobe; the other isolated needle was placed in contact with the *dura mater*. When the circuit was closed, muscular contractions of the right upper and lower extremities ensued; faint but visible contractions of the left orbicularis palpebrarum and dilation of the pupils also ensued. Notwithstanding

[1] Summary of Stickler's paper, as it appeared in one of the American medical journals. The *Centralblatt für Bacteriologie u. Parasitenkunde*, Bd. IV., 1888, p. 369, remarks: "The results obtained are, in any case, sufficiently important to encourage further research in the same direction."

the very evident pain from which she suffered, she smiled as if amused."

The same experiment was repeated upon the right cerebral hemisphere. "When the needle entered the brain substance she complained of acute pain in the neck. In order to develop more decided reactions, the strength of the current was increased. When communication was made with the needles, her countenance exhibited great distress, and she began to cry. Her eyes became fixed, with pupils widely dilated, lips blue, and she frothed at the mouth. She lost consciousness and was violently convulsed on the left side. The convulsion lasted five minutes, and was succeeded by coma. She returned to consciousness in twenty minutes from the beginning of the attack." After the lapse of a certain time the experiment was repeated once more with a weaker current, and three days later her condition was decidedly worse. In the evening she "had a convulsive seizure, lasting about five minutes. After this attack she relapsed into profound unconsciousness and was found to be completely paralysed on the right side."

The unfortunate woman died soon afterwards. According to Professor Bartholow's opinion her death was caused by the original disease.[1]

[1] See *British Medical Journal*, 1874, vol. i. p. 687. In reviewing the above communication which appeared in an American contemporary, the *B. M. J.* censured the author for his experiments. Bartholow wrote a letter to the editor, in which he sought to vindicate his action by remarking that his patient was bound to die very soon and that she had agreed to the experiments, which, according to his opinion, presented no danger. "Notwithstanding my sanguine expectation that small isolated needle electrodes could be introduced without injury into the cerebral substance," wrote the professor, "I now know that I was mistaken. To repeat such experiments with the knowledge we now have that injury will be done by them, would be in the highest degree

"So this is how the doctors treat those patients who place their health in the hands of the faculty!" some readers will exclaim, on finishing this chapter. Such a deduction were entirely mistaken. The existence of a few hundred doctors, to whom the sick are merely so many objects for experiment, does not justify the branding of the entire profession. As a parallel, I might bring forward a no less array of facts, which would show that, in the past, doctors have conducted—and continue to do so now—no less dangerous experiments *upon their own persons.* Thus, Pettenkoffer's and Emerich's experiments are still fresh in the memory of all: both swallowed pure cultures of cholera bacilli, after having had the acids of the stomach neutralised with soda. This was repeated by Professor Metschnikoff, Drs Hasterlick and Latapie. Drs Borgioni,[1] Warneri,[2] and Lindemann,[3] and many others, inoculated them-

criminal. I can only now express my regret that facts which I hoped would further, in some slight degree, the progress of knowledge, were obtained at the expense of some injury to the patient." According to the journal's opinion, this letter was "one which is likely to disarm further criticism," and the editor found it both sincere and worthy of the author's profession, and even . . . humane (p. 728). All this was said without a trace of irony. On the whole, however, Bartholow's experiments aroused the indignation of the entire medical press.

[1] On Feb. 6th, 1862, *Prof. Pellizzari* inoculated *Drs Borgioni, Rosi* and *Passigli* with the blood of a syphilitic patient after they had "courageously given themselves up to be experimented upon, notwithstanding the professor's remonstrances." The inoculation of *Dr Borgioni* was successful: two months after it had been performed he began to suffer from nocturnal headaches, general rash appeared, as well as swelling of the glands; ten days later the primary ulcers on the hands began to heal, and it was only then that Dr Borgioni submitted to mercurial treatment (*Gaz. hebdom.* 1862, No. 22, pp. 349-350).

[2] *Verhandlungen der phys. med. Gesellschaft in Wurzburg*, Bd. iii. (1852), p. 391. Article by Prof. Rinecker.

[3] Being interested in the different questions of syphilidology, Dr Lindemann made the following experiment upon his own person. In

selves with syphilis; young and healthy, in the name of Science they faced experiments which crippled and ruined their entire lives. To conclude that the entire medical body is made up of heroes, because a few devoted men martyred themselves in the name of Science, were as erroneous as to write all doctors down brutes, callous of their patients' interest, in consequence of the comparative few having conducted criminal experiments as described. But the latter establish one thing beyond all vestige of a doubt—and that is the shameful indifference with which the medical world contemplates such atrocities. For this martyrology of the unhappy patients offered up as victims to science was not compiled by any underhand means—the culprits publicly blazoned their own infamy in black and white. One would suppose that the mere fact of publication of such experiments would make their repetition utterly impossible, the first to attempt anything of the kind being cast for ever from the

the course of two months he inoculated himself upon the hands with soft ulcer, at intervals of five days; three months later he inoculated himself with the secretions of a syphilitic patient and developed the disease. Seventeen days after the appearance of the papular eruption, Lindemann again began to inoculate himself with chancres of varying malignity. The commission appointed by the Medical Academy of Paris to examine Dr Lindemann, reported upon his condition through the medium of its referee, Dr Beguin, in the following terms: "Both arms (from shoulder to palm) are covered with sores; many of the ulcers are confluent, they are surrounded by acute and painful inflammation; suppuration is very abundant: the bottom of most of the ulcers is of a greyish hue; to sum up, all these injuries—to use a surgical term—have a very bad aspect. The whole body is covered with an abundant eruption of syphilitic papules. Dr Lindemann is full of courage and confidence and expressed his intention of at least applying himself to the regular treatment of his disease, which has become inveterate and serious." (*Bulletin de l'Academie Nationale de medécine*, Tome xvii. Paris, 1851-1852, pp. 879-885.)

medical corporation! But, unfortunately, this is not so. With heads proudly erect, these bizarre disciples of science proceed upon their way without encountering any effective opposition, either from their colleagues or the medical press. Of all the organs of the latter, I know of only one which stoutly and energetically protests against every experiment on the living human creature—and that is the Russian journal *Physician*, which was edited until recently by Prof. Manassein, lately deceased. Upon the pages of that journal, notices such as the following are always in evidence: "Once more impermissible experiments!" "We are utterly at a loss to understand how doctors can permit themselves to perform such experiments!" "Must we really wait until the public prosecutor takes upon himself the task of indicating the line where legitimate experiment stops and the criminal commences?" "Is it not time for doctors to unite and rise up in revolt against such experiments, no matter how instructive the latter may be?"

Emphatically, yes!

It is time, high time! But the moment has also arrived for society to take its own measures of self-protection against those zealots of science who have ceased to distinguish between their brothers and guinea-pigs, without waiting for the faculty to emerge from its lethargy.

CHAPTER IX

ON the eve of completing my studies at the University I gloried in medicine and my faith in it was unbounded. Its scientific acquisitions were immense; a great deal of the human organism had been placed within our reach and was perfectly understood; in time no mysteries would remain for us, and the way to the attainment of our goal was sure. It was with such a perfectly definite conception of medicine, that I began practice. But here, at the outset, I stumbled up against living man, and all my preconceived views underwent a rude shock. "We do not yet know the functions of this organ . . . the action of such-and-such a remedy is not understood by us yet . . . the causes of such-and-such a disease are unknown"—I read. What did Science's great conquests avail, if we were surrounded by such immeasurable horizons, where all was still obscure and unexplained? What do I understand of the patient's condition if I do not understand all, and how am I to approach him? The works of a timepiece are incomparably more simple than the human organism, yet can I undertake to repair a watch unless I am familiar with its every part, down to the most insignificant cog-wheel?

As on my first introduction to medicine, I was once more struck by its endless imperfection of diagnosis and the unreliability and precariousness of all its indications. Only with this difference: formerly I was filled with a deep contempt for

"those" who had created such a poor science; while now its imperfections stood out before me as natural and inevitable, which was all the more sad, because they affected human existence.

Confronted by the mysterious, inaccessible living organism of which I understood so little, how could I determine what living forces governed it, what were the infinitely refined processes which were ceaselessly in operation within it? What was the essence of the action of those medicines which we employed, wherein lay the secret of the germination and development of disease? In the human organism Koch's bacilli call forth consumption; Loeffler's—which are so similar in outward appearance—cause diphtheria. What was the explanation? I inject a solution of apomorphin beneath the patient's skin: it circulates through his or her body indifferently, but on coming into contact with an emetic centre, causes sickness; I am not even vouchsafed a hint as to the chemical affinities of the nerve-cells of these centres and apomorphin, which on coming into contact with each other, call forth vomiting. A young girl, suffering from migraine, applies to me. What is migraine? When the fit is upon her, the patient's forehead becomes cold, the pupils dilate; the girl is anæmic; all this tends to show that her migraine results from the irritation of the sympathetic nerve, in consequence of general poverty in blood. An excellent explanation, forsooth! For why, and in what way, does anæmia call forth irritation of the sympathetic nerve in this case? Wherein lie, and what do the curative forces of the organism, which battle with the disorder, consist in—those forces which I seek to strengthen? What is the effect of that phenacetin and caffein which I pre-

scribe upon the spasm of the sympathetic nerve, or of the iron in cases of anæmia? Thus it comes to pass that the patient applies to me for relief, which I undertake to give her—and which, perhaps, I may be successful in affording—and at the same time I understand *nothing* of her complaint and of the way in which my physic will do her good.

I lack so much as a distant idea of the typical processes, common to all human organisms; and at the same time each and every patient rises up before me in all the wealth and variety of his individual peculiarities and deflections from the normal average. What can I know of these? Two apparently perfectly healthy people may get wet feet: the one catches a cold in the head, the other develops acute rheumatism of the joints; why? . . . The highest dose of morphia is three centigrammes: an adult and far from weak female patient received an injection of five *milli*grammes of the hypnotic and died; for the explanation of such facts a special word exists in medicine—"idiosyncrasy," but that word gives me no clue to the detection of such cases beforehand. . . . The maximal quantity of chloral that may be taken during the twenty-four hours, is five grammes: recently a Dr Davis communicated that a patient, suffering from toothache, took sixty grammes of chloral in the course of three days, without any injury to health; in other words, he absorbed twenty grammes in the twenty-four hours; and I have no reason for doubting the truth of the statement. If the author had written 160 instead of 60—I also could not give him the lie direct—so limited is our knowledge of man in his peculiarities.

What means am I provided with by science for penetrating the veil which envelops the living

organism, for the discovery of its ills? Of course something is vouchsafed me. For instance, a patient may be feverish, complain of pains in the joint, his spleen and liver are enlarged. I take a drop of his blood and examine it beneath the microscope: in the midst of the blood corpuscles fine spiral creatures rapidly wriggle about; these are the spirals of recurrent typhoid fever, and I diagnose accordingly with absolute assurance. If science gave me equally reliable means for the distinguishing of all illnesses and of all the peculiarities of each individual system I would feel that I had something at least to go upon. But in the overwhelming majority of cases there is nothing of the kind present. I must draw my inferences from the most trivial data, although my patient's life and health may depend upon my diagnosis. . . .

I was one day called in to attend an old maid of about fifty, the owner of a small house in an unfashionable suburb of St Petersburg. She lived in three small, low-ceilinged rooms hung with holy pictures and lamps, with an old friend of her childhood, crabbed, yellow and bony as herself, as sole companion. The patient, who was of very nervous and hysterical aspect, complained of palpitations and pains in the chest; every day, at about five o'clock, she experienced great shortness of breath and what seemed to be difficulty in swallowing.

"Don't you feel as if you had a ball in your throat when you swallow?" I asked, having in my mind that well-known symptom of hysteria—*globus hystericus*.

"Yes, yes, that's just how I feel!" exclaimed my patient.

The most careful examination of both heart and

lungs showed them to be sound; it was plain that this was a case of hysteria. I prescribed accordingly.

"But, doctor, do you think that I may die suddenly?" she asked.

She then told me that she intended leaving the house to her friend, as otherwise that small property would pass into the hands of the only legal heir, her brother, a rascal and a scamp who had fraternally borrowed all her money without security, in all about six hundred pounds, and now declined to return it.

"What a strange question to ask! Who is to prevent you from making your will?" I remarked. "There is no immediate danger, but one never knows what may not happen! You may as easily get run over by a tram-car in the street. Of course it's always best to make one's will in good time."

"You are right, quite right!" she murmured thoughtfully. "As soon as I am better I'll go to the *notaire*."

This was at three o'clock. And at five, two hours later, her companion rushed into my room sobbing, and told me that her friend was dead: while in the act of rising from dinner, she suddenly staggered, went white, the blood gushed from her mouth and she fell down a corpse.

"Oh why, why didn't you tell us, doctor?" the poor woman kept on repeating, weeping, gasping and striking her side frenziedly with her clenched fist. "I shall have to go begging now, the wretch will turn me into the street!"

Now that it was too late, I understood; the difficulty in swallowing towards evening (after dinner), which I explained as *globus hystericus*, was caused by the swelling of an aneurism, in consequence of in-

creased pressure of the blood after partaking of food. . . . But what good could such a late diagnosis do?

In such cases I used to give way to rage and despair: what value could a science, that left me so blind and helpless, have? Why, I felt like a criminal and dared not face this unfortunate woman I had made a pauper—and at the same time, who could lay the blame at my door?

And this feeling recurred the oftener as time went. Even when my diagnosis appeared to me to be clearly indicated, as in the case just described, actuality constantly showed me to be in the wrong; and oftener still, I stood before the patient completely nonplussed from the outset: how was I to draw any conclusion from the misty and obscure indications with which his case furnished me? And for whole nights I would pace up and down my room pondering upon the data, piecing them together, and never arriving at any definite conclusion. When ultimately I did diagnose, I could never shake off the haunting thought: "What if my guess be wrong? How am I to verify its correctness?" And to think that I had to live my life through, beneath the uplifting weight of such constant uncertainty!

But assuming that I had diagnosed the disease aright, I now had to treat it. What guarantee does science give me that the remedies it recommends are really efficacious and to the point? The action of most of them is in the highest degree obscure to us, and the indications to their application are most empirically set down through clinical observation. We already know, however, how unstable and deceiving clinical observation is. A given remedy acts excellently according to the unanimous testimony of

the profession, and in a year or two it is thrown overboard as useless or even injurious. Koch's tuberculine lorded it for two years—they saw with their own eyes what a "brilliant" effect it had in combating tuberculosis!

In that infinitely complicated and obscure process of which the life of the diseased organism consists, thousands of factors are active—the incalculable malignant effects of the disease in question, the patient's surroundings, all the innumerable forms taken by the curative and resisting forces inherent in the human body—and to all these is added a thousand-and-first influence in the shape of the remedy prescribed by the physician. How to determine what its concise action may be? The ancient Grecian physician Chrysippus forbade food to the fever-stricken, Diocippus allowed them no drink, Sylvius made them sweat, Broussais bled them until they fainted, Currie placed them in cold baths—and each considered his method to be the most efficacious. The physicians of the Middle Ages considered that the employment of salves made from human dung was a very good remedy for cancer. During the eighteenth century the lancing of the gums used to be repeated dozens of times upon infants to ease their teething, it was even practised upon mites ten days old; as late as 1842, Underwood recommended the slitting of the gums right round, and insisted on the incision being deep, to the very teeth, alleging that "no injury to the latter need be feared." . . . All this was very beneficial, according to the doctor's opinion! . . .

I entered practice with a definite store of therapeutic knowledge, with which my university had furnished me. What employment was I to give it?

Clearly I ought to apply it practically with cool confidence. But no sooner did I try to do so, than disenchantment set in. Decoction of senega is recommended for provoking cough, when it is necessary to free the lungs from the loose phlegm filling them. When I prescribed the leaf I used to try to detect its action, but not in a solitary instance did I feel justified in declaring that the physic had conduced to the increase of the patient's expectoration by a single drop. . . . Perhaps iron would be prescribed in cases of anæmia, but even when the patient got better, I could never be sure that the improvement in his or her condition was in the slightest measure due to the tonic administered.

In fact, I was expected to believe, on hearsay, that those, and many other remedies, acted exactly in the way described—such was the logical conclusion to be drawn. But science itself precluded such faith by unceasingly undermining it. Examples are not far to seek. One of the drugs most frequently given to phthisical patients, is creosote and its derivatives. At the same time voices, growing ever more and more persistent, declare that creosote is not of the slightest use, that it is merely a kind of hall-mark for the consumptive. The fundamental rule of diet in typhoid requires that the patient be fed exclusively on liquid food; but now the tide has turned, and a current of opinion, ever-increasing in volume, declares that by so doing we purposelessly starve the sufferer. Arsenic is held to be an invaluable remedy for many skin diseases, anæmia, malaria; suddenly a medical journal of reputation publishes the following remarks: "What is most remarkable in the history of arsenic, is the fact that it never lost its popularity amongst doctors,

murderers and horse-dealers. . . . Doctors ought at last to understand, that arsenic gives then too little to warrant such eternal veneration. The survival of the arsenic myth is the shame of our therapeutics."

In the beginning, such unlooked for criticisms simply bewildered me. What *was* I to believe? And the conviction grew upon me, that I ought to believe nothing, ought to accept nothing unchallenged, ought to suspect all, discard all, and only take back what my personal experience had shown me to be efficacious. But in that case, where did the medical experience of centuries come in, what value could it have?

A certain young doctor asked the great Sydenham, the "English Hippocrates," what books it was necessary to read to become a good physician.

"Read Don Quixote, my friend," answered Sydenham. "It is a very good book and I often reperuse it."

But this is awful! This means that there can be no tradition, no pre-emption of observation; "Learn to study life without any prejudice, and each of you learn from the beginning!"

Since Sydenham gave utterance to his pithy remark, more than two centuries have passed. Medicine has made gigantic strides, it has become in many respects a science; but tremendous vistas still exist, in which Cervantes, Shakespeare and Tolstoi, who have no relationship whatever to medicine, remain the best teachers.

But once forced to distrust the experience of others, dared I believe my own? Supposing that I had, through personal experiment, become convinced of the efficacy of a given remedy; how was I to say how it acted, and why it acted thus? So

long as its action was not fully explained to my mind, there was nothing to guarantee that my subjective impression was not an optical delusion. All my previous scientific training protested against such a crude and empirical mode of procedure, against such groping about with shut eyes. But the oppressiveness of this state of affairs made itself felt, by contrast, most acutely of all when I left the unstable and oozy ground of empiricism and emerged once more upon the firm road of science. In abdominal surgery there is always danger of septic infection of the peritoneum ; but I know what to do to avert it : if I employ instruments that have been boiled, if I carefully disinfect my hands previous to operating, infection *cannot* take place. The proper concave glasses *must* help the short-sighted individual. A dislocated elbow, if there be no complications, *must* return to its socket, if the proper manipulations be resorted to. In all such cases, pre-emption is indispensable to the practitioner ; one has to read and know something besides *Don Quixote.* Of course, both error and progress are possible in this sphere as well as elsewhere ; but mistakes will result either from my insufficient training or inexperience—progress will be made by improving the older methods, not by repudiating them. The future of our science is brilliant and indubitable. Its attainments, up to the present time, serve to demonstrate what it will arrive at in times to come : complete understanding of the normal and diseased organism, of the individual peculiarities of each separate unit, a complete grasp of the action of every remedy employed—these achievements will go to build up its foundations.

" When physiology," says Claude Bernard, " will

have given all that we have a right to expect of it, it will have become transformed into medicine, which will then be a theoretical science; and from this theory will be deduced, as in other sciences, the necessary adaptations, *i.e.* applied practical medicine."

But, alas, how immeasurably far removed are we still from such an age! And this reflection led to the ever more frequent recurrence of the question: Until we arrive so far, what sense can there be in the practice of medicine at all? Wherein lies the *raison d'être* of this game at blind-man's-buff? Why should society be deceived by a make-believe "medical science"? Let homœopathists and their kind devote themselves to that sort of thing—they who would compress the endless varieties of the life-processes into one or two dogmatic formulæ! Our task can only be one—to work for the future, to try to know and conquer life in all its complexity and breadth. In regard to the present, we can but repeat the words of Averroes, an Arab writer of the Middle Ages: "An honest man may derive pleasure from the theory of the physician's art, but his conscience will never allow him to pass on to medical practice, however vast be his knowledge."

I sought solace from this thought each time that I felt the impenetrable darkness in which I was forced to work, owing to the imperfection of my science, oppressing me too heavily. I perfectly well understood that the idea was preposterous: the unsystematic and doubting medicine of to-day no doubt leaves much to be desired, but still it is of incalculably greater practical utility than all the systems ever evolved by the human brain alone, or crude empirical generalisations. Also, it is *conscience*

which prevents the physician from compelling the sick to seek the aid of quacks and falling into the grasp of the homœopathists, various pastors Kneip and other charlatans. I must confess here, that I was ever becoming more and more convinced, in my inner consciousness, of my utter personal disqualification for the profession of a doctor, and that, in betrothing myself to medicine, I had lacked the most distant conception of that standard to which every physician must come up. And it was with the above sophisms as to the unfitness of the science of the day that I sought to stifle this terrible thought.

Thanks to the shortcomings of theoretical medicine, as it stands at the present day, practical medicine can only be an art, not a science. To fully understand the significance of the above, it is necessary to experience in person all that this involves. Had I not examined the patient, who died of aneurism, most conscientiously, applying all that science demanded from me, to fall into gross error nevertheless? Had a born physician been in my place, he would have diagnosed rightly: his peculiar creative faculty would have seized upon a mass of impalpable symptoms which had escaped me; through sub-conscious inspiration he would have thus filled the void left by the absence of clearer indications, guessing what I was incapable of divining. Only a man thus gifted can answer to the requirements of the ideal doctor, for talent is as necessary here as it is to produce the true poet, artist or musician.

Whereas I had imagined, when entering myself at the Faculty of Medicine, that it was possible to *learn* that art. . . . I fondly believed that a certain

level of knowledge and a certain degree of mental development were all that I required; that these qualifications would enable me to master medicine in the same way as any applied science, such, for example, as chemical analysis.

When medicine will have become a science in the completest sense of the word, single, universal and infallible, its acquisition by the average man will be possible. But at present it is as far beyond our powers to learn medicine, *i.e.* the healing art, as to become poets or actors at will. There are shoals of excellent theorists, genuinely "scientific" medical men, who are not worth a brass farthing in actual practice.

But why should I have been entirely ignorant of all this, when embarking on my studies? Why was I possessed of such a cloudy and perverted conception in general of what awaited me? . . . How very simply everything came to pass! We handed in our papers and certificates, were entered as students of the Medical Faculty, and the professors commenced their lectures forthwith. And not one of our preceptors opened our eyes for us as to the future, no one explained what awaited us in our life's work.

While we ourselves imagined everything to be so simple and so obvious! You examined the patient and said: he (or she) suffers from such-and-such a disease; he (or she) must take this or that, and such-and-such treatment must be applied! The scales had now fallen from my eyes, but the knowledge of my mistake was bought at the price of seven of the best years of my life.

I was utterly dispirited. Half-heartedly, I still continued in my duties, laughing bitterly in my soul at the patients who were simple enough to apply to

me for aid: they also thought, as I had done before them, that he who had completed a course of study at the Medical Faculty was a doctor. They knew not that there were as few physicians in the world as there were poets, that the ordinary human doctor was an absurdity, while science remained in its present state. And why should I continue in bondage to this folly? I ought to go! Anything rather than remain in the false and criminal rôle of an impostor!

For two years this state of affairs dragged on. Then little by little came humility.

It was true that science gave me less than I had anticipated, and that I was no genius. But would I be in the right if I renounced my diploma? If, at a given moment, art were to lack a Tolstoi or a Beethoven, we could dispense with them; but the suffering cannot wait; tens of thousands of Beethovens and Tolstois would be necessary for the satisfying of all their wants. And of course they would never be forthcoming.

Things being so, were we average doctors so utterly useless? For after all, if we regard the matter in the abstract, science has added much to its possessions at the expense of art, and year by year its conquests extend. And in the province of science, at least, we are masters. Even in the rest of medicine we can be useful and accomplish much—on condition of rigid adherence to the old maxim, "*primum non nocere.*" This must be our first consideration. And in the next place we must once and for all discard the notion that our work consists in careless and unquestioning obedience to the mandates of science. We must fully realise how complex and responsible the work before us is,

must study each patient with an unrelaxed consciousness of the novelty of his disease, work unceasingly at self-improvement, never resting or pausing in our quest for the truth.

All this is terribly hard and many may faint beneath the burden; but as long as I find strength to bear it honestly, I have the right to remain at my post.

CHAPTER X

In those days of doubt and disillusion, I found special solace in scientific work. Here, in pure science, one had no need to grope about in obscurity ; it was possible to institute complete control over one's every step, to verify each result obtained ; here reigned supreme those severe scientific methods which medical practice set so contemptuously at nought. "Better to add one tiny brick to the edifice of the great medical science of the future," thought I, "than to carry water in a sieve by striving to accomplish what is beyond my understanding."

Among other things, I pursued researches as to the part played by the spleen in resisting infectious diseases. Two monkeys of the Macacus species were purchased by our laboratory, for inoculation with recurrent typhoid fever. During the three weeks they remained with us, before the commencement of our experiments, I had time to become greatly attached to them, especially to the male specimen, whom we had named "Stepka."

