TWILIGHT SLEEP

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A SIMPLE ACCOUNT OF NEW DISCOVERIES IN PAINLESS CHILDBIRTH

BY

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CHAPTER I

THE TWILIGHT SLEEP

"In sorrow thou shalt bring forth children."

Never, I suppose, was a sentence written that was destined to have more baleful influence over humanity than this "primal curse" of the ancient Hebrew.

Probably the edict as originally written was not supposed to have the force of a mandate, but only expressed the interpretation of an observed fact. The women of ancient Israel, in common with those of other civilized nations of antiquity, were observed to "bring forth children in sorrow," and the philosophers of the race interpreted this phenomenon as representing the fulfilment of a mandate of the God of their fathers.

It is a curious trait, shared by children

and philosophers, this tendency to find *reasons* for things.

The child mind is always asking Why? And in so doing the child but follows the lead of his ancestors of remote antiquity, who, in the time of childhood of the race, put a question mark after every obscure phenomenon, and then evolved out of their inner consciousness the answer that seemed best to serve the purpose.

Thus it was that all manner of fantastic explanations were given of natural phenomena that served as statements of final fact for generation after generation, until in the course of time science ferreted out true explanations of one mystery after another, and thus supplanted the superstitious guesses that the ignorance and credulity and desire for knowledge of our forebears had fostered upon the race.

And among these superstitions there was perhaps none that had more harmful influence than that which interpreted observed human ills as due to a curse that had been put upon humanity by an offended Deity.

Man had in reality evolved from a lower order of things and was groping his way

toward a still better order than that which he had attained. But unfortunately the Hebrew philosophers, confronted by the mystery of human existence, made a wrong guess and assumed that civilized man is a fallen angel rather than a risen brute.

And this misconception permeated the entire structure of ancient thought. It found record in the writings that came presently to be accepted as the sole authoritative interpretation of ethical standards. And it put its imprint so effectively on the thought of mankind that it was destined for thousands of years to serve as a dominating influence in determining the interpretation of human conduct.

And I repeat that there was perhaps no single phrase among the many misapplied verdicts of a faulty philosophy that was destined to exercise a more baleful influence than the interpretation of the observed agony of woman in childbirth that found expression in the phrase "In sorrow shalt thou bring forth children"—a phrase that passed into common speech and became a byword throughout Christendom for half a hundred generations.

SCIENCE VERSUS TRADITION

So firmly established had the tradition become that the pains of childbirth represent a primal curse to be expiated anew by each and every mother, that when Dr. Morton gave the blessing of anæsthesia to humanity toward the middle of the nineteenth century, there was an outcry from many a pulpit against the use of this blessing to assuage the sorrows of childbirth.

And while the outcry was disregarded by many a practitioner, yet its echoes are heard to this day, and I make no doubt that the prejudice thus engendered is in good part responsible for the fact that even in this second decade of the twentieth century the generality of women bring forth their children in sorrow, quite after the ancient fashion, unsolaced by even a single whiff of those beneficent anæsthetic vapors through the use of which, in the poetic phrasing of Dr. Oliver Wendell Holmes, the agonies of tortured humanity may be "steeped in the waters of forgetfulness."

How many millions of women, I wonder, first and last, when in the utter extremity

of anguish they have pled for an anæsthetic, have been met with a cold-blooded quotation of the malevolent phrase that the ancient scribe sent down to us, paraphrased, perhaps, or supplemented with the assurance that the suffering of childbirth is a natural phenomenon that "does good" to both mother and child?

A "natural phenomenon"! In a sense, yes; since these agonizing pains are the regular attendant of childbirth with the vast majority of civilized women. But to say that this suffering does good, in any ordinary interpretation of the words, is to travesty language.

To prate such words is but to make up a cheap paraphrase of the Scriptural dogma that the pains of childbirth are the fulfilment of a primal curse.

And the modern world, thank fortune, does not take much stock in "curses," primal or otherwise. Thanks to the progress of science, we are coming to understand a little more clearly man's place in the universe and his relation to a normal environment. When we are just a little more enlightened, we shall blush to think

that we could ever have been so credulous as to associate the sacred duties of maternity with the thought of punishment meted out by a supposedly beneficent Omnipotence.

PAINLESS CHILDBIRTH AT FREIBURG

Perhaps I shall make inquiry before I am through as to how it has really come about that this most natural and most essential function should have come to be associated with so much seemingly useless suffering.

But such an inquiry, whatsoever its interest, may well be deferred until something has been told of the wonderful effort that has been made by a band of wise physicians in Germany to give solace to the expectant mother, and to relieve the culminating hours of childbirth of their traditional terrors.

The wise physicians in question are associated with the University and Hospital of Freiburg. For years they have labored to perfect a method that shall make childbirth painless.

Some thousands of mothers from all parts of the world stand ready to testify to the success of this beneficent quest. These women will tell you that they have had "painless babies" in the hospital at Freiburg. A good many of them have gone there to have a second child, some of them even a third child—for the Freiburg method has been in vogue for several years.

And when you ask these mothers what they intend to do when next they find themselves blessed with prospective motherhood, they will tell you that their one thought is to go again to Freiburg, where they may run the gauntlet of childbirth and retain none but pleasant memories.

"If you had another baby, which way would you choose to have it?" was asked of an American mother who had been in Freiburg for her most recent confinement. "Which way?" she is said to have answered. "Which *way?* If I had another baby, I would have it in Freiburg if I had to walk all the way from California."

An interesting testimonial that. A testimonial that must appeal—as having di-

rectly personal interest—to every woman who expects some time to be a mother.

And what, then, is the Freiburg method, which brings forth such enthusiastic comment from those who have shared its benefactions?

Stated in the fewest words, this method consists essentially in the hypodermic administration of certain drugs, given just at the incipiency of the acute pains of childbirth, and calculated to render the patient oblivious of the pains—or, to be quite accurate, to modify her consciousness in such a way that she has no recollection of suffering when the ordeal is over.

The treatment does not give entire unconsciousness, like the narcosis of ether or chloroform. Just what it does accomplish will be explained in some detail in a moment.

The drug chiefly depended on to produce this condition of painless childbirth at Freiburg is known as scopolamin. With it is associated, in the first dose, the more familiar drug morphine, or, more recently, another opium derivation called nacrophin.

The success of the treatment depends

largely upon the skill with which the doses of the drugs, and in particular the successive doses of scopolamin, are adjusted.

Scopolamin is not a new drug, but it has been comparatively little used in medicine until recent years. It belongs to a rather long series of drugs that act on the nervous system in a striking way when administered in very small quantities. It is not a drug that can be handled with impunity. Under no circumstances should it ever be given except by a skilled physician.

The possible utility of this drug as a narcotic, in particular as a substitute for chloroform and ether, has been under consideration since about the year 1900. But, although it was used by Dr. Korff in a tropical climate as a substitute for volatile anæsthetics, it did not commend itself as a safe drug when given in sufficient doses to annul the pains of a surgical operation.

But it occurred to a Freiburg physician, Dr. Von Steinbüchel, at that time connected with the Freiburg Frauenklinik, that scopolamin might have sufficient narcotic power to ease the pains of childbirth; and he was first to put this matter to a test.

It should be explained that a drug to be satisfactory for such a use must be one that, while assuaging or annulling pain, does not retard the muscular contractions that are essential. In moderate doses opiates partly fulfil this condition, and it was thought well to combine the alkaloid morphine, a derivative of opium, with the scopolamin.

The results in Dr. Von Steinbüchel's skilful hands were gratifying. And subsequently, when Dr. Bernhardt Krönig, a famous gynecologist from Jena, came to Freiburg as director of the Frauenklinik, he continued the experiments, and, with the aid of Dr. Karl Gauss, perfected a system of dosage that ultimately led to the perfection of the now famous Freiburg method of painless childbirth.

PARTIAL NARCOSIS

A distinguishing peculiarity of the scopolamin treatment, as thus perfected at Freiburg, is that it does not produce complete narcosis. If it were merely a question of giving hypodermic injections of a drug, un-

til the patient became unconscious, the case would be quite different. But scopolamin is not a drug that lends itself to such use as this. With a patient thoroughly narcotized the muscular contraction would cease, and the birth of the child would be retarded, even if the life of the mother were not jeopardized.

So it is necessary to restrict the dosage, and to regulate it very carefully. In fact, therein lies the entire secret of the Freiburg method.

Perhaps the word "secret" should not be used in this connection, for it must be understood that the methods used at Freiburg are open to the observation of the profession, and details as to the method have been fully published in medical periodicals. It may fairly be said, however, that there is a "knack" in the use of this drug that largely determines the measure of its effectiveness in assuaging the pains of a woman in labor.