Whenever I entered the laboratory, he used to rush up to the front bars of his roomy cage, in expectation of a present of sugar. After having fed my pets, I used to let them out. The female "Jilda" was more timid ; she would run about the floor clumsily, looking round at me in fear. If I made a slight movement she would turn and fly back to the cage. Stepka, however, treated me quite

as a familiar chum. As soon as I sat down, he would immediately clamber on to my knees and begin to search my pockets, eyebrows lifted and his large close-set eyes peering forth with comical seriousness. Pulling my percussional mallet from my breast pocket, he would set up a surprised cry, his eyes open wide, and then commence to examine the bright instrument with minute curiosity.

After having gazed his fill, Stepka would drop the hammer on to the floor, and with the same melancholy seriousness, as if performing a necessary, but very tiresome task, proceed with his search of my person. Carefully taking me by the beard, he would remove my glasses with his thin brown fingers. . . . But all this soon palls on him. Stepka climbs up on to my shoulder, sighs, looks about him, then, espying a corked phial, of a sudden—quick as a dart—springs on to the table—his favourite amusement is the uncorking of bottles. Stepka quickly and neatly draws the stopper, stows it away in his cheek-pouche, and tries to escape to the ceiling *via* the blinds: he knows that I will deprive him of his prize. I capture him half-way.

"Tsi-tsi-tsi!" he chatters with displeasure, drawing in his head, screwing up his eyes and trying to get away. I possess myself of his plaything. Stepka contemplates the scene sorrowfully. Suddenly his eyes brighten; he jumps on to the window-sill and begins to chatter excitedly. Outside a cab is drawn up in the street; Stepka cranes his neck, and stares at the horse with insatiable inquisitiveness. I stroke him, but he removes my hand impatiently with his own little paw, settles down more comfortably and continues to scrutinise the horse. A dog runs across the street. Stepka

is all alert, the fur on his neck and back bristling up, his eyes become restless, and he again commences his chattering, greatly excited, and peers first through one pane, then through another. The dog runs away. Stepka scampers across the long table, upsetting glasses, and follows the dog out of sight, from window to window.

One might have passed whole hours in the rascal's company without being bored. I felt that a bond of common sympathy united us, and that we had arrived at mutual understanding.

I did not like the idea of cutting out his spleen myself, and a comrade performed the task for me. When the wound healed, I inoculated Stepka with typhoid. When I entered the laboratory now, Stepka no more rushed to the bars as of yore ; weak and ruffled, he sat motionless in his cage, staring at me with strange darkened eyes ; every day he got worse ; when he essayed to climb on to his perch, his hands failed him, he lost his hold and fell to the bottom of his dwelling. Finally, he became too weak to rise at all ; wasted, he lay still with grinning teeth, and moaned hoarsely. And it was before my eyes that Stepka died.

An obscure martyr to science, he lay a corpse before me. I gazed upon that pitiful little body, upon that pretty naïve little face, from which the death-agony even had been powerless to efface its customary serio-comic expression, and experienced a most unpleasant feeling. To tell the truth, at heart I was a little ashamed of myself. When I recalled all his engaging little tricks and funny ways, I could not drive away certain vague misgivings as to whether my crime had been, after all, so very many times less grave than if it had been per-

petrated upon a child? Such sentimentality, in regard to the lower animals, strikes you as ridiculous? But are the criteria of sentimentality so very hard and fast and immutable? Two thousand years ago how loudly would a Roman Patrician have laughed at the sentimental person who expressed indignation at his casting a slave, guilty of breaking a vase, to the murenæ. In his eyes a slave was a "lower animal" too.

Descartes looked upon animals as simple automata, animated but soulless bodies; according to his opinion, there existed in them exclusively corporeal, purely sub-conscious manifestations of those emotions which we call spiritual. Malebranche held the same views. "Animals," he said, "eat without pleasure, cry without experiencing pain; they desire nothing and know nothing."

Is it possible to accept such statements as these nowadays? Leaving ordinary everyday observation, which cries aloud against such a blind theory, out of the question, how can we, the followers of the principles of evolution in natural science, acquiesce with the above?

The only possible view to take seems to be that expressed by Huxley, who held that the great doctrine of continuity did not permit us to suppose that anything in nature could spring into existence spontaneously and without antecessors, without going through a process of gradual transformation, and that there could be no disputing that the lower vertebrate animals possessed in a less developed form that part of the brain which we have every reason to believe to be the organ of our consciousness. And therefore, that it was highly probable that the lower animals possessed consciousness in

proportion to the development of their organ of consciousness, experiencing, in more or less definite form, the same emotions as we do ourselves. Once this is so, once it be true that we are not divided by the rigid line which we once imagined to exist, is such sentimentality so ludicrous, are these twinges of conscience, which we experience when we make animals suffer, so false? For the sensation I experienced was very much akin to the pricks of conscience. One of my colleagues, a surgeon, was investigating the peculiarities of abdominal wounds inflicted by fire-arms; he sought to discover whether it were best to adopt a waiting policy, or to immediately proceed to operate. His method was to discharge a revolver into the stomachs of dogs, tied to boards, a few yards away; then he either performed laparotomy immediately, or else allowed his canine victims to remain without operation. On entering his laboratory, one was struck by the din of groans, barking and yelping, that filled the room; some of the dogs were in their death throes, others lay still, whining feebly. When I looked upon them, I did not feel merely pained, as I used to in the beginning, when contemplating the sufferings of men under operations; the sensation I experienced, when gazing upon the eloquent eyes of those dying dogs, ennobled by suffering and almost human in their expressiveness, was that of *malaise* and *shame*. At such moments I understood the mood of Pirogoff when an old man.

"In my younger days," we read in his posthumous memoirs, "I was pitiless to suffering."

"One day, as I remember, this indifference to the agony of animals undergoing vivisection struck me with such force, that with my knife still in my

hand, I involuntarily exclaimed, turning to the comrade who was assisting me: 'Why, at this rate one might cut a man's throat.'

"Yes, much can be said in favour of and against vivisection. There can be no doubt that it is an important aid to science. . . . But science does not entirely fill the life of man; the enthusiasm of youth and the ripeness of manhood pass and another period of life ensues, and with it an inner call for introspection; and it is then that the recollection of the violence used upon, the tortures inflicted on and the sufferings caused, another creature, commence to pull at one's heart-strings involuntarily. It seems to have been the same with the great Haller; so it was with me, I must confess, and in these latter years I would never be able to bring myself to perform the same cruel experiments upon animals which at one time I carried out so zealously and with such nonchalance."

None of this can be denied. *Mais que faire?* To renounce vivisection were to place the future of medicine in jeopardy, to condemn us doctors for ever to the uncertain and barren paths of clinical observation.

It is necessary to fully grasp the tremendous importance of vivisection for science, to be able to understand that there is but one way out of the dilemma—that of stifling the reproaches of conscience, of choking down pity and closing one's eyes to the living agony of the animals sacrificed.

A violent agitation has been conducted in Western Europe, for several decades, against vivisection, and of late the campaign has been taken up in Russia too. The anti-vivisectionists base their propaganda upon an assumption diametrically opposed to the principle I have just laid down: they aver that *vivisection is entirely unnecessary to science.*

But who are these persons who have taken upon themselves the task of proving this assertion of theirs? Clergymen, society ladies, statesmen, persons entirely unassociated with science; they seek to refute Virchow, Bernard, Pasteur, Robert Koch and other colossuses, who carry science forward upon their broad shoulders. What a gigantic absurdity! Profound study and knowledge are necessary for mastering the methods of science. How can the uninitiated take upon themselves to judge in such matters? That they themselves should be unconscious of this contradiction is impossible, and it is easy to understand with what joy they acclaim those savants who express themselves in sympathy with the movement. Latterly, the anti-vivisectionists have made much of Lawson Tait,[1] a very eminent *practical* surgeon, and of an entirely obscure—as far as the scientific world is concerned—medical man, Charles Bell Taylor. On November 16th, 1892, the above mentioned Charles Bell Taylor, F.R.C.S.E. and M.D. Edin., delivered an address before the Medico-Chirurgical Society of Nottingham, in condemnation of vivisection. The address was circulated amongst our anti-vivisectionists in a rather ungrammatical translation, as a supplement to the *Novoye Vremja* newspaper.

While reading this speech, one is aghast at the mass of wilful misrepresentations with which it teems, and the question involuntarily arises: can a doctrine, which employs such brazen-faced methods of public deception, have any vitality in it? Bolstered up by his authority as a specialist, and confident in the utter ignorance of his audience, Bell Taylor stops at

[1] Deceased since the present book, written during 1895-1900, was translated.—TRANSLATOR.

nothing. "It is true," he declares, "that Harvey was a vivisector, but it is not true that he discovered the circulation of the blood by means of vivisection; on the contrary, so long as he confined his attention to vivisection he was continually wading through blood, agony and torture, only to arrive at doubt, uncertainty and contradiction." Proceeding, Bell Taylor quotes Harvey's words: "'I was led to distrust the existing belief of the *course of blood by considering the arrangement of the valves of the veins*'" (which, of course could only be studied on the dead body, adds the orator). "It was plain that the common doctrine that the blood moved to and fro in the veins outward from the heart and back again was incompatible with the fact of the direction of the valves, which are so placed that the blood could only move in one direction."

(We must here remark, that Harvey's celebrated treatise on the circulation of the blood *consists almost entirely of descriptions of his experiments upon living animals;* we quote the headings of several chapters of his treatise:—

Chap. II. "*Ex vivorum dissectione qualis sit cordis motus.*"

Chap. III. "*Arteriarum motus qualis ex vivorum dissectione.*"

Chap. IV. "*Motus cordis et auriculorum qualis ex vivorum dissectione.*" Etc.)[1]

"Koch's inoculations with tubercle," continues Bell Taylor, "which were adopted from experiments upon animals, have led to death from initial fever, the infection of the whole system of patients, who merely

[1] See *Exercitatio anatomica de motu cordis et saguinis in animalibus. Auctore Gulielmo Harveo. Lugduni Batavorum.* 1737.

suffered from localised disease, and to failure and terrible disappointment to patients subjected to it." (It will be remembered that the address was delivered towards the close of 1892, when there was hardly anyone left to defend Koch's tuberculine; but Bell Taylor was discreetly silent on the fact that it was through vivisection that Koch discovered the tuberculous bacillus, and that bacteriology, in its entirety, was created, thanks to vivisection.)

And so on *ad infinitum*; his every assertion was either a direct untruth, or a gross distortion of actual fact. In the notes furnished below, the reader will find a few more typical samples of anti-vivisectionist literature; the latter are culled at random from the latest English tracts and pamphlets, which are everywhere being circulated in thousands by the "Anti-vivisection Society."[1]

[1] ". . . We have to consider the claims of vivisection to practical results," says Dr Stephen F. Smith in a paper read before the National Individualist Club. "There appear to have been some. For example, an American doctor shaved the fur from some animals and placed them in a freezing temperature. They caught cold. We learn from that to wear warm clothing in winter. Frogs have been placed in boiling water. They endeavour to escape, showing that pain is caused. We learn that we should avoid bathing in boiling water, . . . etc. But here, as far as I can ascertain, the practical result ceases. . . ." (See —"Vivisection, An Independent Medical View," by Dr Stephen F. Smith, page 8, London, 1898.)

Agitators from the ranks of the laity adduce other arguments to prove the uselessness of vivisection. "Vivisection is the arch-enemy of science, whose teaching has ever been that Nature is one in essence, and that her laws are harmonious and not contradictory; but if her laws are not contradictory, how can it possibly be that what is morally wrong should be scientifically right; that what is cruel and unjust should eventually lead us to peace and health? . . . " (See p. 6, "The Sanctuary of Mercy," by Mrs Mona Caird, 1899.) And this is what is said in the country of Darwin! . . . Sometimes God is substituted for Nature. "I believe that the great Orderer of all things is a Righteous, Holy, Merciful God; and such a God *could* not (I say it with all reverence), *could not possibly* have made His world as that

Vivisection is *indispensable* to medical science—only ignorant, or very unprincipled, people can deny this. The foregoing chapters have shown how manifold is the necessity of vivisection in our science.

Previous experiment on animals furnishes at least a partial guarantee that a murderous dose of a new drug will not be administered to the patient, that the surgeon will not attempt an operation without previous experience. Further, it is no mere coincidence that criminal experiments on men have been perpetrated most frequently in the province of venereal disease—from which the lower animals are entirely immune. But most important of all is the fact, that without vivisection we are entirely debarred from understanding and grasping the living organism. Let us take up any branch of physiology or pathology and we shall see that nearly everything of any importance has been discovered through experiment upon animals. In 1883, in answer to pressure brought to bear on the Prussian Government by anti-vivisectionist agitators, the former applied to the medical faculties of the universities throughout the country, with enquiries as to how far vivisection was really necessary.

An eminent German physiologist, for an answer, sent the Government Herrmann's "Handbook on Physiology," having previously struck out all those facts which it would have been impossible to establish

man should be obliged to seek for the remedies of his diseases by tormenting His humbler creatures. I think it is a blasphemous idea that such should be God's appointment."

Thus spoke Miss Cobbe, upon the occasion of the formation of the *Welsh Section* of the *British Union for the Abolition of Vivisection* in 1898. (See "Vivisection Explained," p. 6.) . . . And so on *ad inf.*

without recourse to vivisection. According to the German newspapers, "Herrmann's book, thanks to such annotations, acquired the appearance of a Russian newspaper after it had passed through the censor's hands; more text was crossed out than left untouched."

It is impossible to understand and know the living organism without vivisection; and without its complete and manifold comprehension, the supreme end of medicine — the succouring of the sick — would be unreliable and fallacious. In 1895 the well-known physiologist, Prof. T. P. Pavloff, exhibited before an assembly of one of the medical societies of St Petersburg, a dog whose *nervus vagus* had been severed; thanks to his experiments upon this dog, Pavloff had been enabled to decide several highly important questions dealing with the physiology of digestion. A writer in the *Novoye Vremja* vehemently attacked the professor for his experiments.

"By whom was it required, and to what end necessary, to sever the dog's *nervus vagus*? Has actual life ever furnished a case which could have suggested the experiment to the disciples of science? This is an extremely sad example of vivisectionist zeal of the worst and most unscientific kind. . . . This is a case, so to speak, of science for science's sake. . . . When we contemplate these fine artifices resulting from the straining and unnatural ingeniousness of the vivisector brotherhood, in juxtaposition with the fact that most people die of ordinary colds, which the doctors are unable to cure, the raptures of medical societies over an experiment with the *nervus vagus*, savour uncommonly of sarcasm. . . . They do not know how to cure or understand the

simplest diseases, and at the same time this vivisectionist enthusiasm is assuming threatening dimensions, and the unwisdom and the heartlessness of the sapient butchers who stand at its forefront fills us with disgust."

This is a typical argument of the man in the street. "Why study the organism in all its functions if one cannot cure a 'simple' cold?" Yes, we persevere in these researches for the sake of learning how to cure a "simple" cold (which, by the way, is far from being simple)! "This is science for the sake of science." . . . Science is only then science when its pursuit is unfettered by any conditions of direct practical utility. Electricity remained for a long time but a "curious natural phenomenon," devoid of all practical importance. If Grey, Galvani, Faraday, and a host of less distinguished investigators, had not been guided by the principle of "science for the sake of science," we should at the present day have neither telegraph, telephone, Röntgen Rays, electro-motors. The chemist Chevreil, out of a thirst for knowledge purely scientific, discovered the components of fatty substances—which resulted in the manufacture of stearine candles.

However, we must give them their due; far from all the anti-vivisectionists base their opinions upon such crude and ignorant tenets as these just adduced. A number of them seek to base the whole question upon foundations of pure principle; thus, for instance, the English anti-vivisectionist Henry S. Salt, author of "Animals' Rights considered in Relation to Social Progress," says: "Let us assume that the progress of Surgical Science is assisted by the experiments of the vivisector. What then? Before rushing to the conclusion that vivisection is justi-

fiable on that account, a wise man will take into full consideration the other—the moral side of the question—the hideous injustice of torturing an innocent animal." This is the only possible and fitting position for the anti-vivisectionist to take up: whether science can dispense with vivisection or not does not concern him; animals are made to suffer, and that settles everything. The question is plainly put and there can be no room for any equivocation. I repeat, that we ought not to ridicule the pretensions of the anti-vivisectionists—the sufferings of animals are truly horrible—and sympathy with them is not sentimentality; but we must bear in mind that there is no "way round" where the building up of scientific medicine—its goal—the healing of mankind—is at stake.

In western Europe the enemies of vivisection have already obtained considerable restrictions of its freedom. The *Cruelty to Animals Act* passed by the British Parliament in 1876 may be considered the most important of such legislative measures. According to this Act, only those who have obtained a special licence thereto, have the right to experiment on living animals (which authorisation, by the way, is liable to be withdrawn at any moment). In 1885 the Austrian Minister of Public Education issued certain regulations, according to which "experiments on living animals may only be conducted in the interests of serious investigation and only in exceptional cases of the most pressing need."

In Denmark permission for vivisection is necessary from the Minister of Justice (!). All such laws create a most bizarre impression. To whom will such licences be granted? Naturally to eminent savants. But let us go back into history a little.

In the late seventies, in the obscure little German town of Wollstein, a then entirely unknown doctor, Robert Koch by name, through his experiments upon animals, most minutely studies the biology of the bacillus of anthrax and, thanks to these investigations, opens up broad prospects for the newly-born and extremely important science of bacteriology. It is very unlikely that that obscure provincial doctor would have been able to obtain the necessary licence. . . . To go into the question further, who is to decide which experiments are "necessary" to science and which are not? The Minister of Justice? The idea is preposterous! The learned faculties? But who does not know that academical erudition is almost invariably a staunch adherent to routine? When Helmholz discovered his law of conservation of energy, the Academy of Sciences—he has told us so himself—dismissed his work as one consisting of "senseless and vacuous reasonings." His investigations on the rapidity of transmission of the nervous current were also greeted by the sceptical smiles of those who then stood at the head of physiology.

Has the anti-vivisectionist agitation any chance of success in the future? I think that its success has been hitherto due solely to the ignorance of the public, and that in proportion to the lessening of that ignorance it will fall further and further in popular estimation.

The *Cruelty to Animals Act* was passed by the British Parliament in August 1876. A most auspicious date! It was just at that time that the Turks were enacting their atrocities in Bulgaria, encouraged by the friendly non-interference of Great Britain. Is it possible that the frogs and guinea-

pigs experimented upon in the laboratories were more precious and dear to the members of Britain's parliament, than the Bulgarian women and children outraged and slaughtered by the Bashibouzouki? Of course not. The explanation is far simpler: Parliament saw that intervention in Bulgaria's cause was *unprofitable* to England, but it did not realise the unprofitableness of placing difficulties in the way of vivisection. For when nothing seems to threaten his interests, man finds it easy to be upright and humane. . . . Russian life furnishes us with still more vivid examples of such seeming inconsistency. . . .

When men comprehend what they sacrifice in depriving science of the right of vivisection, the anti-vivisectionist agitation will be doomed to a natural death. At one of the anti-vivisectionist Congresses, the Bishop of Manchester, Dr Moorehouse, declared that he would "rather die a hundred times than save his life by such infernal experiments" as those inflicted upon vivisected animals. Only the most insignificant minority of men are capable of such conscious self-sacrifice. . . .

CHAPTER XI

WHATEVER be the physician's limitations, the health and life of man are entrusted to his custody.

As the reader will recall to mind, as far back as the closing years of my University studies, the slippery, hard and dangerous way, which the imperfections of our science foredoomed us to tread, was disclosed before me. One day our Professor of Gynæcology entered the lecturing theatre with sombre face, evidently upset about something.

"Gentlemen!" he said, "you remember the woman suffering from endometritis, whom I demonstrated before you ten days ago, and upon whom I performed in your presence erasion of the uterus. Yesterday she died of septic infection of the peritoneum. . . ."

The professor minutely detailed before us the progress of the disease and the results of the post-mortem examination. Apart from the abnormal development of the mucous membrane, for the removal of which scraping had been resorted to, it transpired that in the thickness of the uterus a so-called myoma was in existence—a muscular tumour. Erasion of the uterus, in the presence of myoma, is accompanied by grave danger, because mortification of the latter readily sets in, followed by purulent decomposition. In the present instance, the most careful inspection of the uterus disclosed nothing to lead one to suspect the presence of a myoma.

Scraping was performed—which resulted in the patient's demise.

"Thus, Gentlemen," continued the professor, "there can be no doubt that the patient's death was caused by our operation; without the latter she might have continued to live for years and years, although not without suffering. . . . Unfortunately our science is not omnipotent. It is well-nigh impossible to foresee such sad eventualities and we must be always prepared for them. To guard against such errors, Schultze recommends——"

The professor spoke on for a long time, but I had ceased to attend to him. His words seemed to have hurled me from those skies whither my rapturous enthusiasm in the progress of medicine had recently transported me. Our professor, I mused, was a specialist of European reputation, with talents recognised by all, and nevertheless he was not certain of avoiding such terrible mistakes. How would it fare with me, one of the herd, in future? And for the first time that future loomed up before me scowling and ominous. I felt disconcerted and crushed by the immensity of the responsibilities that awaited me later on. Everywhere I found confirmation of the vastness of this responsibility. Taking up a copy of the *Therapeutic News* one day, I chanced upon the following lines:—

"Binz communicates a case of abortion that took place after five doses of natrium salicylicum, at one gramme, had been administered. Arraigned in court, the physician who had prescribed the medicine was acquitted, on the ground *that cases such as the above had not as yet been published*, although, as is well known, the employment of natrium salicylicum is largely practised."

This paragraph came under my notice accidentally —I might as easily have passed it by unread; however that might have been, henceforth, if anything of the kind were to happen to me, I should have no excuse: a precedent had already been established. . . . I had to know all, remember all, be able to do everything, no one enquiring whether the strength of a single man were adequate to such a task!

But my buoyancy of spirit soon returned. As long as I remained at the University, no responsibility weighed me down. But when, as a full-fledged doctor, I took up practice and became cognizant of the limitations of my powers, in actual life, I began to feel myself in the position of a guide whose duty it is to conduct people through the night along the slippery and crumbling edge of a precipice: they trust in me and do not even suspect that they are on the brink of an abyss, while I am ever in a tremble, lest one of them should miss his footing and topple over into space.

Often, when I had diagnosed a patient's complaint, I positively could not make up my mind to start treatment, and availed myself of the first possible pretext to throw the case up.

One day, at the outset of my practice, a woman suffering from tape-worm came to me. The best and most efficacious remedy against tape-worm is extract of male fern. I refreshed my memory by looking the matter up in my text-books, and read the following: "The remedy (*i.e.* extract of male fern) lost much of its old reputation, because it was administered in too small doses. . . . But in prescribing, great circumspection must be exercised: large doses may have a poisonous effect." Thus I was enjoined to exercise "great circumspection"

in prescribing the only efficacious quantity, which should not be "too small." Under these conditions, how on earth was I to exercise caution? I told my patient that I could not treat her and that she had better apply to another medical man.

She opened her eyes wide.

"I will pay you," she said.

"Oh no, you misunderstand me. You see. . . . One must give the business in hand one's undivided attention, and at present I lack the necessary leisure. . . ."

The woman shrugged her shoulders and went away. In the beginning I experienced the same fears in the presence of nearly all of my patients, and my apprehensiveness was further increased through the sense of my undoubted inexperience: it suffices us to recall the case of the washerwoman's son.

But as time slipped by, habit developed little by little; I ceased to be afraid of every little thing and my self-reliance grew. I no longer suffered vain tortures at the thought of all manner of complications every time I prescribed for a patient. But nevertheless that sword of Damocles—the possibility of an "unfortunate accident," always kept me in a state of nervous tension.

One never knows beforehand whence to expect, and where to look for, those terrible "unfortunate accidents." I remember how one day we had to perform dissection of the elbow in the case of a young girl of sixteen. I was to administer the anæsthetic. And no sooner had I placed the chloroform mask over her face, hardly had she drawn breath—one single inhalation of the anæsthetic—than her visage went blue, her eyes became fixed and

her pulse vanished; the most energetic measures of re-animation proved unavailing; a minute before she spoke, was agitated, her eyes shone with fear and life—and now she was a corpse! In accordance with the parents' wish, an official post-mortem examination of the deceased was held: all her internal organs were found perfectly sound—as examination, previous to the administering of chloroform, had shown; notwithstanding all this—death had resulted from that terrible "idiosyncrasy" which is the surgeon's bane and which it is impossible to foresee. And the poor child's parents removed the body, showering curses upon us.

I passed last summer in an out-of-the-way village of central Russia. One day I was asked to visit a neighbouring land-owner. I declined to do so point-blank, for, worn out by over-work, I sought but one thing—complete rest—to see no more suffering faces, to find relief for my over-wrought nerves. It was quite enough when the peasants applied to me, for I had not the heart to turn *them* away.

But in the end, of course, I had to go. The patient was a quiet, charming old man, a retired lieutenant-colonel of the army, with white, tobacco-stained moustache; he suffered from cirrhosis of the liver and dropsy.

"I don't expect to get well, doctor," droned the old fellow in his slow, deep voice. "Time I quitted the scene—one ought to show a sense of decency. But there's such a lot of water in my belly—just look at it—quite a hay-stack—I can hardly breathe. My doctor taps me every month, but he's away just now. . . . So I took the liberty of bothering you. I have all the necessary instruments in the house."

In such cases a special instrument, a so-called

trocar, is used for the tapping of the liquid; it consists of a fine straight metal tube containing a keen-pointed stiletto. The abdominal walls are pierced by means of the trocar, the stiletto is withdrawn and the fluid escapes through the tube. This operation is entirely without danger: if the instrument be introduced in the right way, no wounding of the intestines is possible. I let the liquid out.

A month later the old man sent for me again. Once more I made the puncture: this time the fluid was weakly tinted with blood; probably a small vein had been pierced. Out of precaution I remained with the invalid for an hour or so, but could detect nothing to arouse anxiety. Early next morning I was suddenly summoned to the patient. During the night a rapid change for the worse in the old man's condition had taken place; he lay in bed motionless, deathly pale, with waxen face and barely stirring pulse. There were all the symptoms of an abundant internal hæmorrhage. While I was busied in preparing a physiological saline solution for a subcutaneous injection, the patient died. It was hard to say what had really happened. I was not allowed to perform autopsy; the most likely thing of all was, that the sharp point of the trocar had penetrated an abnormally developed and senilely degenerated branch of the epigastric artery, which was located in an unusual position, and that during the night some sharp movement of the patient's, or a fit of coughing, had increased the flow of blood, which had been but insignificant at first.

His relatives ascribed the old man's death to the natural course of his illness. I hated to keep silent on the subject, I would have liked to tell them the truth, to explain everything—but what end could

my frankness have served? So I drove off home, without enlightening them.

Quiet, joyous morning lay over the dewy fields, the sky resounded with the thrills of the lark, the trunks of the slender birches stood out white against the delicate green of the woods—so pure, so serene. . . . Was it possible that nowhere and never was I destined to share in that happy untroubled restfulness?

In his "Lectures on Calamities in Surgery," Sir James Paget, Bart., remarks: "I venture to say that there is no surgeon in large practice, no surgeon to a large hospital, who has not once or more in the course of his life shortened patients' lives when he was making attempts either to prolong them or to make them happier. And this, you will observe, is not merely the case with capital operations. When a patient submits to a large operation, it is always in order to remedy something that will render his life either very miserable or very short; and to escape such distress, it is quite fair that a man should seriously risk his life. But these calamities occur, however rarely, in comparatively trivial cases, when the operation is not done for any consideration of prolonging life, but, it may be, of making life somewhat happier, or somewhat more useful, as in the amputation of a finger, the tapping of an ovarian cyst, the tapping of a hydrocele, the division of a cervix uteri. . . . I have known deaths from all of these, and if you were to go over the whole list of so-called minor operations, you would find that every surgeon of much experience has either had in his own practice, or known in that of others, one or more cases of each that have proved fatal. If any man will remove with the knife, in a hundred

instances, cysts from the scalp, I will venture to say that he will have one or two deaths. If any man will take in succession an equal number of cases of ligature of hæmorrhoids, the probability is that he will have one or two deaths." . . .

Nothing can save us from this.

A catastrophe may overwhelm you at any moment and ruin you for life. In 1884, Dr Spitzer, a Viennese physician, attended a girl of fourteen, whose fingers had been frost-bitten ; he prescribed collodion with iodine and gave directions that it should be applied to the frost-bitten parts ; the child's little finger mortified and had to be amputated. The patient's mother sued Dr Spitzer. The defendant was mulcted in damages to the amount of 650 Guldens, condemned by the Court to a fine of 200 more and, in addition, deprived of his right of practice. The papers savagely attacked Spitzer, showering him with jibes and loading him with ridicule. This aroused great excitement in the medical world. Spitzer had no grounds whatever to expect that the application of innocent collodion with iodine could have such a destructive action. The defendant appealed to the Senate. The opinion of the Medical Faculty was called into request. Relying upon a report dealing with the subject drawn up by the eminent surgeon, Professor Albert, the Faculty unanimously declared itself as follows : " The application of collodion-with-iodine-ointment, as employed by Dr Spitzer, did not result in gangrene in a series of experiments specially conducted by the Faculty. Neither science nor literature furnish us with any indications pointing to the danger of employing the above remedy in general, and in cases such as that under consideration in particular.

Therefore no grounds exist for accusing Dr Spitzer of incompetence."

But Spitzer stood in no further need of this acquittal. On the very day that the Faculty's verdict was made public, his body was recovered from the Danube: he had drowned himself, unable to support the weight of this universal condemnation.

Expect mercy of no one in such circumstances! A doctor must be a god, infallible, superior to doubt, to whom all is clear and all is possible. And woe to him if it be otherwise, if he make a mistake, even though it were humanly impossible not to err. . . . About fifteen years ago a "feuilleton" writer in the *Petersburg Gazette* gave wide publicity to the following "revolting" case that took place in the surgical clinique of Professor Kolomnin. A boy, Kharitonoff by name, "with a pain in the hip-joint," was brought by his parents to the hospital; while being examined by the assistant house-surgeon, Dr T. (the name was given in full), this is what took place: "T. requested Kharitonoff to jump on his injured leg; the patient declined to do so, assuring the worthy medico that he could not stand on the affected limb. But the Æsculapius gave no heed to the wretched youth's words and, with the assistance of those present, made him jump. He did. A terrible cry rang out and the unhappy boy fell into the arms of his executioners: the bone had broken short off at the hip." The patient developed sarcoma "with frightful rapidity" and died "owing to the fault of his torturers."

Dr T. explained the true circumstances of the affair in a letter to the editor. The boy complained of pains in the joint, but there were no external indications of any affection of the latter; there was

reason to suspect tuberculosis of the hip-joint. The patient Kharitonoff could stand on the diseased leg. "I asked the patient to stand on the affected leg and to jump slightly. This test, in cases of hip-disease in its initial stages, when all other symptoms are absent, betrays the presence of the latter by a slight pain in the joint." Fracture resulted. Such fractures belong to the category of so-called spontaneous fractures. As it afterwards transpired, the boy was suffering from sarcoma of the bone-marrow; it had corroded the bone from the inside and destroyed its customary hardness; the first violent movement sufficed to cause fracture; the latter would have occurred in any case, whether at the hospital or on the patient's way home. "To diagnose such disease, when the tumour itself cannot be found, is difficult in the highest degree, and sometimes positively *impossible*." We may here add that the disease just described belongs to the number of very rare affections, as compared with coxitis, which is exceedingly prevalent.

Dr T.'s explanation called forth further contumely on the "feuilletonist's" part. "Do you not find it most wonderful!" he wrote. "A spontaneous fracture! . . . Is not this the apogee of untoward coincidence, especially for us lay folks, whose lot it is to hear for the first time of spontaneous, self-acting, automatic fractures of arms and legs? Only these extraordinary cases enable us to appraise science at its true valuation, and move us to bitter tears at our own ignorance. . . . What are the uninitiated to do? Of course not argue with science! All that remains us is to hide our diminished heads in the glorious presence of science and to assure ourselves without delay (through

violent contact with any hard object), quaking the while, that this species of treacherous spontaneous fracture has not singled us out unawares as its victims." And for an entire week Dr T. ran the gauntlet of universal newspaper ridicule.

It is easy enough for outsiders to wax indignant at such mistakes of the faculty. The tragedy of our position lies therein, that were such a case to present itself to any of us the day following, we should *be in duty bound* to act in exactly the same manner as just described. Of course the choice of a much easier course were open ; no external symptoms of injury to the joint are in evidence ; there is a way of finding out whether the trouble be tubercular ; but what if the affection proved to be sarcoma of the bone and a fracture were to result ? Truly, sarcoma of the bone is so rare that an ordinary doctor is liable to come across it three or four times during his entire practice ; it is no less true that if treatment of the tubercular joint be taken in hand without delay, every hope exists for a complete and durable cure ; but nevertheless . . . nevertheless, better steer clear of rocks ; better let the patient return home and come again when undoubted external symptoms have made their appearance. . . . The coward who would act thus were unworthy of the name of doctor !

The views on medicine held by society are very erroneous—here lies the main reason of the public's unjust attitude towards the profession. Society ought to familiarise itself with the scope of the powers vested in the physician, and not blame him for that which is the result of the imperfection of medical science. If we were once to arrive so far, the demands on doctors would be lowered to a reasonable level.

However, on reflection, I doubt somewhat that this would happen. Feeling lacks logic and declines to countenance it. This was confirmed quite recently by personal experience. My wife was brought to bed, and labour being very difficult, an operation had become necessary. All the accidents that might be possible under the circumstances suddenly loomed up before me with cruel vividness.

"We must operate," the *accoucheur* said to me with the utmost *sang froid,* in his everyday tone.

How could he speak of such a thing so coolly? Why, he knew how numerous were the hazards which threaten the mother during these operations; allowing even that such occurrences were rare, still they existed and were possible. Yes, I felt that he ought to clearly realise what the loss of my Natasha would mean to me, he ought to be absolutely sure of performing the operation successfully. Otherwise the whole thing was too terrible to contemplate. And there could be no excuse for him, neither for him nor for science, if he failed. No, *he dared not fail!* I was entirely carried away by this feeling and all the reasonings of my intellect and knowledge were powerless to affect me in the least.

CHAPTER XII

I HAVE already had frequent occasion to remark upon the strong distrust of the public mind towards medicine and doctors.

Since time immemorial doctors have been the favourite butt for caricature, epigram and anecdote. The healthy speak of medicine and the faculty with a smile, the infirm who have not derived benefit from its ministrations criticise it with unmeasured hatred. These sneers and this distrust disconcerted me a great deal while I was a novice. I felt that, at the bottom, both were well-merited, for there was no denying that our science contained much of which we well might be ashamed. Under the influence of this feeling, in moments of expansiveness, I occasionally felt inclined to ventilate my poor opinion of, and contemptuous attitude towards, medicine.

One evening while staying in the country, I was returning home from a stroll, when a peasant woman came up and begged me to examine her and give her some physic. I entered her cottage, accompanied by my cousin. The woman complained of heart-burn, flatulency and vertigo, whenever she stooped. So I examined her and told the good woman to come round later on for some drops that I would give her.

"What was the matter?" asked my cousin, when we had left.

"How do I know?" was my smiling rejoinder.

"Now, that's funny! The assurance of your

manner led me to believe that you saw what was the matter at a glance."

"I'll examine her again in a day or two—perhaps then I will be able to tell what ails her."

"Dear, dear me! So much for your science!"

"Oh yes, our science is pretty exact, as you see, isn't it?" I remarked. And I started on a recital of numerous cases which demonstrated further this "exactness" and illustrated the naïve way in which patients looked up to us doctors.

This was by no means the only occasion upon which I spoke of medicine in the same strain. Still, notwithstanding the undoubted truth of what I said, those conversations invariably left me with a feeling of shame. Whenever I gave voice to such sentiments, for the time being I adopted the standpoint of my listener in my appraisement of the facts, but *quand même*, at bottom my attitude towards medicine was both earnest and full of reverence. Clearly a deep misunderstanding underlay this. Medicine does not justify all the expectations that are placed upon it, and it is derided and discredited in consequence. But are such expectations either just or legitimate? A science dealing with the cure of disease, which we style medicine, is supposed to exist; those who have studied it are expected to recognise at a glance and to cure all illnesses forthwith and without fail. If they cannot do this, either they must be incompetent, or else their science is a fraud and a delusion. Nothing could be more natural and, at the same time, more mistaken, than such a view. A science answering more or less to the ideal of perfection and completeness, whose business it were to cure disease, is non-existent. Such as it is, medicine is confronted by the human organism in its

endlessly complex and involved life; we have arrived at understanding much of that life, but, at the same time, each new discovery unravels further before us its miraculous intricacy. Many diseases develop in the system through dark paths that we can but ill follow; obscure and intangible are the combative powers of the human body; no means are known by which these forces can be sustained; there are other diseases more or less intelligible; but time out of number they run their course so secretly that science, with all the means at its disposal, is powerless to detect them. Does this signify that doctors are superfluous and that their science is utterly bankrupt? But we must not forget that, on the other hand, there is much else that is actually within their ken; the field where the physician can dispense concrete help is sufficiently vast. No doubt he is often powerless to give relief, but a doctor alone is competent to judge of this—not the patient. Even when in the presence of such a case, the physician is invaluable—were it but for the reason that he realises the complexity of the morbid process, whereas neither the patient nor his *entourage* are able to understand it.

People lack even the faintest idea either of the life-processes of their bodies or the powers and remedies at the command of medical science.

From this spring the great majority of such misunderstandings; here lies the cause both of blind faith in the omnipotence of medicine and of the blind disbelief in its efficaciousness. Both lead to equally disastrous results. All manner of popular medical books and pamphlets are disseminated amongst the public. Every family, pretending to more or less education, invariably possesses a medicine chest, and before the doctor is called, the patient is sure to have

been consecutively dosed with castor oil, quinine or salicylic acid. If people possessed a reasonable understanding of elementary medical science, instead of blind faith, nothing of the kind would be possible. It would then be recognised that every fresh patient represented a new and unique illness, highly complicated and involved, which even a doctor, with all his knowledge, often finds it difficult to understand fully.

Suppose that a member of the family is constipated—he is given castor oil. Would anyone dare venture upon such treatment if he or she so much as suspected that sometimes a man may be killed by this means ; that occasionally, for example in cases of saturnine colic, constipation cannot be relieved by castor oil, but only by . . . opium ?

The exaggerated demands made of medicine, founded upon an ignorant belief in its omnipotence, are the physician's bane and fetter him hand and foot. A patient down with typhoid suffers from high fever, splitting headaches, night sweats ; he is oppressed by delirium ; these must be fought against with great precautions, natural remedies being chiefly recoursed to ; but only try to tell the patient that he *must* suffer, bathed in perspiration and tormented by hallucinations. He will turn from you and apply to a medical man who will not stint him in quinine, phenacetin and chloral, for he says : " What doctor is this who does not alleviate the patient's pain ? " No matter that this assuagement is bought at the price of the patient's strength : let the permanent ruin of his constitution be the result, let him lose for all days the power to combat disease independently ; his pain was soothed, and that sufficed in itself. The most miserable patients

in this respect are various "exalted personages" —impatient and spoilt, who blame the doctor for the slightest *malaise*, even when it is impossible to remove it. This explains why many doctors, of whom their colleagues speak with contempt, and to whom no medical man in his right senses would ever dream of applying, enjoy the greatest popularity with a certain section of the public.

People say that a doctor is a doctor to be able to ease pain and cure diseases with facile confidence; but actuality contradicts such an idea at every step, and those who had hitherto blindly believed in medicine, cast themselves into the other extreme. Suppose that the patient suffers from a curable complaint, but one requiring long and systematic treatment; a week or two pass by without any appreciable improvement, and the patient throws over his medical adviser and applies to a quack. There are certain protracted diseases for which no efficacious remedies exist—for instance, whooping-cough; the doctor who has been requested to treat this illness in a family for the first time, may rest assured that his services will never again be in demand in that quarter. All that the physician can do is to keep an eye on the hygienic conditions, and be on the alert to meet any possible complications; and it requires either deep and tried confidence in the doctor, or else full understanding, to become reconciled to his passive rôle.

But the richest soil of all for the flourishing of this negation of medicine, is furnished by the profession's mistakes. A doctor diagnoses a disease as typhoid, while autopsy discloses general tubercular infection—shame upon the faculty!—although the clinical picture of both is often identical. I number

among my acquaintances a man who has suffered for three years from severe pains in the knee: one doctor diagnosed tuberculosis, another syphilis, a third the gout; and neither of the three afforded him any relief.

Of course, this only shows that very often the manifestations of a disease are so obscure and vague, that we have to depend on chance alone for hitting upon the right diagnosis. But personal experience is all to the individual, and my friend says: "Your profession is as necessary to mankind as a neck-tie; although entirely useless, conventional decency requires that the civilised man should wear one. Accordingly, he uncomplainingly spends money on cravats, and those who earn their living by making them imagine that they are performing useful work. . . ."

"I confess to you, doctor, that I entirely disbelieve in your medicine," a lady remarked to me the other day.

She disbelieves in medicine. . . . But she is absolutely ignorant of the subject! How can one believe or disbelieve in the importance of what one knows nothing about?

A great deal of what I have said in the foregoing chapters may breed scepticism in persons whose faith in medicine had hitherto been blind. I experienced this scepticism myself, and lived it down. Now, knowing all, I exclaim with conviction: "I believe in medicine!" I believe in it, in the face of its limitations. How could my attitude be other, when every day of my life my training enables me to save my fellow-creatures from death, when hourly I see how those who renounce medicine compass their own ruin?

"I don't believe in your medicine!" says my lady friend. Perhaps it were as well to go to the root of the matter and find out what she really *does* believe in!

That it is possible to stop whooping-cough in a couple of days, or that the timely application of atropin, in certain ocular affections, can preserve a man's sight? Neither in a couple of days nor a couple of weeks is it possible to stay the natural course of whooping-cough, but a few drops of atropin may save a man from blindness, and he who "disbelieves" in such truths is on the same mental plane as the sceptic who is incredulous that there should be parts of the world where the peasants speak French.

A man suffers for long years from asthma: I cauterise his nasal conchils and he becomes well, happy in the consciousness of his health. A boy is slow and inattentive, lacks memory: I remove his hypertrophic tonsils, and mental transfiguration results. A child is exhausted by diarrhœa; without any medicine, simply by regulating its diet and the hours of its meals, I bring it back to plump health and high spirits. Often my knowledge enables me to ward off a serious illness by the timely prescription of the most trivial dose of physic, the application of the simplest treatment. And the more profound the popular ignorance, the more vividly does the importance of my knowledge stand out. In those difficult and involved cases which required the expenditure of a large amount of mental and nervous force, the enjoyment of the sweets of triumph was especially keen, and one fully realised the absurdity of the idea that it would have been possible to accomplish anything without scientific

training. . . . No, I repeat that I believe in medicine, and I deeply pity those who do not.

The jeers at its expense are born of its deriders' ignorance. Still, there is no denying that in many cases we are impotent, ignorant, and even dangerous, although the fault is not ours; but it is just this seeming contradiction which breeds unbelief in our science and gives rise for this ridicule of ourselves.

These jeers and this distrust being unjustified and unreasonable, the question naturally arose: what should my attitude be towards my patients? Of course, honesty in my dealings with them should be my first consideration. It was just because we ourselves withhold from them the true extent of the knowledge at our command that the hostile and ironical feeling towards ourselves, which we invariably arouse, is made possible. One of Leov Tolstoi's chief artistic merits lies in his strikingly human and earnest treatment of every one of the types he paints; he makes *but one*—a notable exception to this rule—when he deals with doctors; Tolstoi cannot describe them without irritation and an almost Tourgenieff-like wink to the reader. Evidently there is something, an indefinable "something" which prejudices us in all eyes. And I fancied that it must be this cloaking of ourselves in a kind of nebulous mantle of mystery, the exaggerated confidence and expectation that we excite towards ourselves. Plainly this had to be remedied. But life lost no time in upsetting such a notion. Things could not be changed. Here is an example. I attended a certain government clerk, suffering from typhoid; he was constipated, his abdomen was greatly distended. I prescribed calomel in the usual laxing dose and with all the customary precautions.

"Doctor, some sort of complication has set in in my husband's mouth," his wife said to me, when I paid my next call.

The patient complained of an abundant secretion of saliva, his gums were red and swollen, his mouth emitting a disgusting odour; everything indicated the typical symptoms of a slight mercurial poisoning caused by the calomel I had prescribed. No reason existed for the slightest self-accusation. I had taken absolutely every measure of precaution.

What could I say? Was I to tell them that taking my medicine was the cause? Nothing could have been more idiotic. For I would merely have shattered my patient's confidence, no useful end being attained thereby, and in future he would anticipate some catastrophe from my every prescription. So I wisely held my peace, evading the eye of the patient's wife, and listened to her remarks upon the wonderful variety of complications in typhoid with unruffled composure.

Another time I was called to attend a child that had suddenly been taken ill; it was feverish but made no complaints, nor were there any definite symptoms present; nothing could be done until further developments showed themselves. I did not care to prescribe *ut aliquid fiat*, so I told the mother that certain general hygienic measures should be taken, but that no medicines were necessary. The child developed meningitis and died, the mother bitterly blaming me for its death, because I had not "stopped" its illness in time.

Again, could I "be honest" with incurables? In their case it is ever necessary to play the hypocrite, and to lie; one has to tax one's ingenuity again and again in making up all sorts of fictions, so as to

sustain the sufferer's drooping spirits. The patient is conscious of the deception—at least to a certain extent—and regards the doctor with sentiments of indignation—he would like to relegate medicine to the blackest depths of hell. . . . How should one comport oneself under the circumstances? . . . In such matters the ancient medicine of India was sincere and cruelly frank: it only busied itself with hopeful cases; the incurable had no right to its ministrations; his relations conducted him to the banks of the Ganges, filled his nostrils and mouth with the sacred mud and cast him into the river. . . .

The invalid loses his temper when the doctor does not tell him the truth. Oh! all that he wants to know is the truth! At first I was naïve and youthfully direct enough to acquiesce when the patient was persistent; only little by little did I realise what was really meant, when he desired to know the truth, declaring that he did not fear death. The real interpretation of such words was to be read thus: "If there be no hope, lie to me with skill, that I should not doubt the truth of your words for a moment."

It is necessary to be an actor everywhere and at every step. This is of the last importance, because disease is not only cured by medicines and special treatment, but by the patient's spirits as well; a cheerful and hopeful mood is an immensely powerful factor in the struggle against sickness, and its importance cannot be over-estimated. The patients whom I attended habitually, who warmly believed in me and would summon me from the other end of the town, derived much greater benefit from my treatment than those who applied for the first time; and in the beginning this was a source of surprise,

for I merely saw an amusing coincidence in the fact. It was only by degrees that it dawned upon me that this was no sport of chance, that I was really powerfully reinforced by the confidence I had won: the energy of both patient and his *entourage* was wonderfully buoyed up thereby. The sick stand in pressing need of this faith, detecting with fine instinct any note of doubt or vacillation in the doctor's voice.

And in the sick-room a deportment breathing calm confidence came to me as a second nature; I issued my orders in an authoritative tone, brooking no contradiction, although a thousand doubts might be assailing me internally.

"Wouldn't it be better to try——?" queries the sceptical patient.

"I must beg you to do exactly as I tell you," I remark categorically. "Only on this condition can I treat your case." And my whole tone implies that I am in possession of supreme knowledge, to doubt which would be a gratuitous insult.

Do not think that it is sufficient to win this confidence once; the struggle for its maintenance must be unceasing. The patient's illness is prolonged; one must keep a sharp eye on his psychical state as well as on that of his relatives; at the first sign of their losing heart, it is necessary—if only in outward appearances—to change the treatment, prescribe some new mixture, change the dose; one has to take a thousand trivialities into account, straining all the powers of one's imagination, finely studying the character and taking stock of the mental development of the sufferer and those about him. What I had originally imagined to be the work of the doctor, the pedantic carrying-out of the cut-and-dried ordina-

tions of medicine, proved to be very remote indeed from all this. A Turkish physician of the people, a *hadja*, prescribes for his patient, hangs numerous amulets and finally blows upon him; everything depends upon the last act: only a *hadja* endowed with a "good breath" can treat the sick. The same "good breath" is required of the *bonâ fide* doctor too. He may be gifted with a magnificent talent of discrimination, be capable of discerning the finest details of the action of his prescriptions—and all this will avail him nothing, if he lacks the qualities necessary for the conquest and subjugation of the patient's soul. Of course, *there are* truly educated patients who do not stand in need of this "good breath," who set a higher value upon talent and knowledge and do not fear the naked truth. But such patients are as rare amongst men as genius itself.

CHAPTER XIII

It took me a long time for my mental focus to adjust itself to view the powers vested in medicine in their true proportions and to recognise the limitations of the latter. When in the presence of a patient to whom I was powerless to give relief, I used to feel distressed and ashamed; standing before me, sullen and despairing, he was a living incarnation of heavy reproach to that science which I represented. And again and again maledictions would rise up in my breast at the impotence of this science.

". . . Was hab' ich
. . . Wenn ich nicht alles habe." [1]

To this one I could bring relief, this one was beyond my aid; nevertheless all of them flocked to me, all burned with the same desire to get well, all, with equal right, expected salvation at my hands. The cries of despairing anguish that fill the intimate correspondence of the mightiest representatives of the profession are very human and intelligible. And the greater the man, the more acutely is he made to feel his own helplessness. "Out of all my work, my lectures alone interest me and retain their life," wrote Botkin [2] to his friend Dr Belogolovy. "The rest I drag along as a man on the towing path drags his rope, prescribing a mass of super-

[1] "What have I, if I have not all?"

[2] One of Russia's greatest physicians of the latter half of the last century (deceased).—Translator.

fluous medicines. This is no empty phrase, and will help you to understand why my practical work in my *polyclinique* oppresses me so. Having a tremendous number of chronic cases under my observation, I have begun to realise with sadness how impotent our therapeutic remedies are. Hardly a *polyclinique* passes without the bitter reflection: 'why had I taken money from half of the patients and put them to the further expense of buying one or other of our pharmaceutical remedies, which, after affording relief for four and twenty hours, would work no appreciable change in their condition?' Forgive me for this hypochondria, but this was my day for private consultations, and I am under the fresh impression of my fruitless work."

Billroth wrote some verses, not intended for publication, which he sent to his friend the celebrated composer Brahms. It is difficult to render in translation the power and poetry of this fragment:—

"Ich kann's nicht mehr ertragen,
Wie mich die Menschen täglich, stündlich quälen,
Wie sie Unmögliches von mir begehren!
Weil ich ein wenig tiefer wohl als andere
In die Natur geheimstes Wesen drang,
So meinen sie, ich könnte gleich den Göttern
Durch Wunder Leiden nehmen, Glück erzaubern,
Und bin doch nur ein Mensch wie andere mehr.
Ach, wüsstet Ihr, wie's in mir wallet, siedet,
Und wie mein Herz den Schlag zurücke hält,
Wenn ich statt Heilung mit unsicheren Worten
Kaum Trost kann spenden den Verlorenen. . . .
. . . Was soll denn aus mir werden?
Aus mir, den viel bewunderten, hülflosen Mann?"[1]

[1] "I cannot bear this longer
When people daily, hourly torment me,

But one had to humble oneself gradually in the presence of this impotence: the inevitable always carries a kind of reconciliation; for, after all said and done, science gave us considerable powers, which allowed us to accomplish much. But what I could not reconcile myself to and what shook my satisfaction in my life's work, was the utter fictitiousness of these powers in the face of modern reality.