Dr. Krönig and his associates have worked out elaborately the exact method of administering the drug, and it is held that by their method alone can success be

hoped for in its use. At all events, the fame of the Freiburg method depends largely upon the exact rules of procedure that have been elaborated by these skilful physicians.

The essence of the matter is that when drugs are given in just the right quantity, the patient retains consciousness, and (except that she may fall asleep between pains) is at all times more or less cognizant of what is going on about her, but is singularly lacking in the capacity to remember any of the happenings that she observes.

She may seem to be conscious of the birth of her child, and may give evidence of apparent suffering. Yet when a few moments later the child is brought in by the nurse from the neighboring room where it has been cared for, and placed in the mother's arms, the patient does not recognize the child as her own, or realize that she has yet been delivered.

This curious evanescence of memory is precisely the test according to which the dosage of the drug is graduated at Freiburg.

The first dose of morphine and scopo-

lamin in combination is given at an early stage of labor. Half an hour or so later a second dose, of scopolamin alone, is given. After that the patient is tested from time to time as to her capacity to remember. She is shown an object, and a few minutes later is shown it again and asked if she has seen it before. If she remembers, another dose is indicated. If she has no recollection of having seen the object, this indicates that her condition is just what it should be, and no other dose is required until memory is again restored.

This, obviously, is a very curious condition of sleep-waking. In some ways it suggests the hypnotic state. Yet the Freiburg physicians are convinced that the condition is not genuine hypnosis, but the actual and definite result of the action of scopolamin on the central nervous system.

In the German language this curious condition, which is the essential condition that gives success to the Freiburg method of painless childbirth, is termed the "Dämmerzustand," or "Dämmerschlaf." In the English language, the condition is characterized as the "Twilight Sleep."

Twilight sleep! A pleasing and suggestive term, is it not? To scores of English-speaking women it has come to be a synonym for painless childbirth. And enthusiasts are not lacking who express the hope that in future it may become a household word throughout the English-speaking world.

Thousands of women have experienced the blessing of having the agonies of childbirth assuaged to the point of annulment by the Freiburg method. Why should not their millions of suffering sisters throughout the world be given also the boon and blessing of the twilight sleep or its equivalent?

Why not, indeed?

CHAPTER II

TO BE AND NOT TO BE

THIS condition of twilight sleep—this being awake and yet registering no mental record of events—is so interesting a psychological condition that I am tempted to dwell on it for a few minutes before going on to consider other aspects of the problem of painless childbirth.

Be it understood that the patient under scopolamin at the Freiburg Hospital gives every outward evidence during her confinement of acute suffering. She cries out as others do under suffering; tells the doctor perhaps that her pains are severe beyond endurance. And the doctor smilingly admits that this is true—unperturbed, because he knows that an hour later, and throughout the future, the patient will have no recollection of having suffered at all.

And the curious question arises as to whether, under such circumstances, the woman has really suffered.

The more you consider it, the more puzzling the matter becomes. So large a share does memory play in all our mental processes that it might well be claimed that we should not really exist at all, as conscious personalities, were we without this capacity to reproduce our mental states and view them in retrospect.

An organism that lived only in the immediate present could have nothing even remotely approaching what we term conscious mentality. Only when the transient effects of a given moment are viewed with a background of memory pictures, more or less distinct, can we be said to be really conscious.

To live, in any full sense of the word, is to remember past experiences.

It is a curious question, then, to what extent any of us would care for our best-prized pleasures, or would dread the worst calamities, if it were assured us in either case that the events would be absolutely forgotten as soon as they transpired. We must not carry this line of reasoning too far, however, lest it prove too much. It might seem to prove, for example, that a

person who suffers tortures that presently terminate his life—say a martyr at the stake—has not really suffered because death itself abolishes all memory of the suffering.

No one would wish to carry the analysis quite so far as that.

Yet it is undeniably true that pains and disagreeable experiences in general would lose very much of their terror if we knew that they were absolutely transient, and would leave no record in memory. And, making application to the case in hand, I think most women will be disposed freely to admit that they would regard the pains of childbirth as at least *relatively* trivial if they knew that these pains would be absolutely forgotten as soon as they were over.

Probably to some persons it will seem that under such conditions it might properly enough be said that pain did not really exist, even though there were reflex actions that to an onlooker seemed to give evidence of their existence.

Every one who has seen a person under an anæsthetic knows that at times the pa-

tient may move about and moan as if from pain. Observation of a restless sleeper will often give evidence that conditions in his organism are such as would be the concomitants of painful sensations if he were awake.