Medicine is a science devoted to the healing of mankind. So much was to be inferred from our books and our studies at the University. But life proved conclusively that medicine was, as a matter of fact, a science dealing with the treatment of the wealthy and leisured. As far as the rest were concerned, it was but a theoretical abstraction, which told us *how one might* cure people, if they were rich and free. What I was compelled to offer them, in the absence of these conditions, was no more nor less than the most brazen profanation of the healing art.

At rare intervals on holidays, a small boy—an apprentice from a neighbouring cobbler's shop, attends my consulting hours. His face has the greenish-pale hue of mildewed plaster and he suffers from vertigo and fainting fits. I often pass

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When they demand the impossible of me!
Because I have penetrated a little further than others
Into the most secret depths of nature,
They believe that, god-like,
I can by miracle relieve their suffering, conjure happiness,
While I am but a man, just as others.
Oh, if you but knew how everything wells up and seethes within me,
And how my heart-pulse falters,
When, instead of healing, with broken words
I am barely able to dispense comfort to the lost ones . . .
What will become of me,
Of me a helpless man, the object of so much wonder?"

the workshop where he toils—its windows open upon the street. Whether it be at six o'clock in the morning or at eleven at night, I never fail to see the cropped head of this poor child bending over a boot, and around him other green-complexioned, emaciated apprentices and boys; a small petroleum lamp feebly burns above their heads, and through the open window rolls forth a thick nauseating stench that turns the stomach. I have to doctor poor little Ivan the apprentice. I ought to come and tear him away from that dark, noisome kennel, take him out of town and let him run about the fields in the hot sunshine, inhaling the soft country breezes: his lungs would expand, his heart grow strong and his blood turn warm and red. Whereas, even the dusty streets of the metropolis see him only on those rare occasions when his employer sends him on an errand to a customer; even on holidays he is allowed no exercise, for his master locks him in the workshop together with the other boys, so as to keep them out of mischief. . . . All I can do is to prescribe some iron and arsenic for the poor lad, and derive what comfort I may from the reflection that still I am "doing something" for him.

A washerwoman suffering from eczema of the hands comes to me, or else a drayman with hernia, or a consumptive weaver; I prescribe salves, pills and powders all round and, myself ashamed of the farce I am keeping up, tell them in deprecatory tones that the chief conditions necessary for their recovery are as follows: that the washerwoman should not wet her hands, that the drayman should not strain himself by lifting weights, and that the weaver should keep out of dusty places. They sigh, thank me for my ointments and powders, and explain

that they cannot give up their occupations because they must eat.

At such moments I am consumed with shame for myself and the science I serve, for the puling littleness to which it is condemned when brought into operation.

In the country, a peasant suffering from great shortness of breath came to me one day. I found his left lung to be affected by croupous inflammation through and through. I was amazed that he should have been able to reach me, and told him that he must go to bed immediately on his return home, and keep there.

"Why, *barin*,[1] how can I?" It was his turn to show amazement. "Don't you know what season this is? These are busy times, the harvest has to be gathered in. The Lord has sent us fine weather and you tell me to lie in bed! Why, don't you know what that would mean? No, no! You just be kind and give me some drops to ease my chest."

"But don't you hear, no drops will do you any good if you go to work! This is no joking matter —you may die!"

"The Lord is merciful, why should I die? I'll get over it somehow. Any way, I can't possibly stay a-bed; we live for the whole year on the work of these three weeks." With my mixture in his pocket and his scythe over his shoulder, he trudged off to his field and reaped his rye till evening, then lay down under his hedge and died of anasarca of the lungs.

Ruthless, gigantic and resistless in its passionless sway, life ceaselessly does its blind, cruel work, while somewhere, far below, at its feet, the puny science called medicine potters about, evolving its hygienic and therapeutic "Standards."

[1] Sir.—TRANSLATOR.

We have before us the human system with all its organic wealth and diversity, demanding broad and unfettered scope for its functions; while the mission of life would appear to centre in a gruesome experiment of what this organism would come to if placed in the most impossible conditions. Some people are condemned to everlasting walking and standing about without rest; their soles flatten, their legs swell, the veins on their calves become strained and gradually develop into unhealing ulcers. Others are compelled to lead a sedentary life; their backs become crooked, liver and lungs compressed, bleeding piles appear in the rectum. Miners have to toil all day long on their hands and knees in the dark, close galleries of coal pits; the blowers at glass manufactories only work with their lungs, which they convert into bellows. There are no unnatural movements or positions which people are not compelled to pass their days in, there are no poisons which they are not forced to inhale, there are no circumstances of existence which life does not compel them to adopt.

I have just returned from visiting a broken-down cigarette-maker; she dwells in the corner of a tenement room—a squalid, low-ceilinged hutch, seven paces long by six broad. Sixteen human creatures make it their home. To remain in this abode for ten or fifteen minutes is torture to me; the room lacks air—this is no figure of speech—the lamp, which is properly trimmed and lit, smokes and gutters—there is insufficient oxygen to allow of a bright flame; the oppressive, moist, almost sticky atmosphere is impregnated with the fœtid odour of infantile excrements, twist and petroleum.

The waxen, strangely inanimate faces of the children peer at me out of the corners of the room; they are pigeon-chested, their teeth are crooked, their limbs rickety; while their large eyes betray no trace of that liveliness and merriment that is "natural" to childhood.

In fact, on becoming a doctor, I quite lost my bearings as to what was really right and proper in the human race. Was it natural that a tired person should want to sleep? No! A hospital nurse, a teacher, a journalistic drudge, worn out and broken, they cannot go to sleep without swallowing a dose of bromide potassium. Ought a person who had long remained without food experience a craving for it? No, certainly not! He finds himself compelled to resort to an artificial appetizer—just as if he were a surfeited glutton. This phenomenon struck me particularly amongst the majority of factory hands and artisans.

"You work all day, the machinery throbs, the floor beneath your feet wobbles like a live thing. . . . Well, you get so dog-tired that you haven't the heart for your victuals. You only just seem to want a good draught of kvass.[1] But kvass can't give you any strength—it merely fills your belly up—that's all. Vodka is the only thing that helps us out; after a little glass, well—you want to eat."

For several years I have attended the *employés* of a certain printing firm, and during all that time I never came across an old compositor. There is no old age, there are no grey hairs in that trade—the lead dust drives them all into an early grave.

Life conducts its experiments upon man and

[1] Kvass = a Russian national non-alcoholic beverage made of malt.—TRANSLATOR.

mockingly places at our disposal the results obtained for further investigation. We study the subject and obtain a very clear understanding of the effects on man of chronic phosphorus, lead or mercurial poisoning ; the influence of insufficient light, air and exercise upon the growth of children is also made plain to us ; we learn that only nine out of every hundred weavers attain the age of forty, that only six per cent. of the women employed in the textile industry live to the same age. . . . Also, we become acquainted with the fact that in Russia, owing to the arduous nature of their agricultural work, the physiological life peculiar to women is entirely suspended in the peasant woman during the summer months ; that seamstresses and female students often degenerate in a few years into anæmic, sickly creatures. And we shall learn much more as time passes. . . .

What could our medicine do under the circumstances? What value could be placed upon those pitiful palliatives with which it seeks to patch up all that so disfigures our life? . . .

Great suffering mankind hangs upon the cross, his hands and feet are transfixed by cruel nails, and medicine bathes the ensanguined wounds with arnica and applies aromatic poultices.

It is powerless to accomplish more. No science can exist that could teach us how to heal sores with the iron still rankling in them ; it cannot go beyond showing that humanity must live otherwise, that first of all the nails must be drawn from the lacerations.

Villermé's investigations, conducted in the late "twenties," showed that half the children of the Mulhausen weavers died before reaching the age of fifteen months. Villermé persuaded the mill-owner

Dollfus to allow his female mill-hands to remain at home for six weeks after confinement, retaining their full wages the while; this measure proved sufficient in itself to lower the infantile mortality by fifty per cent. without any extraneous medical aid.

One thing was ever becoming clearer and more incontestable in my eyes: that medicine can do no more than point out those conditions which alone make possible a healthy existence and the cure of disease. Therefore, a physician—if he be a physician and not a mummified medical functionary—must first of all strive to remove those conditions which at present render his work both senseless and barren; he must be a public worker in the broadest sense of the term; he must not only prescribe, but he must strive and seek to discover the means for carrying his directions out of theory into actuality.

And the need for undelayed action is all the more imperative, because time does not wait and life is rapidly carrying humanity towards the brink of a dark abyss. The numbers of the "unbalanced," physically unfit, and hereditary drunkards are ever on the increase, the halt, blind, deaf and stammering are ever multiplying.

The best criterion, for an estimation of the physical condition of the people, is furnished by the percentage of conscripts eligible as soldiers in those countries where military service is obligatory—and we see that, year by year, this number is falling off everywhere, like a barometrical column before a storm. In Austria, for instance, in 1870 the number of those who came up to the standard was twenty-six per cent., in 1875 eighteen per cent., in 1880 fourteen per cent. This is degeneration with a vengeance, which can almost be grasped by the hands, so to speak!

One of our anthropologists ventures upon a prophecy as to the future, and his words have the ring of cruel truth about them—they are not a mere empty phantasmagoria. "The ideal of a harmonious social order, with its interests at one, may not be realised, owing to the degeneration of humanity. A centralised feudo-industrial system will establish itself, in which the popular masses will be relegated, in somewhat modified form, to the position of the helots of ancient Sparta, organically adapted to such a state, owing to their own degeneration."

CHAPTER XIV

BUT I will suppose, for the sake of argument, that social conditions have undergone a radical change. Everyone is placed in a position to follow all the dictates of hygiene; we doctors are enabled to offer each patient all that medical science requires. Would our work be so sure to prove of indisputable benefit free from contradictions?

Already we have to hear more and more often the cry raised amongst doctors and anthropologists, that medicine is terribly one-sided and that its usefulness to mankind is open to grave question. "Medicine benefits the individual at the expense of the type." Mother Nature is prodigal and careless: she casts numberless creatures upon the world, not caring much as to the perfection of each specimen; the task of weeding out and destroying the unsuccessful and unfit is left to merciless life. And it is here that medicine appears upon the scene and strains all its energies to frustrate this work.

A woman in child-bed may have narrow hips and she cannot give birth; she and her child must perish; medicine steps in and saves both, and thus enables women with bad, narrow hips, unadapted for child-birth, to multiply. The higher the infantile death-rate, which medicine so energetically combats, the surer is the next generation of being purged of all weakly and sickly organisms. The syphilitic, tuberculous, rickety, mentally infirm and nervous individuals, cured through the good offices of medicine,

breed and produce a puny and nervous degenerated posterity. All these weaklings who, although they have been preserved, are rotten to the core, mix and cross with the healthy and thus conduce to the rapid impairing of the race in general. And every new success of medicine will accelerate this downward progress of deterioration.

Before his death Darwin had solid grounds for imparting to Wallace his despondent views on the future of humanity, owing to natural selection and survival of the fittest having no room in modern civilisation.

This spectre of universal degeneration is so real and glaring that it gives us food for serious and deep reflection. Many have made this knotty problem the subject of profound thought, and the most far-reaching reformatory projects are mooted for averting the danger. Proposals have been put forward that "all philanthropy" should be eradicated from human society and humanity transformed into a kind of vast stud-farm under the supreme direction of anthropo-technical physicians. It is not difficult to invent schemes of a like nature at one's study table: "The Happiness of Humanity" assumes such majestic and real proportions, while living individuals, transformed into dumb ciphers, are so easily amenable to addition and subtraction! . . . But after all, perhaps the essence of life is concentrated in the individual consciousness of the unit, and outside this sphere the rest fades into insignificance. To the lasting honour of humanity be it said, that the praiseworthy instinct to break down the walls of already existing stables shows itself to be ever in the ascendant, and men give no indications of wanting to build up fresh prison walls. . . . Nevertheless the fact remains:

natural selection is on the wane, while medicine is ever assisting this process, giving absolutely nothing in exchange.

The consequences of the disappearance of selection, as just roughly indicated, do not stop here, but are much deeper and more far-reaching.

By long and untiring effort, the type of modern man, more or less adapted to his environments, was evolved. But these environments do not remain inert—on the contrary, they undergo constant fundamental changes, which are compassed with ever increasing rapidity. On the other hand, the human organism has ceased to keep pace with them, in the sense of developing new and positive qualities. In former times teeth were necessary for the reducing of hard and tough food of moderate temperature. Nowadays man consumes soft foods, either very hot or very cold. This kind of nutriment requires an entirely new dental apparatus—the old serves its purpose no more. The appalling number of bad teeth that we see in civilised communities speaks for this. Wild tribes which are devoid of all culture possess powerfully developed jaws and strong and healthy teeth. The semi-civilised peoples show a percentage of between five and twenty-five with decayed teeth, whereas 80 per cent. of the population of highly cultured communities are affected by dental corrosion.[1]

[1] Researches instituted to ascertain the condition of the teeth of the female pupils being educated in the schools of the Russian Imperial Humane Society, showed how gigantic were the strides made by dental decay, with the advance of age. The pupils were divided into three groups according to age: (1) fron 8-12, (2) from 12-16, (3) from 16-20. The first group showed that 79 per cent. had spoilt teeth, each girl averaging three bad ones; the second disclosed 87 per cent., with an average of 4.5 bad ones for each; in the third group there were 92 per cent., an average of 5.9 bad teeth being constated.

Pray give this your full attention: the living organism in a state of rot and corruption in the living man! There is nothing exceptional about this—on the contrary, such is the rule with but insignificant deviations. Either man must return to his former food, or else, evolve new teeth! How does medicine act in the meanwhile? It cleans, fills and treats these teeth and does all it can to fortify those remaining intact, which will, in their turn, go, because they *cannot* help it.

Formerly man required his eyes chiefly for long distance vision, and they entirely answered their purpose. Conditions of life have undergone a change, the organ has to meet the requirement for more work at close quarters; a new optic must evolve itself, equally efficient for long vision and short focus work. But medicine accommodatingly supplies the short-sighted eye with a lens—thus the unserviceable organ is made serviceable by purely extraneous devices. The number of the myoptic is constantly on the increase, and all that remains us is to thank the Lord that there will ever be sufficient glass to provide everyone with spectacles.

The fact that the human organism does not acquire those positive qualities which are essential to the changed conditions of life, is thus made plain. But worse is to follow: the human organism shows a serious tendency to lose those it already possesses. Medicine, in the pursuit of its aims, threatens to do humanity a very poor service in this direction too.

What is modern medicine's ideal? It lies in the stamping out of every disease in its inception, or better still—in not admitting it into the system at all. For instance, surgery insistently demands that the most insignificant scratch or cut should immedi-

ately be subjected to careful antiseptic treatment. In each separate case this may answer very well, but if applied habitually and universally, the system will entirely lose its powers of independent struggle with infection! At the present day a vast accumulation of observation has established the fact that savages easily recover, without any special treatment, from wounds that would kill the European, notwithstanding the most careful nursing.

Then, again, let us take infectious diseases in general. The human system shows far greater powers of resistance in regard to complaints that are peculiar to a given district and a given nationality, than towards diseases hitherto unknown. Amongst savages scarlet fever and measles carry away half the population at a sweep. Numerous as is the number of Polynesian aborigines exterminated by arms, the "white sickness" (phthisis) has claimed far more numerous victims.

"Who killed your father? Who killed your mother?"

"The white sickness!"

A Polynesian woman, entering into relations with a white, invariably falls victim to consumption; this is not all—she infects her native lovers as well. If an Australian aboriginal passes a few days in a European town of New Holland, he contracts consumption (according to Krjivitsky).

On the other hand, the European as easily succumbs to tropical malaria, yellow fever and tropical dysentery. What would the result be if all infectious diseases were destroyed by science in the germ? Entirely strange to them, man would fall their victim swiftly and surely, if chance deprived him of his accustomed protection. Finally he would

lose every vestige of independence, not daring to stray a yard from the protecting wing of medicine. I recently came across an article containing the following reflections on the aims of medicine: "It will only then be possible to safeguard the system from that varied multitude of poisons that are constantly being introduced by different microbes, when one universal antitoxin for all these will have been discovered. This desideratum once attained, we would merely have to inject daily into our blood a fixed amount of the antitoxic fluid and thus anticipate the malignant effects of the poisons which the micro-organic world daily introduces into our bodies. At present, unfortunately, there are not the slightest grounds for believing in the realisation of such rosy hopes."

Is not this awful! To be forced to inject a dose of universal antitoxin beneath your skin every day of your life, when getting up! And if you forget to—you perish because the first stray bacillus will be sufficient to give your poor organism, which has lost all capacity of self-protection, its *coup de grâce.*

The science called hygiene tells us that we should not sleep between window and stove: the draught caused by the difference of temperature of the cold window panes and the warm stove might give us a cold. Hygiene warns us against hard out-door work on cold winter days, as our deep inspirations conduce to the violent cooling of the lungs, which might result in a chill. But pray, why does not a crow become enrheumed through sleeping in the biting autumn wind; why do not the reindeer, that madly gallop over the frozen tundra at a freezing temperature of forty degrees

below zero, contract pneumonia? The crows and the reindeer that caught cold died off, thus purifying the species of unadapted units, while we have no right to leave the weak human creature to the mercy of the laws of survival of the fittest. No one will say a word against this. But medicine should strive and make those weak creatures strong. Unfortunately, it reverses the process, makes the strong weak and seeks to turn all men into pitiful, helpless beings, tied to its apron-strings.

However, it is a matter for deep congratulation that, of late, science shows indications of choosing other paths, which bid fair to lead us in the future to much that is consolatory. In this respect the experiments in artificial immunisation of man are especially noteworthy. Although, as yet, not conclusively proven, it is very probable that the essence of the action of such immunisation lies in the training of the organic forces in the independent struggle with those microbes and poisons which force their way into the system. If this really be so, we have to deal with a vast revolution of the very foundations of medicine: instead of hastening to rid him of the disease that has already taken root, medicine will convert man into a combatant himself, able to deal with the dangers menacing him. Here we have before us an illustration of one of those methods whereby medicine, without claiming any victims, may arrive at leading civilised humanity to the same desideratum which savage communities attain through survival of the fittest, at the price of great waste of life.

The dreams of to-day will be the reality of to-morrow; science preserves within itself much latent and, to itself, unknown energy; and we

have the right to expect that the science of the future will find more ways than one for the achievement of the same object as that pursued by nature —but in a manner reconciling the interests of the individual and the type.

To what extent and within what limits this will prove feasible, remains to be seen—we cannot conjecture beforehand. But this, the true anthropotechnique, will have many problems to solve—problems both wide-reaching and knotty—perhaps insoluble, but none the less burning.

"All that leaves the hands of Nature is perfect." Rousseau's celebrated *dictum* has long been exploded, in respect to man no less than to nature's other creations. The present day has overtaken the human animal in an evolutionary stage: still retaining numberless defects, in some respects he is insufficiently developed, while many organs represent atrophied relics of a bygone age. Every whit as if man had been suddenly snatched, unfinished and incomplete, from Nature's laboratory, while the process of his shaping was in full swing.

For example, at the commencement of the colon is located the short *cæcum*, or blind intestine, whereas in our zoological ancestors the latter existed in the form of a large and necessary organ, still surviving as such in the herbivorous animals of to-day. Ceasing to serve any useful purpose in man, this organ did not, however, disappear, but transformed itself into a long, narrow, worm-like outgrowth appending to the *cæcum*. Not only does this obsolete survival serve no useful purpose, but its presence is a source of positive danger to man; the pips, seeds and such like contained in the chyme, frequently find their way into this cul-de-

sac and cause serious, and often, fatal inflammation of the vermiform process (*appendicitis*).

Pursuing our investigations further, we see that the disposition of man's vitals has not as yet finally adapted itself to his upright carriage. We should clearly realise how violently this change of carriage must needs have affected the distribution and extent of the stresses exercised upon our various organs, and we will easily understand that their task of accommodating themselves to the changed conditions was far from light. Without enumerating all the defects resulting from this, I need only draw attention to one of the most important: nearly half of all the female complaints known are caused by various displacements of the womb. At the same time a large proportion of these displacements would never occur, and the rest would be cured with much greater ease, if women walked on all fours. Even as a temporary measure the so-called genu-pestoral position (*à la vache*), introduced by Marion Sims, is invaluable in gynæcology and obstetrics: some gynæcologists hail Marion Sim's discovery as "the turning-point in the history of gynæcology."

Making women the subject of our special attention, we stumble upon such a mass of the most grave physiological contradictions and defects in her organisation, that the mind absolutely declines to acquiesce in their being proper and "normal."

The definition of woman as "an animal naturally weak and sickly, only enjoying occasional bright periods of health which show up against a background of uninterrupted disease," is no less sad than true. The healthiest of women—the most

painstaking research furnishes conclusive proof to this effect—is periodically unmistakably ill. And it is impossible to explain such an anomaly otherwise than by assuming it to be the result of a transmigratory stage towards another, more perfect state. Maternity furnishes a repetition of the same story: the female in woman is ever becoming less pronounced—there being nothing "unnatural" in this, because she too possesses a brain with all its broad and mighty calls. At the same time she cannot, without radically changing her nature, renounce love with its accompaniment of uninterrupted maternity, which saps the strength of woman in its bloom. Two demands, equally potent and legitimate, come into collision; but as long as the organism remains as it is, there is no help for it.

Metschnikoff points out another crying contradiction—one dealing with the sexual instinct. A child is altogether unfit for propagation, yet the sexual instinct is so far individualised that the child is enabled to abuse it. The growth of the hip-bones in a young girl, on completion of which she becomes ripe for maternity, is only achieved at the age of twenty,[1] while pubescence comes at sixteen. In consequence of this, the three moments which ought to coincide—that of the awakening of the sexual instinct, its satisfaction and the function of reproduction, are separated from each other by periods of several years. A girl may experience the desire to be a wife at ten, she can only become one at sixteen, while she may only be a mother at twenty!

[1] Statistical data fully bear out Metschnikoff's contentions: according to Bertillon, the death-rate amongst spinsters of the ages from 15-20 amounts to 7 per cent., whereas that of married women of the same age is as high as 50 per cent.

"It is worthy of note," remarks Metschnikoff, "that such pervertions of the natural instincts as suicide, infanticide, etc., *i.e.* just those so-called "unnatural" actions, are numbered among the most characteristic peculiarities of man. May not this point to the fact that these actions are part and parcel of our nature and, therefore, worthy of the most serious attention? It may be affirmed that the genus *Homo Sapiens* belongs to the number of those which have not as yet fully arrived at stability and are not fully adapted to the conditions of existence."

The unfitness of man for the conditions of his existence is glaringly exemplified by the disproportionate weakness of his nervous system. In this respect he badly lags behind his times. Actuality places a heightened demand on his nervous powers, requires an increased mental expenditure; our nerves are unequal to such intensive work—and resort to stimulants, artificially quickening the nervous energy, results. Moralists may essay to shame us for recoursing to such remedies, medicine may point out the "unnaturalness" of introducing nicotine, thein, alcohol and like poisons into our systems.

But "unnaturalness" is a very elastic idea. By themselves many stimulants, such as tobacco, spirits, beer, etc., are horrid to the taste and their action upon the unaccustomed person is extremely unpleasant. Why, then, should every one of these excitants spread from its birth-place all over the world so victoriously and with such lightning rapidity, and the "uncorrupted" nature of man fall its victim so readily? It is the human organism, which has been left behind in the world's onward progress, that is abnormal; it is unnatural that man should be

compelled to draw upon his surroundings for that strength which ought to be self-contained!

One way or another, sooner or later, the human organism must arrive at a state of stability and harmony between its cravings and its functions. The attainment of this end cannot fail to become the supreme goal of science, because therein lies the fundamental condition of human happiness. For these eternal throes, this everlasting self-distortion must finally cease and mankind awaken to a broad and untrammelled life, free to satisfy all its needs, when the very thought of such phenomena as "unnatural cravings" will appear grotesquely impossible.

CHAPTER XV

IT was shown in the foregoing chapter that it still remains for the human organism to emerge from its evolutionary stage and arrive at final completeness in harmony with existing conditions. But how are we to foresee the form this adaptation will take! The hawk soaring at a dizzy height distinguishes the lark cowering to the ground and is adapted to the circumstances of its existence; so is the blind mole burrowing in the earth. What is man destined to—the freedom of the hawk or the slavery of the mole? Is he fated to improve and perfect his existing faculties or to lose them?

Thanks to his intellectual superiority, man emancipates himself ever more and more from the yoke of external nature, is ever adding to his independence and gathering more strength in his struggle with nature's forces. He protects and shelters himself from the cold by means of clothing and habitations, he converts the coarse foods provided by nature into easily assimilated nutriment, he substitutes the greater muscular power of animals for his own, makes mighty steam and electricity his servants.

Culture has swiftly wrought many improvements in our life and made possible such conditions of existence, which would be utterly precluded under the sway of elemental nature. In its onward progress it also promises to place the comforts that are now the privilege of the fortunate few, within the reach of the masses, at no distant date.

The end to the domination of nature over man is in sight. . . . But have we really such good reason for jubilation? The soft waves of culture have enfolded us in their embrace and carry us forward, without allowing us to see whither we are speeding; we surrender ourselves to these waves and do not perceive how all the treasures we possess are, one by one, engulfed. Not only does this fact escape our notice—we wilfully ignore it: for all our attention is exclusively centred upon our most prized jewel—our intellect, which lures us on to the bright realm of "perfect civilisation." But when you reckon up all that we have lost already, and make a mental calculation of what we are about to part with so blithely, cold fear grips the heart—and the dark menace of some new form of human slavery looms up ominously, over-clouding the bright, far-off vistas of our imaginations. Professor Gruber's measurements show that the length of the alimentary canal of the European increases appreciably from S.W. to N.E. Its greatest length is encountered in Northern Germany, and especially in Russia. This is accounted for by the fact that the inhabitants of North-Eastern Europe subsist on less digestible food than those of the South-West. Such observations encourage the physiologist in entertaining "bright hopes" for the gradual corporal regeneration and "perfectionment" of man, thanks to a rational diet. By absorbing for many generations concentrated chemical compounds, which would become transformed into blood in their entirety, without requiring any previous preparation by the digestive juices, the human system would free itself, to a great extent, from the burden represented by the digestive organs, while the saving in constructive tissue and

of the material formerly expended upon the up-keeping of their living energy, would go to reinforce the nobler higher organs (Setschenoff[1]).

For the sake of the "nobler higher organs," the reduction of the vegetative apparatus of the human body to zero is hailed as the ideal desideratum of the organism of the future. Herbert Spencer goes further and expresses satisfaction at civilised man's loss of those qualities which are typical of the savage, viz. fineness of the physical senses, keen perception, skill in arms, etc.

In his "Principles of Sociology" (vol. i. p. 89) he remarks: ". . . in virtue of a general antagonism between the activities of the simpler faculties and the activities of the more complex faculties, it results that this dominance of the lower intellectual life hinders the higher intellectual life. In proportion as the mental energies go out in restless and multitudinous perception, they cannot go out in calm and deliberate thought."

Civilisation energetically and successfully goes out to meet such ideals half-way. Our olfactory organ has become quite rudimentary; the sensibility of the cutaneous nerves to variations of temperature and their faculty of regulating the calorification of the body has become appreciably lessened; the glandular tissue of the female breast is becoming atrophied; considerable weakening of sexual energy is noticeable; the bones are becoming smaller, the first and the floating ribs show a tendency to disappear; the wisdom teeth have become rudimentary organs and are entirely lacked by forty-two per cent. of Europeans; it is prophesied that the double molars

[1] Professor of Physiology at the Imperial University of Moscow, and a savant of world-wide reputation.—TRANSLATOR.

will follow suit; the intestinal duct is ever growing briefer and the army of the bald ever increasing.

When reading about savages and their powers of endurance, the subtlety of their external senses, I am seized with bitter envy; I find it impossible to reconcile myself to the thought that it is necessary and inevitable that we should lose all these! The Guiana native will tell you the number of men, women and children who have passed along a forest path, while the utmost that the white can do is to faintly distinguish a few confused footprints. When Kommerson, the naturalist, arrived amongst the Society Islanders, accompanied by his servant, the natives sniffed, smelt the latter over and declared that he was a woman, not a man at all: and so it was, for Jeanne Baré, his sweetheart, accompanied him in his circumnavigation disguised as his valet. The Bushman can starve for several days running, while, on the other hand, he can procure food where the European would die of hunger. The Bedouin in the desert sustains himself for a day with a couple of gulps of water and two handfuls of parched meal slightly moistened. While others shiver from cold, the Arab sleeps barefoot beneath an open tent, reposing no less peacefully upon the burning sand in the full blaze of the mid-day sun. While visiting Tierra del Fuego, Darwin saw a woman with a suckling babe approach the ship out of sheer curiosity, while the falling snow melted upon the naked bodies of both child and mother. It was also whilst among the Tierra-del-Fuegans that the great naturalist and his companions felt chilled while sitting, well wrapped up, next a bright camp-fire, whereas the naked aboriginals sweated profusely, although remaining a good distance from the blaze.

The Yakouts[1] are called the "Iron People" for their insensibility to cold, the naked children of Esquimaux and Tschouktshi[2] run out of their warm dwellings into the cold, with the thermometer often as low as 40° Fahr. . . .

These people are as strange to us civilised folks as the inhabitants of another planet, and in our very conceptions of health we have nothing in common with them. Our hyper-civilised man walks over a dewy lawn barefoot and contracts a cold, a night passed beneath the open sky cripples him for life, a twenty-miles' walk results in synovitis.

And we consider ourselves healthy notwithstanding! Thanks to gloves, our hands will soon become as sensitive to cold as are our feet, and the expression "to get wet hands" will acquire the same meaning as "getting wet feet" at the present day.

And the Lord alone knows what the coming age has in store, what gifts and conveniences are being prepared for us in civilisation's laboratory! In the same way as ordinary plain food is no more considered a suitable diet for us, so, in the future, will natural air become "irrational," being too rare and impure for our small and delicate lungs. Man will carry an apparatus filled with concentrated, pure oxygen about with him, inhaling it through a little tube; and if his apparatus suddenly goes wrong, will perish from suffocation in the free air of heaven, exactly like a stranded fish. Thanks to improvements in the optical line, the human eye will be able to discern a gnat at ten miles' range, to see through solid earth and stone walls, itself—a counterpart to our modern olfactory apparatus—transformed into a rudimentary

[1] A Siberian aboriginal tribe. [2] *Ibid.*—TRANSLATOR.

and inflamed organ, in daily need of syringing, rinsing and cleaning. At present we live in a state of chronic intoxication ; wine, tobacco, tea, etc., losing their stimulating properties, humanity will pass on to new and more potent poisons. Fecundation will be accomplished artificially as being too gross for man, the amorous instinct finding satisfaction in voluptuous embraces and other irritants, without the accompaniment of "filth," as described by Huysmans in his book "La-bas." Perhaps even things will go still further. Professor Eilenburg cites one of the latest German writers, Hermann Bar, who dreams of an "extra-sexual sensuality and the substitution of more refined nerves for the low erotic organs." According to his opinion, the twentieth century is destined to make the "Great discovery of a third sex mid-way between man and woman, standing in no need of either male or female apparatus, because this new sex will unite in its brain, all the faculties of the opposite sexes, and after long probation, *will have learned to substitute the imaginary for the real.*"

Pray admire this "ideal being" freed from all the vegetative and animal functions of the organism ! In his celebrated story "The War of the Worlds," Wells painted the Martian's portrait with insufficient vigour. In reality the creature must have been far more mighty, helpless and repulsive than the being described by the novelist.

Science cannot remain blind to the retrogression of the glorious human image before culture—an image created by a long and difficult process of evolution. But it takes refuge in the reflection that man could not otherwise have developed his mind in the required degree. As already mentioned, Spencer actually evinces satisfaction that this intellect should have

become purblind and half deaf, thus placed beyond the disturbing influences of "restless and multitudinous perception." Wiedersheim, the eminent authority on comparative anatomy, declares that, by developing his brain, man completely made good the loss of a long array of useful organic appliances. These had to be sacrificed to forward the cause of cerebral development, which has made man what he now is—*Homo Sapiens.*

But this remains to be proved! Evidence must be forthcoming to show that the brain really stands in need of such sacrifices and, what is still more important, that they cannot be obviated in future. If cerebral development was hitherto purchased at the body's expense, it by no means follows that all other ways to further advancement are closed. We view our past losses with equanimity: it matters little, after all, that we cannot eat other than easily digestible, pappy food, that we must envelop our delicate, shivering bodies in warm wraps, stand in dread of chills, use spectacles, clean our teeth and rinse our mouths for fear of offensive breath, etc! The length of the human intestinal canal exceeds that of the body by six times; would we be much happier if, instead, it were like a sheep's—twenty-eight times as long? If in *lieu* of one, man possessed four stomachs like a ruminant? When all is said and done, "Der Mensch ist was er isst," man is what he eats. And there would not be much to rejoice about if he were turned into a dull, cud-chewing brute, whose entire energy was absorbed by the digestive process.

If man were to discard clothing, this would necessitate a tremendous expenditure of energy on the part of the system to increase our caloric out-put,

and there are really no grounds for envying the glacial flea, which lives and multiplies upon the ice.

No one will argue against such a contention. Of course I am far from wishing man to become a ruminant or a glacial flea. But no more does it follow that his ideal should be an animated brain specimen solely able to exist in a hermetically sealed glass case! Cultured man does not mind saddling his nose with spectacles, losing his muscles, refusing "heavy" food; but he would be horrified at the prospect of never parting with a phial of concentrated oxygen, of covering up his face and hands indoors, having to insert olfactory discs into his nostrils and speaking trumpets into his ears!

Here is the whole matter in a nutshell: while availing ourselves of the advantages offered by civilisation, we must preserve the closest communion with nature; in developing various new and positive qualities in our organisms, made possible by our civilisation, we must be jealous of our old characteristics; their attainment has been won at too great a cost, while nothing could be easier than to lose them. Grant intellect full scope for its advancement but let us have strong thews, keen organs of sense, an active frame and a hardened system too, that we may lead a natural, wholesome life at one with nature, and not merely content ourselves with resting in its lap in the garb of effete summer visitors.

Only the body's free and many-sided existence in all the variety of its functions and multiplicity of the impressions furnished by the brain, can impart a wide and energetic life to the brain itself.

"Thy body is thy greater mind, multiplicity with

a single consciousness, peace and war, the herd and the shepherd."

"Thy lesser reason is thy body's tool, oh my brother; that little tool, that toy of thy greater mind thou callest thy spirit."

Thus spoke Nietzsche's *Zarothustra*, addressing those who "despise the body." . . . The closer the acquaintance with the soul of the so-called "intellectual" man, the less attractive and satisfying does that "lesser reason," which has disowned the "greater mind," stand out before us.

And, at the same time, there can be no doubt that social evolution dooms this greater mind to annihilation; at anyrate there is nothing to lead us to expect that things will improve in this respect in the near future. The promise of the future social emancipation of man is embodied in the great city, and only such speculations as those indulged in by Bellamy have any real foundation.

This future, so bright from the social point of view, is hopelessly sinister and poor as far as the life of the organism itself is concerned; everything will tend to make physical labour superfluous and bodily idleness will result, fat will take the place of muscle, we shall lead an unretrospective, vegetative existence, being deprived of broad horizons and strangers to nature. . . .

Medicine may be as insistent as it pleases in pointing out to man the necessity of an all-round physical training—all its injunctions, as far as the adult is concerned, will be effectually nullified by the existing conditions, as they are set at nought by the cultured classes of to-day. To become strong and vigorous the adult must *work* with sinews and muscles, not merely exercise the latter. It is no

great hardship to throw away daily two or three minutes cleaning the teeth for hygienic considerations, but it would be unspeakably dreary and repugnant to waste several hours *per diem* over senseless and unproductive gymnastics. Here lies the chief reason of the intellectual person's bodily flabbiness, and not at all in his lack of appreciation of the benefits accruing from a good physique. Personal experience convinced me of this.

In this respect I was brought up under exceptionally favourable conditions. Each summer, up to the close of my University career, I passed in the country, living the life of a simple labourer. From morn till eve I ploughed, mowed, harvested and felled timber. And how well do I know the bliss of that hearty, healthy fatigue in every muscle, that is born of hard work in the open, when colds have no terrors; how well do I remember my ravenous appetite and sound sleep. Even now, when I am able to tear myself away from town, I fly to the country, again taking up scythe and axe; returning to St Petersburg with horny hands, a rejuvenated body, a thirsty and joyful love of life. I am not theorising. My whole being cries to me that the soul stands in need of energetic life of the body, and in its absence my depression of spirits becomes almost ridiculous. I passed last summer in rustic surroundings as usual: one night, about a fortnight upon my return to town, I woke from a paroxysm of weeping; some dream had plunged my soul into terrible sadness. I tried to recollect my vision—at first in vain—finally succeeding. I saw myself standing at the edge of the forest, axe in hand; at my feet lay two birch-trees just felled by me; grey clouds straggled athwart the sky and a fresh and

bracing wind fanned my face. Nothing more. But my heaviness of heart remained, and the same feeling of depression gripped it: as if a glimpse of heaven had just been granted me, to be followed by a sad awakening to reality; my summer's dream was a thing of the past. . . . My limbs were suffused with an irritating, restless sensation, as if yearning for work; a dull light, reflected from the street lamps, played upon the ceiling of my bedroom, while the everlasting, muffled, vibrating rumble of the unsleeping city floated through the windows.

And nevertheless, when in town, I cannot help living the life of a brain-worker pure and simple. At first I try to resist, take dumb-bell exercise, do gymnastics, go for long walks; but my patience is short-lived, it succumbs beneath the boredom and senselessness of it all. And if, in times to come, our inherent craving for labour will only find outlet in sport, lawn tennis, cricket, gymnastics, etc., all the remonstrances of medicine and of our reason itself will prove utterly powerless against the *ennui* of such "work."

Dostoyevsky, in his "Letters from the House of the Dead," describing enforced convict labour in Siberia, says: "If it were desired to crush and utterly abase man, to inflict upon him the most awful punishment, that the most terrible murderer would quail before and fear in anticipation, all that would be required were to impart the character of perfect, complete uselessness and senselessness to his work. If, for instance, the convict were forced to pour water from tub to tub, while another was given sand to pound in a mortar, and so on, I think that the prisoner would strangle himself after a

few days, or else commit a thousand crimes, so as to escape this horrible degradation and suffering, even at the cost of his life."

Small wonder then if the man of the future kicks all these absurd tubs aside.

Thus life says: "Thou strong men with powerful thews, sharp eyes and keen ears, hardy and self-sufficient in thy independence, I have no use for such as thou, that are doomed to extinction." . . .

But the new man, who is to take his place, what promise of happiness does he hold out?

CHAPTER XVI

ONE day a peasant woman from our village came to ask me to see her daughter who was ill.

On entering their cottage I was struck by the sour and indescribably disgusting stench pervading the air—just the sort of smell as emanated from a gully where offal is cast. Lying upon one of the low broad benches running round the room, covered with a sheep-skin coat, was a girl of seventeen with pale and wasted features.

"Where do you feel the pain?" I asked.

She grew very red and made no response, merely staring at me in a frightened way.

"Oh, doctor deary, she's a-bed with an illness a maid might well be ashamed to show," whined the old woman.

"What nonsense! You mustn't be ashamed of your doctor! Let me see what's the matter."

I went up to the girl. Her face suddenly assumed a wooden expression of submission, while a pair of dull and scared eyes stared at me mutely.

"Turn round, Annie, let him have a look!" coaxed the mother, removing the sheep-skin. "The doctor will see what ails you, please God he'll do you good and you'll be well."

With the same imbecile eyes and with a concentrated, frightened passiveness, the girl turned on her side and lifted her rude linen shift, which was stiff as bark from dried pus. I grew faint from the unbearable odour and from the sight I saw. Her entire

left thigh, from waist to knee, was one great bluish-red swelling, corroded by sores and abscesses the size of a fist, covered with stinking, decomposing matter.

"Why didn't you send for me before? Why, I've been here for the last six weeks!" I cried.

"Oh, deary doctor, she was ashamed, poor lass," sighed the old woman. "She's been ill more than a month; she thought it would pass by itself, God willing; first of all it was just such a little spot. . . . Say I: 'Annie, there's a doctor come to stay with the Squire, all pray for him for the good he does—go and show him your leg.' 'Oh no, mammy, I'm ashamed.' . . . Of course she's a maid and foolish. . . . And this is what we've come to!"

I hastened home to fetch my instruments and bandaging materials. . . . My God, how grotesque! Aid was to be had for the asking for the past month—but a clownish, monstrous feeling prevented her from availing herself of it, and only now, at the eleventh hour, had she screwed up courage to cross this boundary—now that it was too late, perhaps. . . .

Such cases are very common. How many complaints are neglected by women through this shame, how many obstructions placed in the way of the doctor's diagnosis and subsequent treatment! How much mental suffering has a woman to pass through when forced to overstep her shame! Even now before me arises, as in the life, the flurried face of the girl, with its suddenly assumed expression of vacuity, and her scared submissive eyes; she must have gone through a lot, until compelled to waive her maidenly shame and apply to me.

When frequently subjected to the same impressions we become accustomed to them. Nevertheless, when-

ever a female patient unrobes in my presence with slightly heightened colour and an almost imperceptible tremor, I wonder whether I have any true conception of what her soul is going through at this moment?

In "Anna Karenina" there is a painful scene. "The celebrated doctor," writes Tolstoi, "a very handsome and not as yet an old man, demanded an examination of Kitty. He seemed to insist with special pleasure, that maidenly shame was a relic of barbaric times and that nothing could be more natural than that a man, still in his prime, should feel over a young and bared girl. It was necessary to submit. . . . After an attentive examination and auscultation of the patient, who was flurried and stupefied from shame, the celebrated doctor having carefully washed his hands, stood in the drawing-room conversing with the prince. . . . Her mother went to Kitty in the drawing-room. Thin and flushed, with a peculiar brightness of the eyes, owing to the shame she had lately borne, Kitty stood in the middle of the room. When the doctor entered, her face flamed up and her eyes filled with tears."

Patients gradually develop habit for such examinations; but it is only attained at the cost of the painful shattering of the spiritual ideology nurtured from childhood. By no means do all pass through the mill unscathed. I remember once experiencing something akin to fear at the sight of the terrible denudation that such a shattering may occasionally cause in the soul of a woman. I was a student at the time and on my way to a cholera-stricken district in the province of Ekaterinoslav. At Kharkoff, about 10 P.M., a young lady-like woman

got into our car; she had a sympathetic and pretty face with clear naïve eyes. We entered into conversation. On hearing that I was a medical student she told me that she had been to Kharkoff for the sake of undergoing special treatment, and forthwith launched into a description of her malady: a victim to dysmenorrhœa for the last four years, she had consulted various professors; one diagnosed anteflexio of the uterus; another, constriction of the collum; a month ago division of the collum had been performed upon her. Gazing at me through the gloom of the car with limpid and serene eyes, she described the symptoms of her complaint and told me how it had commenced; she initiated me into the most intimate details of her sexual and married life, there was nothing before which she showed any hesitation; and all this—unnecessarily, with no end in view, even without any questions on my part! I listened dumfounded: how many revolting manipulations and inquisitions must it have been her lot to submit to, how long and systematically must she have been forced to trample upon her woman's modesty, that this voluntary and aimless baring of herself before the first chance acquaintance should have become possible!

But if this same shame of woman bore another character—this outraging of her sensibilities, and the resulting spiritual devastation, would not be possible. In St Petersburg once I had to attend a lady student. Everything indicated typhoid; the spleen could be felt through her chemise, but it was necessary to bare her middle, that I might see the roseolæ. I hesitated for a moment—even now it pains me to proffer such requests.

"Ah! you want me to lift my nightgown?" the

girl asked quite naturally, guessing what was required.

She did so. And this, which is often so agonising, shameful and hard, proved wonderfully easy and simple! I can hardly tell you what a sympathetic aspect this serious-faced girl, with her clever and calm eyes, acquired on the instant. . . . I saw that to her what had happened contained neither offence nor torture, because she was cultured in the true sense. But although this baring of herself at my request was performed with such ready and unconscious simplicity, I am convinced that, casually met in a railway carriage, she would never have told me anything like that *other one.*

What is shameful for the human being and what is not shameful?

There are certain tribes that are ashamed to *clothe themselves.* When the missionaries distributed clothes to the Indians of the Orinoco River, to cover their bodies with, the women either threw them away or hid them, saying: "We do not clothe ourselves because we are ashamed." While in Brazil, Wallace once found in a hut several women who were absolutely naked, but not in the least abashed by the circumstance. One of them was provided with a "saia" or kind of petticoat, which she occasionally donned; Wallace tells us that it was when she had it on that she showed almost the same shame as would a civilised woman if surprised without that article of apparel.

What is shameful? We judge from a standpoint that we have acquired through the complex agency of the most varied and, often, entirely chance, causes. Those who are more bashful than ourselves and those who are less so, excite the same condescending smile

of pity at their "want of culture." Modesty forbids the oriental woman to expose her face to the male gaze; a Russian peasant woman regards it as a shame to appear in public with bare head; the provincial ladies described by Gogol [1] thought it bad manners to say "I have blown my nose," substituting "I have made us of my pocket-handkerchief, I have eased my nose." All this provokes our laughter, and we are genuinely perplexed as to why it should be indecent to show one's face or hair, or to talk about blowing our noses. But why does not a woman, who is ashamed to bare her knee or middle before a man, excite our ridicule. How is it that the most modest girl does not consider it indecent to expose the upper half of her breast at a ball, whereas, stripped to the waist, she would be called a brazen hussy? Why do we not feel shocked at the sight of a man who appears in the presence of women with uncovered beard and moustache—for these are undoubtedly the secondary attributes of the male? There is no harm in saying "I have blown my nose," but the mention of certain other physiological functions, equally unæsthetic it is true, but no less natural, is forbidden. In consequence of this, when in each other's presence, members of the opposite sexes subject themselves to torment, frequently courting serious illness by not daring to betray any sign of wanting to perform that without which, as all know, we cannot exist.

Our whole up-bringing is directed to the one end of making us regard our bodies as shameful; we are taught to consider a whole series of the most legitimate functions of our organisms, pre-ordained by nature, not otherwise than with shame; *obscoenum*

[1] The greatest humourist of Russian literature; died in 1852.—TRANSLATOR.

est dicere, facere non obscoenum—thus Cicero sums the matter up.

With the first glimmer of consciousness, the child commences to receive persevering instructions that it should be ashamed of such-and-such functions and of certain portions of its body : the pure nature of the child is for a long time unable to grasp the meaning of these lessons ; but the efforts of its preceptors do not relax, and at last it commences to realise the iniquity of its physical life. This goes on for several years.

When the time arrives, the mystery of his or her origin is unveiled before the budding man or woman ; and thanks to their early training, the secret assumes the aspect of filth from beginning to end, unspeakably shocking and revolting in its unexpectedness. In some the thought of the legitimacy of such incredible depravity calls forth a voluptuous feeling ; it plunges others into despair. The anguished sobs of the young girl, who recoils at the revelation of the impurity of life, vowing never to marry, her love rudely trampled into the mire—these are elements for a most serious and painful drama, which, at the same time, strikes one with its unnaturalness. But how were anything else possible? Rousseau demanded that parents and preceptors should themselves explain all to their children and charges, not leave the task to the unclean tongues of menials and school-fellows. But this would not make the slightest difference : the child's education renders it incapable of seeing these things in any other than the most revolting light—that of horrible and shameless foulness, no matter how "purely" you put things before it!

Still, all this by no means implies that shame itself is actually no more than a survival of barbarity,

as Tolstoi's "celebrated doctor" would have it! Shame—that instinct which protects our intimate life from the stranger's gaze, that feeling which makes it impossible for the human being to give himself or herself up to the casual female or male, is no remnant of the barbaric age, but a precious acquisition of culture.

However, such pudency by no means excludes an earnest and frank attitude towards the human body and its life. Bourget, in his "Profils perdus," has a striking sketch, in which he describes a highly educated young Russian girl; a rather shallow disciple of the "Science of love" is utterly nonplussed by her: she discusses with him, "in terms of scientific materialism," the subjects of conception, maternity, etc., with the utmost freedom, "whilst, at the same time, no man's lips had ever so much as touched her hand!" . . .

Modesty, severe and chaste, does not even preclude nudity. Buffon says: "We are neither sufficiently depraved nor sufficiently innocent to go about naked." Is this just? Savages are no more immoral than we, the fables about their innocence have long been exploded; at the same time, many of them go about unclothed and their nakedness does not deprave them: they are *used to it*—that is all. More than this, as we have already seen, tribes exist that are actually ashamed to dress. Exactly as the custom to clothe one's body may go hand in hand with the most profound corruption, so can habitual nakedness be associated with the severest chastity. The Tierra-del-Fuegan women go about stark naked, without being in the least embarrassed by the fact; however, when they felt the lecherous glances of the European sailors rest upon them,

they blushed and hastened to hide themselves; probably a fully-attired European woman would flush in the same way, on encountering the look of a Brazilian or Orinoco Indian.

It is solely a matter of what we are used to. If it were only considered improper to uncover the little finger, the exposure of that part would have a more potent effect upon representatives of the opposite sex than that of any other. With us nearly the whole of the body is jealously concealed by clothing. The noble, pure and beautiful human body is thus turned into an allurement for perfectly definite ends: forbidden and inaccessible to the eye of the other sex, it is only disclosed on specific occasions, intensifying the voluptuousness of these moments and imparting to them an added zest. Habitual nakedness would deal the first and severest blow of all to the voluptuary.[1] We can admire a draped beauty without experiencing any special feeling, but our up-bringing has rendered us incapable of looking purely upon the nude body of a living woman—even were her form to rival the Venus of Milo in its perfection of shape.

We are ashamed of our body and do not respect it; all our efforts are directed at ornamenting it at the price of its complete disfigurement. Special albums entitled "Le Nu" are annually published in Paris,

[1] In the "Klassische Walpurgisnacht," Mephistopheles felt himself an utter stranger: "Fasst alles nackt, nur hie und da behemdet," he grumbled discontentedly,—"Zwar sind auch wir von Herzen unaustandig, Doch das Antike find' ich zu lebendig." . . .

In another place, he remarks: —

"Was hat man an den nackten Heiden?
Ich liebe mir was auszukleiden,
Wenn man doch einmal lieben soll."

That refined voluptuary, Maupassant, lingered with special relish over scenes describing the process of undressing.

being collections of photo-engravings from all the pictures depicting the nude, exhibited during the current year at the art galleries. A glance through such an album is sufficient to frighten one, yes, actually fill one with lively apprehension for the future of mankind—the mere sight of those soft, flabby female figures with gigantic fat posteriors, compressed sides and rudimentary, prematurely pendant breasts!

Unless to speculate as to the criteria which will in the future determine the limits of pudicity, but one thing is beyond doubt—that man will treat nature and her ordinances with ever-growing respect, ceasing to blush because he has a body which lives in accordance with its appointed laws.

But this happy epoch is probably still very remote. In dealing with the soul of woman at present, medicine must exercise great gentleness and delicacy. Until recently the stronger sex monopolised medicine, and women with the most intimate maladies had to apply to men for aid. Who will ever calculate the vast amount of misery and outraged sensibility this involves, count the number of women who have perished because they could not force themselves to disclose their sufferings to a man? We men are exempted from such trials, also being less particular in this respect. Nevertheless, some strange things happen.

In 1883, during the session of a certain Zemstvo, two of its members tried to get through a proposal making medically-qualified women ineligible as district doctors, "because," explained the worthies, "male syphilitic patients are ashamed to apply to female physicians." This is quite intelligible to us: not one of us suffering from any more or less intimate

complaint would willingly accept treatment at the hands of a woman. But would those excellent members have had the hardihood to aver that women felt differently in the matter? If so, they were guilty of gross mendacity. The reports of the doctors in the employ of our Zemstvos constantly draw attention to the reluctance displayed by the peasant women, and especially girls, in availing themselves of medical aid.

At the present day, fortunately, medical training is placed within the reach of women; this is a tremendous boon to the whole sex without distinction,—not only to Mosulman women, as the champions of medical education for women are pleased to point out. It is a gigantic gain to science itself. For only woman will be able to understand and make her own the obscure and terribly involved life of the female organism in its physical and psychical entirety; for men this knowledge will ever remain, at best, incomplete and vague.

CHAPTER XVII

ABOUT eighteen months after my arrival in St Petersburg, I was called in to attend the sick baby of an engine-driver. The family occupied a room on the fifth floor, at the top of a dirty and malodorous staircase. The engine-driver's three-year-old boy had an abscess in one of his tonsils; the child was rickety, thin and pale; it struggled and bit at the spoon, so that I had no little difficulty in examining its throat. I prescribed appropriate treatment. The father, a tall and shaggy man with a red beard, wanted to pay me when I was about to leave; the room was wretched and squalid and there were a lot of children about, so I declined to take his money. He respectfully saw me to the door and thanked me.

For the next two days the child continued feverish, the swelling in the throat increased and respiration grew difficult. I spoke to the parents and proposed to lance the gathering.

"How's that? Do you mean that you will cut him inside?" asked the mother apprehensively and suspiciously.

I explained that the operation was quite safe.

"No then! I won't allow it!"—she declared with shrill decision, and my remonstrances and explanations were unavailing.

"I think that the Lord knows best," said the father. "If God wills it the boy will die, even if you do slit the gathering. Besides, he's too weak to stand an operation, anyway."

I said no more, but began to syringe the child's throat.

"Why, he opens his mouth himself now," remarked the father sadly.

"The abscess will probably burst to-day," I said. "See that the child doesn't choke in his sleep from the matter. If he's very bad, send for me."

I went into the kitchen. The father sprang after me, and began helping me on with my coat.

"I don't know, Mr Doctor, how to thank you. We shall be your debtors, in a manner of speaking, for life!"

When I came round again next day, the bell was answered by the engine-driver's wife; her eyes were red, her face was pale, she cast a hard look at me, and withdrew to the kitchen-range without a word.

"Well, and how is your son?" I queried. No answer came. She did not turn round even.

"Dying," muttered an old woman from a corner of the room.

I took my overcoat off, and stepped into e dwelling-room. The father sat on the edge of the bed, with the pallid child lying on his lap. He glanced at me in a cold and apathetic way.

"It's beyond me how he lived till morning," he answered sulkily. "He'll be dead by mid-day."

I felt the little patient's pulse.

"The matter came out of his nose and mouth all night long," continued the father. "Sometimes he was nearly suffocated—went blue, and turned his eyes up; the wife would begin to cry and shake him —and he'd come round a bit."

"Bring him to the window, I want to look at his throat," I ordered.

"What's the good of tormenting him any more?"

the mother angrily broke in just then. "Leave him in peace!"

"Fie!" I cried. "Your child gets a little worse and you lose all hope and do nothing: let it die! Why, he isn't really so ill at all!"

The swelling in the throat had considerably subsided, but the boy was greatly exhausted, and very weak. I told the parents that he was doing very well indeed, and would soon be all right.

"Lord grant it!" remarked the engine-driver with a sceptical sneer. "*I* don't think you'll find him alive when you come to-morrow."

I wrote out a prescription, explained how the medicine was to be administered, and rose to go. "Good-bye!"

The father hardly vouchsafed me an answer, and no one saw me to the door.

I left them, deeply indignant. Of course their grief was perfectly legitimate and comprehensible: but what had I done to merit such treatment? They saw how much trouble I gave myself on their behalf—and not a spark of gratitude! There used to be a time when in my dreams I pictured things very differently: the patient died, but his relatives had seen how warmly and disinterestedly I ministered to him in his sickness, and regarded me with love and gratitude.

"I'm not wanted—so much the better! I won't call again," I decided.

Next day I had to bring all my will-power into play to force myself to visit my little patient. While in the act of ringing I trembled with indignation, in anticipation of further proofs of the senseless, undeserved hatred of those people whom I was doing all in my power to assist.

I was admitted by the mother—rosy, happy ; after a momentary hesitation she seized my hand and warmly wrung it. I was surprised to see what a nice and comely face she had—I never noticed the fact before. The child was getting on very well, looked cheerful and asked for food. I left, followed by the fervent thanks of both parents.

This case was the first to show me that if you are expected to save the life of a dear one, and you disappoint such hopes, you will never be forgiven, no matter how great your pains may have been.

I attended the young wife of a certain merchant, Starikoff by name, suffering from diphtheria. Her husband, a round, rubicund little man with a good-natured face and small yellow moustache, used to drive round himself with his thorough-bred "trotter" to fetch me. His fussy, counter-jumper's attentions embarrassed and amused me at the same time. He stood at my elbow when I got into the sledge, then arranged my fur coat about my knees, and having made me comfortable, would seat himself on the very edge of the cushions. The patient was stricken down with a very serious, so-called phlegmonous form of the disease, and hovered on the brink of death for several days ; at last, however, she began to recover. But there was still danger to be feared from paralysis following on diphtheria.

One morning I was rung up at four o'clock by my patient's husband. He told me that his wife had suddenly been seized with sickness and violent pains in the stomach. We drove off without delay. A blizzard was raging outside, and the light sledge sped swiftly through the deserted streets.

"What a lot of trouble we do give you, Doctor!" began my companion apologetically. "Just think

of hauling you out at such an hour and in such weather too, depriving you of your sleep ! "

The sufferer was in a very bad way ; she complained of drawing pains in the chest and stomach, her face was white with that indescribable pallor which does not even require a very practised eye to tell the doctor that heart failure is rapidly and irresistibly drawing near. I, accordingly, warned the husband of the imminence of the danger. After staying three hours with the patient I left her to visit another serious case that could not wait. An experienced trained nurse replaced me at Mme. Starikoff's bedside.

In an hour and a half I returned. The husband, with altered face and inflamed eyes, came out to meet me. He paused on the threshold of the drawing-room, and deliberately put his hands beneath his coat-tails.

" Got anything nice to tell us ? " he asked in tones of contemptuous familiarity.

" How is Maria Ivanovna ? "

" Maria Ivanovna, is it ? " he repeated in drawling accents.

" Why, yes."

He remained silent for a moment.

" She died comfortably half an hour ago ! " sneered Mr Starikoff, scanning me with hatred. Good-day ! " And, abruptly turning on his heel, he disappeared in the drawing-room, where the deceased's relatives were assembling.

My memory refuses to recognise the same man in these two personifications of Mr Starikoff ; the one fussily attentive, obsequious, hanging on my words, the other—distant, hostile, provoking in his offensive familiarity of manner, with red eyes burn-

ing with hatred. Oh, how such people do hate! Their hatred knows no bounds. In former times, on like occasions, short was the doctor's shift.

"A certain outlandish physician, Anthony by name," we read in the ancient Moscovite chronicles, "doctored Prince Karakoutsh, but took his life with poisonous herbs because he mocked. Whereas the Great Prince Johann III. delivered him to the son of Karakoutsh, who tortured him and then held him up to ransom. Whereas the Great Prince did not allow this to be done but ordered his killing; and they led him in the winter to the Moskva River, and beneath a bridge slaughtered him with a knife, like a sheep."

According to the laws of the Westgoths, if a doctor's patient died, the former was immediately handed over to the relatives of the deceased, "that they might do what they pleased with him." And even nowadays, many and many sigh because these cheerful customs have gone out of fashion. About fifteen years ago a Russian landowner, a certain Mr Herken, lost his daughter whom one Dr Svintsinsky, in the employ of the Zemstvo, had attended. According to the provincial newspapers, the bereaved parent handed the Assembly of the Zemstvo a deposition, in which he stated that Dr Svintsinsky was more ignorant of medicine than a common hospital attendant, and that the entire population of the district were dissatisfied with him because of his "lack of knowledge and attention." A commission of enquiry was nominated. Mr Herken's plaint was found to be a gross libel, and the Assembly passed a unanimous resolution expressing gratitude to Dr Svintsinsky for his "upright and beneficial labours."

Towards the end of 1883 the *Novorossisky*

Telegraph newspaper, published in Odessa, printed a letter by a certain Mr Beliakoff, under the following sensational headline :—

"*My son has been murdered.*

"(A father's extraordinary obituary notice on his son.)

"Yes, Mr Editor!" wrote Mr Beliakoff, "My only son, Socrates, was scientifically murdered in Kherson, at the stroke of 10 P.M., on the 28th of November, through the agency of a local operator called Petrovsky." . . .

And in a lengthy "feuilleton" Mr Beliakoff proceeded to describe in minute detail how his child had been taken ill with diphtheria, how faultily the doctors attended it, and how the affection extended to the larynx, thanks to their neglect. With the conscientiousness of an examining magistrate he quoted all the doctors' orders and prescriptions, as evidence for the prosecution, and thereby clearly —although unwittingly—proved to all competent persons that there was nothing to find cavil at. The child was in a very bad way. One of the doctors declared the case hopeless and left. The father implored that his child should be saved. It was then that Dr Herschelmann, who had remained, proposed the last expedient—an operation. During the latter, which was performed by Dr Petrovsky, the child died. As will be seen from the writer's own testimony, the case was a very bad one, the end being possible at any moment ; but Mr Beliakoff, who was entirely incompetent to judge, declared that the operator had simply "murdered" his son.[1]

[1] In consequence of a formal petition lodged by the father, the child's body was exhumed and a post-mortem examination held in the presence of the examining magistrate and four experts ; it was clearly

"Ought the operation to have been performed," queried Mr Beliakoff, "the illness having lasted for six days? Competent persons (?) say that when diphtheria has run its course for so long without complications and the patient still breathes—there can be no need for an operation" (this is absolute nonsense). "Finally, was Dr Herschelmann's treatment right? Had he employed all the remedies possible to save the patient? In my opinion Dr Herschelmann treated the affair too superficially. . . . After this hunt up a paragraph in our penal code that would meet the case, and justly inflict a terrible penalty upon the person guilty of Socrates' death, and thus avenge our grief!"

Of course, no paragraph of any penal code could have appeased Mr Beliakoff. Now, if the laws of the Westgoths were in force, no doubt the fond parent would have devised a penalty fully avenging his loss! The thirst for a sanguinary expiatory offering to the shade of the dear departed, at any cost, is very strong in man.

In the beginning, this hatred which I had to face tortured me acutely. I turned red and suffered agonies whenever I chanced to meet in the street anyone connected with a defunct patient, and saw the former hastily look away, so as not to bow to me. Little by little becoming inured to such a state of affairs, I began to be aware of an unlooked-for phenomenon.

Not far from where I lived resided a lady proof-reader, a certain Mme. Dekanoff, whose son, a pupil of the Gymnasium, suddenly fell ill. I was recom-

established that the cause of the deceased's death was asphyxiation by diphtherial membrane, the operation itself having been performed irreproachably.

mended to her by one of my patients and she asked me to call. She lived in a small flat with her two children—the sick boy and her grown-up daughter Katerina Alexandrovna, a prepossessing girl with an attractive and *spirituelle* face—a student of medicine. It was evident that both mother and daughter worshipped the boy. I found him to be suffering from croupous pneumonia. The mother, a thin and nervous woman with restless, psychopathic eyes, was overwhelmed.

"Doctor, tell me, is it very dangerous? Will he die?"

I replied that it was impossible to say anything at present, that the crisis would set in in five or six days. And then began a most trying time for me. Neither mother nor daughter could for a moment allow the thought that their darling might die; they were ready to do anything to save him. I had to visit the patient three times a day; this was entirely unnecessary, but I was overborne by their persistency.

"Doctor, oh he is not dying, surely?" the mother would ask in a horrified and strangled voice. "Oh, my dear Doctor! I am off my head, forgive me. . . . What was it I wanted to say? . . . Oh yes, you'll do all you can? You will save my Vladimir?"

On the fourth day Katerina Alexandrovna took me aside; she was much agitated and bit her lips, seeking to control herself.

"Don't take it amiss, but might I speak to you as to a private person. . . . Your treatment strikes me as being too commonplace: baths, codeine, cupping, ice-packs to the head. . . . Now you've prescribed digitalis." . . .

"If you think so, please take matters into your

own hands—I will obey your commands," I coldly responded.

"Oh no, I know nothing," she hastily exclaimed. "But I want something out of the common to be done that would save our Vladimir for certain. Mother will go out of her mind if he dies."

"You had better find another doctor; I am doing all that I think necessary."

"Oh, you misunderstand me again. . . . Forgive me, I don't know what I am saying myself!" she finally broke off nervously.

They had hired an experienced professional nurse to attend their patient. Nevertheless, hardly a night passed without my being rung up by the younger of the two ladies; the servant would forward an urgent message:—

"Vladimir is worse, he is delirious and groaning, please come round."

And I dressed and went without demur. But sometimes my patience failed me.

"Were you sent by the nurse or did you yourself consider my presence necessary?" I would ask gruffly.

Her dark eyes flashing with indignation, on such occasions Katerina Alexandrovna could barely control herself, seeing how I valued my rest.

"I fancy a mere Sister of Mercy is no doctor and incompetent to judge."

Saying no more, I would enter the sick-room. The boy is delirious, tosses about fitfully, his breathing is rapid, but the pulse good and there is no need to alter anything. The nurse sits at the window in a huff. I silently go into the hall.

"What's to be done?" asks Katerina Alexandrovna. "His pulse is growing faint."

"Continue treatment as hitherto. The pulse is

excellent," I answer moodily, and close the door behind me. And on my way home I reflect that if I had to attend such a patient daily for a year, my constitution, no matter how robust, would be utterly worn out.

Next day the boy feels better and his sister's eyes gaze upon me affectionately and caressingly.

In fact, without seeing the patient, I always unerringly guessed how he was by the expression of Katerina Alexandrovna's eyes when she opened the front door; if he were worse, her face breathed ill-concealed dislike; if he were better, her eyes beamed upon me with infinite tenderness.

The crisis was very stormy. For two days the boy hovered between life and death. During that period I was hardly outside the Dekanoffs' flat. Twice I held consultations. The mother looked quite crazed.

"Doctor, save him! . . . Doctor!"—And tightly clutching my elbow with her bony fingers, she peered fixedly into my face with eyes that were both piteous and supplicatory, and at the same time terrible and full of hatred; as if she sought to make me fathom the abyss of anguish his death would plunge her into.

The boy, with bluish and motionless face, breathed hurriedly and thickly, his pulse was hardly perceptible. I completed my auscultation and lifting my head, caught the hungry look of the distracted, awful eyes of the mother.

The patient survived the crisis and rallied. Two days later he was out of danger. Mother and daughter came to my house to express their thanks. Oh Lord, what gratitude was theirs.

"Doctor, darling! Our dearest friend!"—the mother kept on repeating in ecstasies. "Can you

realise what you have done for me? . . . No, you cannot! Oh God, how can I express myself? When I die I will think of you alone! I have vowed it to Our Lady of Sorrow. . . . Oh, what can I do to thank you sufficiently, I am under a life-long obligation to you. Doctor, forgive me." . . .

And she tried to seize my hand to kiss it. Katerina Alexandrovna, her profound and beautiful eyes streaming, clasped my hand in both of hers.

While I—I looked at both these women, transfigured by this ecstatic gratitude, and seemed to detect a vanishing reflection of that hatred which had gleamed in those same eyes three days ago.

They departed, I resumed the book which their advent had made me lay aside. And suddenly it struck me how cold all their thanks had left me; it was as if a tiresome tempest of words, empty as chaff, had passed over my soul, not one of them finding its way to my heart. Was this myself who had once upon a time imagined that such moments as those were our reward, the "bright rays of light" which illuminated the sombre and hard life of the physician? "What bright rays were these?" Undying hatred would have been my reward for the same pains and strenuous desire to save the boy—if he had died.

Gradually I grew accustomed to that hatred and became indifferent. And as an unexpected consequence of this, complete coldness to gratitude followed of its own accord.

And the conviction took ever deeper and deeper root that in general it was first of all necessary to develop in oneself a profound and utter indifference to the feelings of the patient. Otherwise, despair and grief would drive one mad twenty times over.

CHAPTER XVIII

VERILY, we must steel our hearts and rise superior to suffering, despair and hatred, contemplating each patient as an irresponsible being, powerless to deal us any insult. Secure in the armour of such a philosophy, I will go dispassionately to the engine-driver I spoke of in the foregoing chapter, and the thought of his unjust hatred will be powerless to make me falter on the threshold. "Indifference, indifference!" This was the watchword I ever repeated to myself.—But oh! how hard it was to acquire!

I recently attended the young wife of a civil-service functionary. Her husband, with a nervous and intellectual face and queer thin voice, informed me in a panic that his wife was very ill—probably with diphtheria. Examination, however, showed it to be merely a case of ulcerated sore throat.

"It isn't dangerous, is it?" queried the husband.

"No. Very probably it will be over in a day or two, although it is possible that an abscess may form."

Two days later a gathering actually did appear in the left tonsil.

"Why should an abscess begin to form?" enquired the husband.

Why! As if anyone could answer such a question.

Both husband and wife showed me the confiding and charming trust that is so stimulating and is so valued by the doctor. My every direction was

carried out to the letter, almost religiously. For five days the patient was in great pain and hardly able to open her mouth or swallow. After I had incised the swelling several times, it subsided and the patient began to recover rapidly ; however, some muscular pain still remained on either side of the neck and I applied myself to massage the affected parts softly.

" How delicately and gently you do everything ! " the patient said with a blushing smile. " Really I wouldn't mind being ill always to be attended by you."

Every day I used to remain to coffee, in compliance with their kindly insistent invitations, often chatting with them for an hour on end. I experienced great pleasure in the friendly and almost affectionate way this couple treated me.

Two days later the patient began to feel pains in the right side of her throat and her temperature went up again.

" What can it be ? " asked the alarmed husband.

" Probably a gathering is forming in the right tonsil too."

" Oh dear! Another! " moaned the lady, dropping her hands on her lap.

Her husband opened his eyes wide.

" But why should this happen ? " he enquired with astonishment. " We seem to have done all that could be done ! "

I explained the impossibility of stemming the natural course of the malady.

" Oh, my poor little girl ! " he exclaimed nervously. " So we must go through it all once more ! "

And I plainly detected in his tone a note of anger directed against myself.

The abscess ripened with provoking slowness, notwithstanding my lancing it twice. Once more the patient's throat swelled and swallowing became difficult. I noticed the daily increasing coldness of both husband and wife, and the thickening of an atmosphere of genuine detestation of myself. I now experienced an unpleasant feeling whenever I called. I was pained when I had to examine the silent patient and issue my orders—the husband trying not to look me in the face while I spoke. At the same time their former kindly manner towards me gave place to a species of exaggerated and punctilious politeness; their distrust and antipathy could be plainly felt, although concealed beneath a veneer of civility, which did not give me a chance of coming to an understanding and throwing up the case. At bottom, there was not even any real distrust; I was merely the personification and accompaniment of the tiresome illness that had exhausted our patience all round, and as such, had become hateful and odious.

At last the patient got well. Superficially our parting was very cordial, but when, a week later, I encountered the husband in the lobby of the theatre, his countenance suddenly assumed a preoccupied expression, and, averting his face, he rapidly passed by, pretending not to have seen me.

Yes, we must harden our hearts and not let such treatment hurt us, because it is part and parcel of our vocation. But frequently, especially when dealing with incurable chronic cases, all the force of habit, all the efforts of one's will, cannot stand up before the wild onslaughts of the despairing invalid's fierce hatred for his doctor. It is the doctor's highest bliss to get rid of such a patient, but often, all his

detestation notwithstanding, the latter will cling to his medical adviser with tenacity, declining to be shaken off. A few years ago the following affair took place in Italy, not far from Milan. Dr Franchesco Bertola attended a certain consumptive cobbler in the last stages of the disease. Seeing his condition ever growing worse, the tradesman lost all patience and began to abuse his physician every time the latter called, cursing him for a quack, an ass, an ignoramus, etc. Assuring himself of the irradicable hatred of the man of leather, Dr Bertola declined to treat him further. His decision threw the cobbler into a frenzy. Waylaying the doctor next day in the street, he asked: "Will you resume your attendance of my case or not?"—and on receiving a negative answer, thrust a butcher's knife into the doctor's stomach. The unfortunate man fell down mortally wounded, the assassin sinking to the ground simultaneously, blood gushing from his mouth. The murderer and his victim were immediately picked up and conveyed to the same hospital, where they both died.

A doctor's life is made up of moments of terrible nervous tension, which beat at his heart like sledge-hammers almost without intermission. A sudden turn for the worse in a recovering patient, an incurable who cries for relief, the impending death of a patient, the ever present possibility of an untoward accident or mistake, finally, the whole atmosphere of suffering and sorrow that surrounds one—all these hold the soul in an everlasting thraldom of ill-defined, untranquilable alarm. We are not always conscious of this mental condition. But perhaps a red-letter day dawns when all goes smoothly: no deaths, the patients are all getting

on well, you are treated with cordiality—and only then does the resulting sensation of deep relief and restfulness suddenly bring home the realisation of that terrible state of nervous strain that you habitually live in.

There are times when the powers to continue such a life are entirely exhausted and you are seized with such depression that only one thought remains —to turn your back on all and flee far from the madding crowd and feel, if only for a time, free and at peace.

Man cannot always live at such a pace and I am beginning to develop certain salutary habits. I no longer feel the sting of my patients' hate and injustice as of yore, my heart is not cut to the quick by their sufferings and the sight of their helplessness. Serious cases are especially instructive to a doctor; formerly I could not grasp how it was that my hospital colleagues were so eager to take over the wards with "interesting" bad cases; I, on the contrary, did my best to eschew such invalids. I was pained at the sight of their shrivelled bodies with scaling flesh and polluted blood, to meet their gaze mutely praying for the assuagement of their torment—while I could do so little for them. Time brought habit.

Small wonder that I should be gradually evolving an attitude towards my patients which is a thing entirely apart: I am kind and considerate towards them, trying to give their needs my full attention, conscientiously doing all I can for them; but "out of sight, out of mind." At home, in the circle of my friends, I chat and laugh: if I am called to a patient, I go, do what has to be done, perhaps comfort the mother weeping over her dying son; but on

my return I at once resume my former humour, and the shadow of the past does not obtrude itself on the present. To me the "patient," with whom I have to deal professionally, has nothing in common with any ordinary sick person. However, leaving intimate friends out of the question, it suffices for such a sick person to be a mere acquaintance, and I am capable of sharing his sufferings; but in my official capacity this faculty is ever becoming more and more atrophied, so much so, indeed, that I can fully understand a friend of mine, a surgeon (the most humane of men), who asks the patient, shrieking beneath his knife, with perfectly genuine astonishment: "Funny man, why make such a row?"

I also understand how Pirogoff, with his responsive and sensitive heart, could have been guilty of the revolting sally he mentions in his memoirs. "Only once in all my practice did I make such a gross mistake in my examination of a patient, that on performing lythotomy, I could find no stones in the bladder. This was in the case of a timid and God-fearing old man; greatly vexed at my false stroke I was indelicate enough to send the exhausted patient to the devil repeatedly. 'You have no fear of God,' he said in a languid, supplicating voice, 'if you invoke the unclean evil spirit when only the name of the Lord can alleviate my anguish!'"

It is a strange peculiarity of the human heart that it should so often become hardened in a definite and, frequently, very narrow groove, remaining in other respects unchanged. Formerly such things were beyond my understanding; now, however, I am convinced that a gaoler or executioner are capable of warmly responding to all that is good, if only it lies beyond their professional sphere.

In dealing with my patients I am not guided by my immediate feelings, but by the promptings of my reason. This gives me breathing space. But when personally I come across the same attitude in others, I cannot help experiencing a feeling of indignation.

My sister arrived in my house from the provinces; she had been a municipal school-teacher, but was forced to resign two years previously, owing to ill-health: overwork had completely exhausted her nervous system, and her weakness was such that she lay in bed for days and nights, the peal of a bell called forth convulsions, she could not sleep at all and had become embittered, irritable and trivial. Two years' nursing had done her no good, so, as a last hope, she decided to see a specialist of the metropolis. I did not recognise her, she had grown so thin and pale, her eyes had become large, bluish circles were pencilled round them and they burned with a strange nervous lustre.

Formerly so full of energy and thirst for work, now she was lackadaisical and apathetic. I took her to see a celebrated neuropathologist.

We had long to wait, for his consulting-room was thronged. At last we were shown into his study. The professor, with a merry face, upon which indifference was writ large, began to interrogate my sister; he nodded his head at each answer and said: "Very good!" Then he sat down to write out a prescription.

"Can I hope for a cure?" asked my sister, and her voice caught.

"Oh, of course, of course!" came the genial rejoinder. "Thousands suffer from the same complaint, of course you'll get well! We'll order you baths twice a week, then." . . .

I was experiencing a feeling of ever-increasing dislike for the merry, nonchalant face, and that tone, with which it is customary to address little children. He did not know that there was tragedy in the air: six months back, on entering my sister's room by chance, her mother had wrenched a phial of morphia from her grasp, with which she was on the point of poisoning herself, not wanting to drag out the existence of a useless parasite. . . . And we had to listen to this odious tone, accompanied by that no less odious freedom of manner, that so plainly denoted how little this drama concerned the outsider.

My sister stood silent and big tears coursed down her cheeks unheeded; proud, she was angry to be unable to suppress them and they fell all the faster. Her great grief had been vulgarised and belittled—for were there not thousands such as she?—and the magnitude of her affliction struck no one. . . . To think that she had anticipated such great things from the interview!

"Tut, tut, young lady! That will never do!" exclaimed the professor at the sight of her weeping. "Dear, dear, dear, what a shame! Crying! Compose yourself, compose yourself."

And once more his entire manner proclaimed that the professor daily saw dozens of such hysterical patients, and that, for him, these tears were but drops of saline fluid secreted from the lachrymal glands by shaky nerves.

We left in silence, and silently took our place in our cab. My sister bent forward, buried her face in her muff, and suddenly broke into sobs, vainly and angrily trying to smother them.

"I won't take any of his foolish medicines!" she cried, tore out his prescription and reduced it to

shreds. I did not protest; in my heart I felt like her, having lost all faith in the efficacy of the treatment prescribed by that nonchalant, self-complacent man, who cared so little for the afflictions of his fellow-creatures.

And that same evening I thought: "Where then shall I discover the true line of demarkation between patient and physician which will make existence possible to both, and will I always be able to keep to that line?

CHAPTER XIX

ONE night I heard my bell pulled violently. The servant informed me that I was begged to visit a patient. A tall pimple-faced young man, wearing the cap of a post-office clerk, stood in the hall.

"Doctor, please come at once to see a lady who has suddenly been taken ill!" he burst forth in an agitated voice. "She's dying. . . . It's quite near by—just round the corner." . . .

I hastily dressed and we started off together.

"What has happened to your patient? Has she been ill long?" I asked my companion.

He shrugged his shoulders in perplexity.

"I simply can't understand it! My God! She's the wife of a fellow employee and I am their paying guest. Last night they returned home from seeing some friends, and she laughed and joked. While a short time ago her husband woke me up, saying that she was dying, and sent me after you. I'm quite at a loss to say how it all happened!"

We climbed up to the fourth floor along a dark and steep staircase, lighting our way with matches. My guide rang sharply. A dark young man with a small black beard, in his shirt sleeves, opened the door.

"Doctor. For God's sake!" he sobbed, "quick!" He led me into a bedroom. Upon a broad double bed, with her head bent towards the wall, lay the motionless form of a young woman. I felt her pulse: her hand was cold and limp, there was no flutter

in her wrist; I turned the young woman on to her back, lifted her eyelids, sounded her heart. She was dead. I slowly straightened myself.

"Well?" asked the husband.

I shrugged my shoulders regretfully.

"Dead!" he cried in a choking voice, and suddenly, staring at me with fixed and protruding eyes, began to sob quickly and jerkily, with a queer, barking sound. It seemed as if his eyes had become rooted to me and he continued to shake and sob in the same strange, jerky fashion.

"Try to calm yourself. . . . Nothing can be done!" I said, placing my hand on his arm. He sank heavily into a chair, and swaying his body to and fro, seized his head in his hands. A young girl clad in a night-jacket and worsted petticoat, who had been standing by the chest of drawers, began to cry audibly.

The dead was growing cold. Young and beautiful, draped in a laced nightgown, she lay upon the bed among the crumpled sheets which still seemed to retain their warmth.

"How did it all take place?" I asked.

"She was quite well!" the husband cried stridently. "We returned home from a party yesterday. I woke up in the night and saw her lying on her side. I touched her shoulder, she was cold and did not move. Oh God, God, God!" he repeated, pulling his hair. "Oh, oh, oh! what does it all mean?"

My companion shook his head in pitying deprecation.

"There now, old man! Serge! We can't help it now!" he remonstrated in a sad and supplicating voice. "It's God's will! You remember the

Tsheprakoffs, the same thing happened to them ; we are helpless before the Lord's will."

"But oh! Only a minute or so ago. Naastenka! Nastia! . . ."

The girl dressed and went out to send the house-porter for the mother of the deceased. The friend continued to console the young widower. There was nothing further for me to do, so I rose to go. The husband seemed to wake up.

"One moment, Doctor, just one moment, pray!" he said hurriedly.

And continuing to sob, he hastened to open a drawer of the bureau and, after rummaging about a little, handed me three roubles.

"If you please, no!" I said with a frown, putting his hand from me.

"But, Doctor, how is this? Why not? No, no, please." I had to accept the fee. I returned home feeling both pained and offended; those three roubles burned my pocket: what a harsh, brutal dissonance they were in the presence of this terrible bereavement! I pictured my wife dying before my eyes in the same way and could not imagine myself hunting for a few miserable coins to pay the doctor! Even if we were angels, this necessity of paying for our services at moments when one would look to see the whole world stand still for grief, were sufficient in itself to breed sentiments of animosity and abhorrence towards us medical men. I experienced these on contemplating my rôle in the abstract.

Oh, that money! What a time it took me to become more or less used to these payments! Your every step is marked by a rouble, the ring of the rouble ever intrudes itself between you and suffering man. What complications does it not cause, how

often it interferes with one's work and ties one's hands. . . .

I was especially weighed down in the beginning by the very system which governs the appraisement of the services rendered by the physician. We are paid for *treatment*, no matter whether we cure or not. In the present state of our science no other arrangement were feasible, but, nevertheless, it struck me as grotesque and absurd that payment should be made for work that had accomplished no useful end. About three years ago a certain French doctor of Lyons treated a lady with intrauterine injections of iodine; the patient getting no better, her husband, a rich man, instead of discharging his doctor's bill, sued him for 10,000 francs damages for the alleged injury done his wife's health. The Court found for the defendant and condemned the plaintiff to pay the doctor six hundred francs for his attendance, "*because the physician had employed a remedy sanctioned by science, and was not therefore responsible for the inefficacy of his treatment.*"

But then, again, wherein lies the guilt of the patient who applies to the physician for aid and is obliged to pay him for the questionable pleasure of undergoing a course of inefficacious treatment according to the methods "sanctioned by science"?

Sganarelle, in Moliere's "Le Medicin Malgre lui," remarks: "Je trouve que c'est le métier le meilleur de tous (*i.e.* medicine) car, soit qu'on fasse bien, ou soit qu'on fasse mal, ou est toujours payé de même sorte. La méchante besogne ne retombe jamais sur notre dos, et nous taillons comme il nous plaît sur l'étoffe ou nous travaillons. Un cordonnier, en faisant des souliers, ne saurait gâter un morceau de cuir

qu'il n'en paye les pots cassés, mais ici l'on peut gâter un homme sans qu'il en coûte rien." [1]

There is much mordant truth in these words, spoken by Sganarelle, as in Moliere's remarks on doctors in general. Only that there is really no cause for merriment: we have before us once more one of those involved and painful incongruities with which the physician's work is so monotonously replete.

The Lyonnais tribunal found that the doctor accused had "employed a remedy sanctioned by science and was not therefore responsible for the inefficacy of his treatment." Moliere ironically remarks through the lips of the soubrette Toinette (see "Le malade imaginaire"):—

"Cela est plaisant! ils sont bien impertinents de vouloir que vous autres messieurs, vous les guerissiez! Vous n'êtes point auprès d'eux pour cela; vous n'y êtes que pour recevoir vos pensions et leur ordonner des remèdes: c'est à eux a guérir s'ils peuvent." [2] And we medical men are compelled in all seriousness to give the same answer that Moliere's caricatured doctor Diafoirus made to Toinette: "Cela est vrai. On n'est oblige qu'a traiter les gens dans les formes." ("That is true. One is only obliged to treat people according to the forms.") Exactly—we are obliged to treat patients in accordance with the rules of science. And no fault of ours that the latter should

[1] "I find that it (*i.e.* medicine) is the best trade of all, because whether you do your work well or ill, you are paid the same. Failure is never visited on our backs and we cut the material upon which we are working as we please. If a cobbler, in making a pair of shoes, spoils a piece of leather, he must pay for the damage, while here one may spoil a man without its costing anything."

[2] "This is pleasant! they are very impertinent to wish you, other gentlemen, to cure them! You do not attend them for that purpose; you are only there to receive your fees and to prescribe remedies: their affair to get well, if they can!"

be so imperfect. If a physician were only paid for successful treatment, he would not waste time in undertaking that of any more or less serious case, there being no guarantee for a cure.

When I started on my medical career, every fee I received made me feel most unhappy. This money seemed a stain on my noble vocation, and its acceptance lowered me in my own estimation. It struck me as incredible that the doctors of Western Europe should have arrived at the cynicism of sending bills to their patients.[1] A bill for medical attendance! Just as if a doctor were a tradesman and his ministrations to the patient could be assessed in guineas, francs or marks, as so much grocery! Like Voltaire's ideal doctor, I never pocketed a fee without regret and availed myself of every excuse for declining it. During the first two years of my life in St Petersburg I hired a room in a family. My landlady often sought my professional advice and at first invariably handed me my fee.

"Please don't mention it! It is quite unnecessary!" I would exclaim in an offended voice, and forced the money back into her palm.

Hiding a smile, she returned it to her pocket, while I left her airy, cosy bedroom for my own dark and narrow den next the kitchen, and resumed my copying at 15 kopecks, or about 4d. per page, of some technical specification or other, to eke out my rent.

In ancient Russia the monkish physicians of those

[1] In Russia it is customary to pay the doctor upon each visit; etiquette requires that his fee should be handed to him in as unobtrusive a manner (generally in the act of shaking hands) as possible, everyone paying according to his means. One may accept the average fee paid to the family doctor, by people in the middle station of life, at three roubles (about six shillings).—TRANSLATOR

days took no money for their ministrations. In my opinion, the same principle ought to be the key-note of the high office of every doctor. Pay is but a sad necessity, and the less the pecuniary question obtrudes itself in the physician's and patient's relations the better; for it frequently places both parties on a false footing, often simply tying the physician's hands. Suppose the patient improves, but still remains weak and needs careful watching; his friends politely intimate that he being better, thank God, there is no need for my further attendance, and that they hope that I will be so kind as to call should he grow worse again. Of course I ought to say, "I must still continue in attendance—for you are incompetent to judge as to when the patient may stand in need of my aid."

But this would also mean, "continue to pay me for my visits." So you do not give the only answer proper under the circumstances and leave the patient to his fate.

When I read in the newspapers of a doctor suing his patient in court for fees due, I blushed for a profession numbering such persons in its ranks; I vividly pictured the plaintiff as a greedy skinflint to whom human suffering merely represents so many pounds, shillings and pence. Why had he chosen the profession of a doctor? He were better suited to become a merchant, a contractor or a pawnbroker.

Then the turmoil of life closed over my head. I became more intimately acquainted with the relations subsisting between faculty and laity, came to know my comrades better. And, by degrees, my former views underwent considerable modification. One of my colleagues was a specialist for massage. For two years he had been in constant attendance upon

a rich merchant's family. The merchant, who was highly educated and quite the gentleman, owed my friend about two hundred roubles. Half a year passed. Being hard pressed for money, my comrade wrote a polite note to the man of commerce, begging for a settlement. The merchant brought the money round in person, apologising profusely.

"Pray excuse me, Doctor! It was so awkward of me to have kept you waiting so long. You know—all my time has been taken up with urgent affairs, it is sometimes possible to forget! Please forgive me—I am much to blame!"

But all the while he addressed my friend as "Doctor"—not in the more genial Russian way of Christian name and patronymic, and took the greatest pains to express himself with that excessive civility which masks a feeling of aversion.

And from that time forward my colleague saw no more of him. Of course the merchant did not consider it bad form to present bills for payment and accounts for settlement, in the ordinary way of business; but a doctor, a doctor who mixed money up with his vocation. . . . Such a doctor, in his eyes, did not stand at the height of his profession.

The behaviour of the merchant impressed me considerably and gave food for deep thought. Unbecoming and senseless, it was nevertheless founded upon that high ideal of the physician which I also shared. In the merchant's opinion, a doctor should be ashamed—of what? Of the circumstance that he also had to eat and clothe himself—that he also requires payment for his services!

We ought to give our entire energy to society gratis—but who are these disinterested and self-

abnegating people themselves, who consider that they have the right to demand this sacrifice of us?

I emphatically assert that a doctor has no less right to claim what is due to him, than a journeyman—and need feel no shame therein! Let him do so openly and in the face of all men, instead of covertly pocketing his fee, as if it were a shameful and illegal bribe! Just because the world has seen a few bright examples of self-sacrificing and disinterested physicians, it wishes all doctors to be philanthropists. No doubt such an arrangement would be highly desirable, but still better—if society were entirely made up of ideal people! The average doctor is also an ordinary average man, and to apply a higher standard to him than the thousand were unjust. If he declines to toil without reward, what right have those, who place a very shrewd and nice value upon their own efforts, to brand him mercenary?

Not so very long ago Mr "M. G." told the readers of the *Son of the Fatherland* newspaper about an acquaintance who was anxious to have a certain doctor "shown up"; the latter had sued him for his fee.

"Why didn't you pay him?" asked the journalist.

"Well, you know, summer was coming on, I had to think about the sea-side, summer things for the children, and the like." . . .

Such is the reverse of the medal called society's high ideal of the true doctor! He must be a disinterested champion—well, and we, plain mortals, can go to the sea-side and take our holidays at his expense. A colleague told me the following story:—

"A lady called on me with the request to see her

son, who was ill. I went and was shown into a small but very cosy and pretty flat ; her son, a schoolboy, was down with typhoid. I enquired whether she had taken any one else's advice previously. The mother made a disdainful grimace. 'Oh yes, Dr —— was in attendance. . . . Please tell me, Doctor, why there are so many heartless and sordid men in your profession? This Dr —— came to see Basil once. When I asked him to come a second time, he said there was no necessity, as he knew what was the matter and could prescribe what was required at a distance, without a personal interview.' . . .

"Agreeing with her that this was not at all nice, I examined the boy, gave all necessary directions and was about to leave. The mother saw me to the door, thanked me and . . . that was all! Shook hands, said 'Thank you *so* much'—and there the matter ended. Three days later she came again to call me to her son.

"I said that I knew all about his malady and could write out a prescription without seeing him.

"The lady took the prescription, rose, boiling with indignation, and left without saying 'Good-day.'"

Of course this lady afterwards enlarged with heat and at length upon the rapacity of "our doctors." The way in which such people, fully convinced of their own righteousness, circulate their stories, is quite extraordinary—no less than the sympathetic listening the public gives them. In No. 248 of the *Riga Messenger* for 1892, the following letter to the editor was published :—

"On the 21st of September of this year, I asked Dr Gordon to my house to see my daughter who was ill. After remaining ten minutes with the patient

Dr Gordon left, promising to call again next day. He was paid one rouble for his visit (about two shillings). Half an hour after his departure my daughter received his visiting card with the following inscription : 'Madam ! In view of your not being in any danger I advise you to apply in future to a doctor living nearer you. I do not visit patients for less than three roubles and do not receive them in my house for less than two.—Yours respectfully, (Signed) L. Gordon.' Mr Gordon would do well, when advertising himself in the newspapers, to subjoin a scale of his charges. At any rate he would not then be disappointed in his calculations. (Signed) A. Ivanoff."

In an answering letter, Dr Gordon wrote as follows :—" The value of a doctor's services cannot on each occasion be adequately appraised by a fee fixed for once and for all. A sleepless night passed at the bedside of a poverty-stricken patient is always rewarded by the consciousness of a duty fulfilled ; in attending the wealthy, a doctor is justified in expecting pecuniary remuneration proportionate to the trouble taken.

" Undoubtedly a doctor has many sacred duties to perform towards his brothers ; but, at the same time, certain obligations towards the physician devolve upon the patient or his friends. . . . I will now pass on to a case in my practice. On September 21st of the current year I was requested to come 'immediately' to see a patient living in Kurmanoff Street, in the Moscow 'Vorstadt,' which I did as soon as I possibly could. I remained at the patient's bedside exactly as long as I considered the case required, not hurrying in the slightest. On returning home I paid the cabman, whose fare swallowed the larger half of my honorarium. It is perfectly true that I was not

satisfied with the remnant of my rouble fee that was left me. In view of the minuteness of the treatment the chronic malady of the patient would have entailed, I decided to make known to her my terms, which she was at liberty to accept or reject."

This case is very characteristic. Mr Ivanoff—mark you, a man of means—makes a doctor come to his house "immediately" from the other end of such a large city as Riga, and remunerates him for the time he has lost with thirty or forty kopecks (from 8d.-10d.). Not content with this, he pillories the unhappy medico, not himself, on a charge of rapacity. A newspaper prints the letter and its readers cry the doctors down. . . .

On the strength of his belonging to the medical profession, the everyday doctor does more good and displays more disinterestedness than other people. Let us suppose that the bread-winner of a family lies dangerously ill, starvation stares his wife and children in the face—the doctor attends the sick man gratis. Without a doubt, no person pretending more or less to decency would exact payment under those circumstances. The difference lies therein that the laymen *would not take money*, while the physician actually *does not*; and although it may not strike us at first sight, this distinction is, nevertheless, very great. For the ordinary average mortal a good action is something out of the common and very rare—for the average doctor it is part of the day's work. Most doctors have free consulting hours for the poor, in most towns the hospitals have their "Out-patient relief" days, when the needy can obtain medical advice for nothing, and there is never a lack of medical men volunteering their services gratis. According to calculations made by Professor Sikorsky,

the chief hospitals of Kiev (those of the Red Cross, the Pokrovsky Sisterhood, etc.) dispensed, during 1895, more than 138,000 free consultations. If each of these be valued at twenty-five kopecks (*i.e.* about 6d.), and if we allow that all private consultations both at the doctors' and at the patients' homes were charged for, it will nevertheless be found that the donations to the poor of the two hundred odd medical men resident in Kiev annually amounts to about thirty-five thousand roubles (*i.e.* roughly £3500). How much a year do you give away in alms, reader?

If members of all professions,—lawyers, civil functionaries, manufacturers, landowners, merchants,—in the exercise of their respective vocations, did as much for the poor as we doctors do, the whole question of providing for the destitute would, to a certain extent, lose its acuteness. In actuality doctors are expected to be disinterested, while as for the rest—the rest may content themselves with exacting this virtue from the medical faculty.

About twenty years ago Kiev was the scene of the following affair. A certain Dr Protsenko was called to a patient; he examined him, but on learning that the sick man could not afford a fee, took his departure without prescribing.

The doctor was prosecuted and condemned to a fine and a month's arrest in the guard-room.[1] A numerous public that filled the court greeted the sentence with applause.

Everyone will allow that Dr Protsenko's act was despicable; but the psychology of the public, which

[1] This is the mildest form of incarceration, after "domiciliary arrest," existing in Russia, and does not leave the same stigma as ordinary imprisonment in gaol.—TRANSLATOR.

so warmly approved of the sentence and afterwards complacently went home, also presents considerable interest. In dispersing, it discussed the hard-hearted rapacity of doctors in general, but it never for a moment entertained the thought of coming to the aid of the poor fellow who had been the cause of Protsenko's condemnation, with so much as a penny. I will suppose that that poor man was given to logical and consequential thought. He goes up to one of the public and says :—

"As you have just heard, the fact that I am poor and did not have the wherewithal to pay my doctor was established in court without any room for doubt ; you will have no difficulty in guessing that I not only stand in need of medical attendance, but also require food : further—my children are starving too. So just hand over two or three roubles.

"First of all, my friend, if you use that tone, I will give you nothing," answers the gentleman addressed, rather taken aback by such *sans gêne.* "However, if you *ask* me politely, I may perhaps give you five kopecks for the salvation of my soul ; take them and pray for ——."

"No, I don't beg, but I demand, and not the gift of a paltry five kopecks, but at least a couple of roubles. A doctor's fee amounts to about that much, and you have just seen what was done to one of them for declining to help me (why, you yourself applauded his conviction !). If you don't fork out those roubles, I'll see you put into the dock too."

The outraged gentleman of course calls a policeman and gives the impudent rascal in charge, the public warmly sympathising with such a proceeding. At the police station the luckless one discovers that logical thought does not always pay, that a doctor

may be locked up for his lack of charity, whereas the rest of the community enjoy the undisputed right of disposing of their purses and time according to their tastes. For declining to succour a man dying of starvation they only have their own consciences to "square," and provided these be tough enough, find it possible to carry their heads proudly, in the enjoyment of universal esteem.

CHAPTER XX

"THE first duty of every physician is to be humane and on all occasions stand ready to afford active assistance to people of all classes suffering from illness. Therefore every physician is bound to come to the assistance of such patients as summon him. Whosoever fails to comply herewith without being able to show special legitimate impediment thereto, is liable, for such neglect and disrespect for suffering humanity, to a fine not exceeding one hundred roubles and to arrest lasting from seven days to three months."

So proclaimeth Article 81 of the Medical Statutes and Articles 872 and 1522 of the Russian Penal Code. It were vain to ransack the Body of Laws of the Russian Empire for any other instances in which people are *legally* obliged to be "humane" and which appoint penalties for "disrespect for suffering humanity." Such legal demands are only presented to doctors. But is it possible that human suffering begins and ends in sudden illness, which alone demands immediate succour? The homeless waif may freeze to death on the steps of an untenanted house, may die of hunger before the windows of a baker's shop—and the law will serenely despatch the body to the mortuary of the nearest police station, contenting itself with a statement as to the cause of death. The owners of house or bakery have nothing to fear; it is no business of theirs to be philanthropic and to display respect for the sufferings of their

fellows. But if a doctor, worn out by his day's work and a sleepless night, declines to go to a patient, the law appears upon the scene and casts the "inhuman" physician in gaol.

It is impermissible to leave those suddenly taken ill without succour. If doctors were allowed to decline a summons, it might be impossible to obtain help in a moment of emergency. We will suppose that a dear one of ours is in imminent and deadly peril. We fly for the doctor; he meets us in the hall, with his mouth full of beefsteak, and coolly says: "I am at supper and will afterwards go to bed; it is too late—try elsewhere." In another place we are told that the doctor is out; in a third, that he is at cards and disinclined to come. While we are hunting about the town for assistance, the patient dies, although timely aid might have saved him. Ought not these doctors be held responsible for his death and do they not merit imprisonment?

If we applied the same logic to the owners of untenanted houses and bakers they would have to be considered responsible for the homeless state of the destitute and the hunger of the starving? Only children can settle social problems in such an off-hand and short-sighted fashion. People should not be suffered to die of hunger, or to freeze to death, in the public streets; but it lies with society, as a body, to organise relief and not to throw the responsibility upon the shoulders of individual landlords merely because they have unoccupied houses, and upon bakers because bread happens to be their article of commerce. The poor man should not be allowed to die without medical aid, it ought not to be possible for people to fail in their searches for a doctor at night, but society should itself provide for

such contingencies, organising a body of doctors for night duty and supporting a special medical staff for ministering to the poor. In England, France and Germany the laws obliging medical men to appear at the patient's first call and to attend the poor gratis have long been repealed.

In its egoism our society is undesirous of burdening itself with superfluous cares; it transfers their entire weight from its own shoulders to those of single individuals and severely punishes the latter when they decline to carry the burden imposed upon them. The injustice of such a state of affairs strikes one forcibly; but as it is profitable to society, it remains unnoticed, and is wilfully ignored. And after having shirked its plain duties, society is filled with noble indignation when those upon whom it has shifted their weight carry them out with insufficient alacrity. The result is an incredible state of affairs: people seem to lose their understanding of the simplest things, the bare discussion of which were something to be ashamed of; and one asks oneself in perplexity how is it conceivable that moral blindness should be capable of reaching such extremes?

For instance this is what Mr A. P——ff wrote in the *Novoye Vremya* (No. 8098):—

"Can one's teeth ache at night or on holidays? It would appear that they cannot, judging from what I am told by the person who has complained to me. We often blame the doctors when at night the latter flatly decline to go to a patient, or do so with reluctance; while the majority of dentists, upon the strength of some incomprehensible custom, enjoy a kind of special privilege to rest on holidays and not to allow themselves to be disturbed at night. The

patient applied to several dentists and was unable to see any of them."

The above paragraph is transcribed by me with perfect accuracy ; it positively contained the expressions : "a kind of special privilege" and "incomprehensible custom." In regard to any other toiler, would the tongue of the same Mr A. P——ff dare turn to frame the opinion, that to rest on holidays and not to allow oneself to be disturbed at night is an incomprehensible custom? In regard to his own person, it is hardly likely that Mr A. P——ff would consider such a custom as so very incomprehensible.

I had a college comrade named Petroff. Upon taking his degree he entered the service of the Zemstvo as physician in an out-of-the-way district of one of the Eastern provinces, and I lost sight of him.

A couple of years ago the newspapers, first those of the provinces, afterwards those of Moscow and St Petersburg as well, published a revolting case, the hero of which, so it happened, was this comrade of mine.

In the village of N——, so wrote the papers, the elder of the commune was taken ill after eating some putrid fish. He sent to the neighbouring hamlet for the Zemstvo doctor, Petroff. Petroff despatched his dispenser instead of coming himself. The patient became worse and worse. He sent for the doctor a second time, but it was the dispenser who arrived on this occasion as well. The elder died towards morning. It transpired that Dr Petroff had been dead drunk that night. The Zemstvo immediately dismissed him from its service. For about two months Petroff's name did not leave the columns of the papers and became notorious throughout Russia.

Six months later I encountered Petroff in my

house in St Petersburg; he had arrived to seek a place, and looked me up. Sunburnt and uncouth, in a starched shirt front, to which he was unaccustomed, Petroff sat before me with his shaggy head bowed low and told me how it all happened.

"It was just as the papers described, that's true enough. A fair was being held at the time; the out-patient work on days like that is tremendous, I had to attend to about two hundred cases—you'll understand what that means; while the night before I had been summoned to Stsheglovo to attend a confinement, and returned home just in time for taking over my out-patient duty, and was only able to swallow a glass of tea. It so happened that a few friends visited the fair. We sat down to cards that evening and then started drinking. It can't be denied a good deal was drunk. . . .

"Week after week, month after month pass by in the self-same way; you're pulled to pieces from all sides, and every now and again you feel so down in the mouth you'd rather die than go on at the same gait. I know that when such a spell overtakes me—it happens five or six times in the year—I have to give myself a shake up, have a good drink, so as to see hell—and after that you're as fresh as paint and feel braced up once more. . . . Well, I got home. And I was called to a patient—"dying." Sinner that I am, I couldn't go—the hospital attendant would have had to heave me on to the cart. . . . Well . . . and so it happened." . . .

And he relapsed into silence.

"You don't know, old man, what service in the Zemstvo means. You have to be on good terms with everyone, you are dependent on everyone. Patients come whenever they please—during the

day or at night: how turn them away? Or else, some peasant may take you in on his way to have his horse shod: 'Can't you come round, a woman is dying in the village?' You have a five versts' drive and ask: 'Where's the patient?' 'Oh, she's just gone off to reap rye.' . . . My district is fifty versts[1] across, with a dispensary at either end, and I must visit each twice a month; the devil knows how you sleep and eat. So it goes on, from day to day, without holidays, without a break. At home your son's down with scarlet fever, while off you must go. . . . Extremely hard work." . . .

Once more he relapsed into thought, his hands resting on his knees.

"Extremely hard work," he repeated and pulled up. "The papers wrote: 'Dr Petroff was drunk!' Quite true, I was drunk and that was very wrong. Everyone has the right to be indignant. But they themselves—why, ninety-nine out of a hundred of them aren't averse to a drink, have been drunk more than once and don't blame themselves for it. Only they can't understand how a man, who isn't given a moment of his life to call his own, can feel sometimes. . . . And oh, how hard that is, old man, the Lord preserve one from such a fate."

I will permit myself to introduce the reader to yet another newspaper notice.

"At present St Petersburg may be called 'helpless,'" wrote in July 1898 the chronicler of the *Petersburg Gazette*, Mr V. P. "In the course of the last week I thrice had occasion to convince myself that during the summer the inhabitants of the metropolis are entirely deprived of medical aid. During the summer, the native of Petersburg dares

[1] A verst = about two-thirds of a mile.—TRANSLATOR.

not fall ill, otherwise he may find himself in an awkward fix ; he runs the risk of not being able to get a doctor." After describing how he and some of his friends searched in vain throughout St Petersburg for a medical man, Mr V. P. concludes his notice by propounding the following "very interesting question of principle": "Have physicians the right to neglect their duties towards their patients in the way they do at present? Are doctors absolutely free agents who may do what they like with their time, according to their personal inclinations? In brief, do they serve society or not?"

These questions are interesting, forsooth. . . . Do doctors serve society or not? Every kind of service pre-supposes at least some sort of mutuality of obligation. Doctors leave St Petersburg for the summer ; some—to rest after their arduous winter's work, others—because it is no easy matter to earn one's living by practice in the emptied city. They should remain in town, because they may be required by Mr V. P. and his friends and because the latter turn up their noses at the hospitals (which work during the summer) and at the municipal physicians. Well, and supposing Mr V. P. and his friends remain in good health—will they see that the expenses of the doctors remaining in town on their behalf are paid?

Certainly not! Let them live as they please, but let them be ever ready to attend at any moment to the needs of Mr V. P.!

The value of this notice by the chronicler of the *Petersburg Gazette* lies in the naïve coarseness and straightforwardness with which it gives expression to the views predominating amongst the public as to the legitimacy and necessity of reducing the faculty to a state of serfdom.

"Are doctors absolutely free agents who may do what they like with their time, according to their personal inclinations?" The question does not refer to physicians holding special fixed appointments, who, by accepting the advantages of an assured position which their appointments offer them, thereby naturally relinquish their "absolute freedom"; it refers to the faculty at large, in its dealing with persons who do not consider themselves bound down by any corresponding obligations whatever. They follow the physician's every step with terrible, unflinching and merciless vigilance: "Serve society, be a hero and a champion, never dare avail yourself of the 'incomprehensible custom' of resting; and when you are worn out or when you perish in harness, it is no business of ours."[1]

A short time ago we buried our comrade Dr Stratonoff. A week previously he had performed tracheotomy in a private house, and while sucking the diphtherial membrane out of the incision in the windpipe, contracted diphtheria himself. He died

[1] During session of the Assembly of the Zemstvo of St Petersburg, the executive of that administrative body proposed that a subsidy be granted to two sanitary doctors * and a dispenser, who had contracted typhoid while in performance of their duties. Member P. P. Durnovo violently opposed this motion. No one, he declared, was insured against infection, while doctors, in view of the very character of their work, were in duty bound to run such risks to their healths. If a doctor died, one might grant his family assistance, but in the present case he had merely been taken ill. Of the nine sanitary doctors * of the province, at least one would be down with typhoid, or some other disease, every year; was it possible that in every such instance the Zemstvo ought to hold itself bound to provide pecuniary assistance? *If the Zemstvo were to distribute grants so lavishly, doctors would contract typhoid on purpose.* To the credit of the St Petersburg Zemstvo Mr Durnovo's declarations elicited the unanimous protest of the Assembly.

* Medical officers of health

while young, strong and energetic, and his death was terrible in its rapidity and unexpectedness.

His coffin stood in the chapel, covered with unnecessary wreaths. The air was pervaded with the fragrance of incense, the last notes of the "Eternal Memory" died away beneath the vaulted roof, while the rush and roar of the city was wafted in through the windows. We stood round the bier—

> "And silently gazed on the face of the dead,
> Immersed in sad thought of the morrow." . . .

He left a widow and orphans: but neither his fate nor theirs was anyone's concern. All indifferent, the city beyond the windows of the chapel kept up its noisy bustle; one might have thought that even were all its streets strewn with dead bodies, it would continue to lead the same self-centred busy life, without distinguishing corpse from cobble-stone. . . .

"Do our doctors serve society or not?"

According to Dr Grebenshtshikoff's calculations, 37 per cent of our doctors in general die of infectious diseases, the latter accounting for *sixty per cent.* of the deaths occurring amongst physicians serving in the Zemstvos.

In 1892, half of all the Zemstvo doctors who died that year succumbed to typhoid. Professor Sikorsky investigated the question of suicide in the Russian medical fraternity, availing himself of official data. He found that "within the age limits of 25-35 years suicide accounted for almost 10 per cent. of the normal death-rate, *i.e.* at this age, *amongst doctors, one death out of every ten was self-inflicted.*" This number is so appalling that we can hardly credit it. But another investigator, Dr

Grebenshtshikoff, arrived at almost the same results, although utilising entirely different material and working independently of Professor Sikorsky. According to his statistics, during 1889-1892, amongst all doctors, suicide accounted for 3.4 per cent. of their deaths, while over ten *per cent.* of all the Zemstvo doctors died by their own hand.

Professor Sikorsky then proceeds to compare his data with those dealing with the other professions, both in Russia and Western Europe. It turned out that in the matter of suicide the *Russian faculty* "*enjoyed the sad distinction of occupying the first place in the world.*"

The following circumstance is most remarkable: one might be led to suppose that no one, bent on self-destruction, would find it so easy to choose a painless mode of death as a doctor. But in reality it turns out that in the case of medical men the more agonising methods of self-despatch figure most frequently: poisoning by strychnine, sulphuric or carbolic acid, piercing of the heart with a trocar, etc. "Evidently," remarks Professor Sikorsky, "a considerable deadening of the instinct of self-preservation made the mode of death a matter of indifference to these unhappy colleagues of ours, so long as they attained their end."

Yes, our doctors "serve society," and their servitude is not of the lightest or most serene order. And this is the fate which awaits those doctors who have "completed their term of service to society." In Russia we have a medical subsidiary fund, inaugurated by Professor J. A. Tshistovitch. Before me lie the printed minutes of the sittings of the executive committee of the Society for 1896. I adduce two extracts from the above.

"The petition of one of the members of the fund, M. A. Vissotsky, in which he requested that a pension be awarded him in view of his entire destitution and incapacity to continue in practice, owing to ill-health, was reported upon. Mr Vissotsky, aged 59, is a former municipal physician of Ashin, has no means, receives no Government pension, has no relatives who could give him a home, is incapable of gaining his livelihood by work, and stands in need of nursing, owing to his suffering from advanced heart disease and paralysis of the left side. A pension of 300 roubles (about £30) awarded.

"The petition of the female physician K. F. Lantveroff, soliciting the grant of a subsidy of 200 roubles, in view of her very straightened pecuniary situation, due to her suffering from chronic malaria and extreme anæmia, developed after an attack of typhus contracted in the service of the Zemstvo, reported upon. Professor V. A. Manassein and Dr D. N. Jbankoff certified Mme. Lantveroff's distressed situation, and the necessity of her being provided with the means to pay for her medical treatment, board and lodging. Two hundred roubles granted."

The above fund is one of mutual assistance and is sustained by the annual subscriptions of its members, the latter alone having a claim upon its assistance. Of course society, which doctors serve, has nothing to do with this fund, nor does it desire to. "You may fall victims to infection, you may cripple yourselves in working for us, but once fallen in the ranks, you may help yourselves as best you can." The dimensions of the grants allowed speak for themselves, and show what aid the fund is capable of according its members.

CHAPTER XXI

AMONGST others, the following thesis figures in V. K. Anrep's doctor's dissertation: "The petty police officers, dvorniks[1] and janitors of St Petersburg are better paid than the physicians in its service." This statement is not in the least exaggerated. The house-physicians in the hospitals of many of our towns receive 45-50 roubles a month; only quite recently those of St Petersburg had their salaries advanced to 75 roubles. Our municipal doctors, while burdened with a mass of the most varied duties, only receive 200 roubles (roughly £20) *a year*. According to a census made by Grebenshtshikoff, 16 per cent. of our doctors endowed with fixed appointments receive less than 600 roubles a year, 62 per cent. no more than 1200 roubles.

The opinion is very prevalent that salaried doctors can easily eke out their miserable stipends by private practice, and this furnishes an explanation as to the reason why these appointments are so badly paid. But the first condition necessary for private practice is the free disposal of one's time; this, however, must necessarily unfavourably affect the normal discharge of one's official duties, and woe to the doctor who displays negligence in his capacity of a paid Servant of Society: he becomes the object of universal obloquy, people forgetting that they themselves designated private practice as a subsidiary source of income. Also the latter is very small—contrary to prevailing opinion: according to the re-

[1] Dvornik = house porter.—TRANSLATOR.

searches of the statistician just quoted, in the case of 77 per cent. of all (Russian) doctors (including those without official status), the income derived from private practice does not exceed 1000 roubles *per annum*. Few of the liberal professions can boast worse remuneration.

Our medical market has long been glutted, the supply considerably exceeding the demand. This leads to competition amongst doctors, the least estimable members of the faculty stopping before no means for depriving a rival of a patient; when asked to call, such doctors commence by criticising their predecessor's prescriptions, declaring "that it wouldn't take long to kill the patient that way." The advertising columns of our newspapers are covered with such men's advertisements, their names becoming as well known as those of certain soap and cocoa manufacturers. The more adroit push themselves before the notice of the public through newspaper articles and interviews with accounts of the brilliant operations performed by them, cures obtained, etc. On the other hand, not a few doctors, having assured themselves of the difficulties lying in their way and the precariousness of their profession, take up some other occupation; the number of the latter seems to be ever increasing. During recent years, accounts have appeared in the newspapers from time to time, describing how doctors committed suicide owing to their being in absolute destitution; instances are known of fully qualified medical men accepting situations of dispensers and hospital orderlies, contenting themselves with the wages of these humble positions.

Even people of comparative education not unfrequently express the opinion that the reason why

so many doctors find themselves in a distressed position lies in their gravitation towards cities. These persons will say: "we have about twenty thousand doctors, while the population of Russia is 128,000,000. How can there be a question of over-production? Doctors dislike going to out-of-the-way parts of the country, and insist upon dwelling in centres of culture; obviously a glut in the market of those centres must result! But the above phenomenon is purely artificial: doctors starve in these centres, while the rural population perishes and degenerates without knowing medical succour. We have too few medical men, not too many of them, and every effort should be made to increase their numbers."

It is quite true that the rural population is perishing and degenerating without medical succour. But is it possible that the reason thereof lies in a dearth of medical men? Half the population of Russia goes about shod in bark shoes—is it possible that this is because we lack cobblers? You may increase the numbers of cobblers *ad infinitum*, with the only result that the cobblers will be reduced to wearing bark shoes themselves, while all those who wore them formerly will continue to do so.

Doctors are far from being possessed of such a strange taste as to prefer starvation in cities to bread in the back-blocks. There are always shoals of applicants for the most out-of-the-way situations of the Zemstvos, with the most pitiful pay: for instance, in 1883 (see *The Physician*), seventy-six applications were filed for one vacancy of Zemstvo physician in the Kniaguinensky district; while another, in the district of Kashin, was competed for by ninety-two medical men. The *crux* of the matter does not lie in the physician's horror of burying

himself in some remote rural district, but in the fact that our village is hopelessly poor and incapable of paying a doctor for his ministrations. The late eighties give us not a few examples of experiments of free practice in the country; the names of Drs Sitshugoff and Tairoff and others will still be fresh in the memory of all. But these experiments merely proved that men, inspired by an idea, can manage to eke out a livelihood somehow, even in the country, without extraneous assistance. However, that is not the question at all; the question is, can an average medical man, not a knight-errant, but an ordinary worker, exist in the country, relying on his profession alone? Anyone who is but slightly acquainted with the conditions of our rural life will agree that its poverty and lack of culture entirely shut off the ordinary practitioner.

The material position of doctors is ever becoming worse. And now woman enters the lists as a new rival—much desired, and at the same time most formidable. As everywhere, where she enters into competition with man—being satisfied with less pay for the same amount of work—she lowers the average level of prosperity. Data furnished by Dr Grebenshtshikoff show that the mean salary (in Russia) of male doctors in the public service amounts to 1161 roubles, while that of the female physician is only 833 roubles. With the increase of the number of medically qualified women, there can be no doubt that the average earnings of the doctors will ever become less.

Such a state of affairs does not subsist in Russia alone. In Western Europe the physician's plight is still more distressed. Everywhere we see a vast army of medical men without work and without

money, ready to accept anything. Eight years ago the Hospital Fund of Budapest made known that it would pay its doctors forty kreuzers (about 6d.) for each visit to a patient; notwithstanding the scantiness of the pay, shoals of applicants, eager to accept these terms, put in an appearance. More than half of the doctors residing in Berlin barely earn 150 marks (*circa* £7, 5s. 0d.) a month; the doctors of Vienna do not turn their nose up at twenty kreuzers fees. Henri Beranget, in an article on the "Intellectual Proletariat of France," says that no less than half of the Parisian doctors cannot even claim to be in circumstances placing them beyond the pinch of want; while the majority of that half are in an abject condition of destitution, in the fullest sense of the word, many members of the profession frequently seeking the shelter of doss-houses for the night. In the provinces barely five thousand out of ten earn a decent livelihood.

In Western Europe crowds of doctors are unable to find anything to do, but of course the reason does not lie in society's being sufficiently provided with medical aid already—for there, as in Russia, for the vast majority of the population, the ministrations of medicine are still an unattainable luxury. This is but a partial manifestation of those amazing incongruencies which, like the roots of an oak imbedded in the soil, deeply penetrate into the very foundations of modern existence. Countless tons of grain and meat rot without finding a market, while next door, thousands of human beings die of starvation for want of work; blood is lavishly expended in the conquest of far-away markets for disposing of our silks and velvets, while the people employed in their production go about in cotton rags.

CHAPTER XXII

THE other day I was called at an early hour to see a patient in one of the suburbs of St Petersburg.

That night sleep had long eluded me, for I was suffused by a strange sensation : my head was heavy and dull, something in my breast vibrated tremulously and I felt as if all my nerves were the taut strings of some instrument ; the distant reverberation of a locomotive whistle at the railway station, the cracking of the wall paper, made me start painfully with fluttering heart. After taking some bromide potassium I at last dozed off, only to be roused an hour later.

It was barely light. I took a cab and rumbled off through the dark, empty streets. Through the light mist heralding the dawn, sullenly vibrated the "buzzers" of various works and factories ; it was both cold and damp ; here and there lights winked sleepily in the windows. I experienced a vague feeling of void, and apprehension crept into my heart. Recalling my condition of the previous evening and noting my present broken-down state, it was borne upon me with horror that I was ill, seriously, unmistakably ill ! For the last twenty-four months I had noticed that my nerves were ever becoming more and more unstrung, but only now did I plainly see what I had come to.

I had been a doctor for seven years. How had I lived them ? They had been a cruel mockery from beginning to end ; my impotence ever flaunted in

my face, the tension on my nerves never being relaxed for a moment, merciless life ceaselessly playing its harsh tunes upon them. To pass through the ordeal unscathed, an iron constitution and tremendous nervous energy were necessary, the conditions of life being such as to undermine the most robust. I knew no such things as holidays, and could never be sure of enjoying undisturbed rest; I might be called away at any moment, from my meals or from my sleep, and kept from home for hours, no one giving my powers of endurance a thought. Year by year one becomes more and more of a physical wreck and a neurasthenic creature, everything going by the board—joy and love of life—worse—the very capacity for sympathy and warm responsiveness. And at the same time I knew very well that these nobler qualities were not entirely dead—a short spell of life in normal human environment sufficed to regenerate the soul and one felt that it was still very full of latent strength and love.

How did I live? After waiting for five years I had at last obtained an appointment worth seventy-five roubles a month; this, *plus* the uncertain income derived from private practice, had to support me and my wife with our two children. Such questions as that of buying a new winter overcoat, the purchase of fuel or the hire of a nurse, were knotty problems which entailed a lot of painful mental labour and sometimes necessitated visits to the pawnbroker's.

My school-fellows had chosen various paths in life—some were engineers, others tax collectors or excise officials, business men, etc.; for work which allowed of their leading a tranquil and undisturbed

existence they received salaries that were beyond my dreams. I was even deprived of domestic joys, forbidden the pleasure of carelessly caressing my children, because I could not thrust away the thought that perhaps I might be giving them scarlet fever or the smallpox, etc., with which I came into daily contact.

The great city, enveloped in morning fog, passed in review before me: high buildings, sombre and silent, jostled each other, appearing to be immersed in cheerless reverie. Here was that Moloch that claimed all my strength, health, and my very life! At the same time the consciousness of that terrible monster's utter obliviousness of my individuality was appalling. . . . And I was powerless to do otherwise than bow my head before it—that city which took away my all and gave me nothing in return.

Absurd delusion to imagine that it were possible for me to excite its pity; equally ridiculous to expect that anything could be gained by drawing attention to the unjust treatment meted out to ourselves. Only he who fights can claim a hearing. The only thing remaining is for us doctors to band together and fight this monster with united forces shoulder to shoulder, and by strength of arms carve for ourselves a happier and freer destiny.

While turning these matters over in my mind I had not noticed how we had left the main thoroughfares and were now driving along a suburban road. The roadside ditches were overgrown with coarse yellow grass, and a wooden sidewalk, wet with dew, stretched away on either side in monotonous perspective. Dense black smoke welled out of the factory chimneys and spread itself in a dark, suffocating mantle above the housetops. My Jehu

pulled up in front of an ugly, yellowish-brown tenement house.

I ascended to the second floor by some dark and steep stairs, and rang. In a small room a pale man of about thirty, dressed in a blue blouse, sat at a table; his blond beard and moustache were blotched with red, while on the floor next him stood an earthenware basin full of pinkish water, in which floated dark clots of blood. A young woman, bathed in tears, was breaking ice with a chopper.

"Please excuse me, Doctor, for bothering you!" said the man, rapidly rising and stretching out his hand. "It's the usual thing—consumption—and I've just had a hæmorrhage. It was my wife who insisted on sending for a doctor." . . .

I cut him short.

"First of all lie down and don't talk! You shouldn't say a word. And don't be agitated, it isn't at all dangerous."

"Am I agitated?" he asked in surprise, and with a shrug of his shoulders, sat himself down on the bed.

I had him undressed and carefully applied my stethoscope to his chest. With his handsome head thrown back and biting his thin ensanguined lips, he lay still with half-closed eyes, gazing up at the ceiling.

"What is your husband's profession?" I asked the young woman, on completing my examination. She was sitting at the table with wet cheeks, following my movements sorrowfully.

"He's a copper foundryman employed in the —— works. Oh Lord, Lord, to think that he should only have lasted till he was thirty! He used to be so strong! . . . The copper fumes have eaten out his chest!"

And she leaned her breast against the table convulsed with sobs.

"Don't take on so, Kitty! It's not so bad as all that," the foundryman murmured impatiently and at the same time kindly. "You heard what the doctor said. . . . People live to be fifty with such hæmorrhages. . . . Isn't it so?" he asked, turning to me.

"Yes, of course! . . . Only don't talk, but lie still. Sometimes people quite get over it."

He lay quiet, merely nodding his approval. I sat down to write a prescription.

"My God, how soon his life broke him down!" the woman went on with a shivering sigh. "I will tell you how it is, sir, he doesn't take a bit of care of himself; you should hear what a life he led! On coming home from work he'd take up his books at once, or else be hurrying about on business. . . . He wasn't given the strength of two men!"

The patient was seized with a fit of coughing, bent forward and spat out a large clot of blood.

"That'll do! Don't talk so much!" he said to his wife in an undertone, on regaining his breath.

I remained for about half an hour with the patient, trying to console and calm his wife. The room was a poor one, but all testified to its master's tastes. A heap of books were piled in a corner, books were strewn over the chest of drawers and lay upon the sewing-machine, and their covers bore names that were dear and precious to me.

I went out and drove off. It was quite light by now; the mist had lifted from the ground and was ascending heavenwards in moist, grey clouds; between their rifts one caught glimpses of a clear,

sunny sky. The streets still retained their stillness, but already smoke issued from the chimney-pots and people could be seen in the windows; the footprints of early pedestrians marked the dewy wooden footpath. I recalled the humour in which I had started out from home and gazed upon the selfsame surroundings—that coarse yellow grass about the roadside ditches, the tall houses—and was struck by its exceeding triviality—it seemed entirely foreign to me; not that I felt ashamed—merely I was unable to account for having let myself go in such a way.

We must combine and fight the good fight—quite so! But who are "We"? We doctors? Of course we may try to better the position of our corporation, perfect co-operation and the like. But a struggle, a struggle all-embracing and deep-reaching, is impossible if the emblem on our standard be a brass farthing. Our lot is a hard one, but how immeasurably more wretched is that of a vast number of our humbler brethren! In some parts of Russia the workmen employed in the matting industry are hired on condition of their not begging in the public streets; it is quite common that the factory girl should have to submit herself to the foreman, becoming a prostitute for the mere right of obtaining work. . . .

No doubt it would be very nice if we doctors received the same emoluments as engineers, if we could work without overtaxing our strength and without thought for the morrow. But easier said than done. A physician in the employ of the Zemstvo receives beggar's pay, but the village cannot create meat and wine for him out of its own crust of black bread.

The remuneration of the physician is very low as a rule, nevertheless, not only for the poor man, even for the person of average means, medical treatment is ruinous. All this tends to show that another way out of the labyrinth must be found. Ours would not be the fight of a legion forming an integral part of a great army, but, rather, that of a handful of individuals whose efforts are directed against all who surround them, and are, for that reason, senseless and condemned to failure. Oh, why should this truth be so difficult for us to understand, for us who have been nurtured on noble ideas, before whom education has unfolded "broad horizons"; while those who have been placed at a disadvantage from birth and were compelled to conquer every foot of their ground, have long ago grasped the fact?

Yes, there is another way. That only way lies in the realisation that we are but a small part of one gigantic integral whole, that our own brighter future is indissolubly bound up with the advancement and prosperity of that great whole in its entirety.

THE END

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