Yet no one pretends that an anæsthetized subject or the restless sleeper, if they retain no recollection of what occurred while they were unconscious, have really suffered.

The case of the twilight sleeper may be said to be closely comparable to that of the somnambulist. There come to her brain certain impressions that produce conditions that would normally lead to conscious sensations, but through some weird effect of the drug the telephone wires that link these centers with the centers of conscious activity are for the time being out of order. So the conscious personality of the individual is temporarily eliminated. Reflex activities go on normally, but the normal self—the conscious ego—is in abeyance.

If the paradox be permitted, the individual personality may be said *to be* and *not to be* at the same moment.

But let us not puzzle too much over such subtleties.

Let it suffice that the woman in labor who comes under the beneficent guidance of the Freiburg physicians, finds presently that her baby has come into the world without her knowledge, and that she either remembers nothing at all of what took place during the hours of delivery, or—exceptionally—retains a vague mental picture of pleasing hallucinations as meaningless and as unsubstantial as dreams.

But a highly important question must be asked by the physician who studies the twilight sleep, and wishes to gauge the Freiburg method: the question, namely, as to whether the patient who has undergone this treatment shows any unpleasant after-effects of the narcotic.

And here, fortunately, it would appear that the answer is altogether gratifying. It is claimed that an analysis has been made of more than three thousand cases that have taken this scopolamin treatment at Freiburg, and that the statistics show

that in general women who have had this treatment make better and more rapid recovery than women in general who go through the ordeal of labor in the old-fashioned way.

Parenthetically, I may add that it is claimed as a matter of course that the babies suffer no injury; but that is another story, to which I shall revert. At the moment we are considering the effect on the mothers themselves.

It is claimed that not a single fatality can be charged to the scopolamin method as practised at Freiburg, notwithstanding the conceded dangers that would attend the use of this drug in reckless or unskilful hands. Again, it is claimed that the use of forceps has been reduced to a minimum at Freiburg, thereby lessening greatly the dangers of injury or infection. And it is further claimed that the patients make astonishingly rapid recovery, their nervous system seeming to have been spared the shock that ordinarily attends the ordeal of childbirth, and their nervous energies thus having been conserved.

Tales are told of women sitting up to eat

a hearty meal within a few hours after delivery; being up and about their rooms for a few minutes next day; going for drives on the fifth day; and being out returning calls of congratulation by the end of the week.

The cautious physician, schooled in less radical methods, will question the advisability of quite so rapid a convalescence. But I cite the facts here as suggesting that the Freiburg treatment has the essential merit of conserving the energies of the patient.

It would appear that the patient is without the memory of pain, because the physical disturbance in the brain that is the underlying physical concomitant of pain did not take place or was greatly modified.

The experiences of the twilight sleep have left no imprint on her brain. They are not consciously experienced, and so, as a matter of course, they cannot be re-experienced in memory.

All this is rather abstruse—perhaps needlessly so. For the average mother it perhaps suffices to know that the twilight sleep is a condition from which she emerges as from a restful sleep, conscious only that

in some miraculous way the child that aforetime nestled beneath her heart is now crooning at her bosom and that the wondrous transition has caused her no suffering.

The mothers of an elder day would perhaps have had qualms of conscience after such an experience, lest some evil befall them because they had seemingly bid defiance to a Scriptural mandate. But the mothers of our day are freed more or less from the old bonds of superstition, and are ready to welcome emancipation from that primal sentence which, whatever its original significance, was assuredly carried out in full measure generation after generation from the earliest recorded periods of civilization to our own day; but which, in future, thanks to the twilight sleep or some equivalent, must be forever abrogated.

CHAPTER III

WHAT IS PAIN—AND WHY?

An old adage tells us that "The burnt child dreads the fire."

There is a world of practical philosophy in that familiar phrase, and a world of abstract philosophy as well. Let us see what the phrase really implies.

A child being attracted by the pleasing warmth of the fire, and perhaps by the fascinating glow of the coals, creeps forward and eagerly grasps one of the glowing morsels.

Instantly its hand retracts, its entire muscular organism is convulsed in an effort to get away from the thing which it so eagerly approached. An agonizing volley of screams comes from its lips, and tears gush from its eyes.

The pleasurable sensations that it experienced a moment ago are now supplanted by far more intense sensations of pain.

If we could look within the organism of the child with eyes of something more than microscopic acuteness, we should be made aware of some such series of changes as the following: The surface of the child's fingers had been abraded by contact with a hot substance, and the nerve terminals there have been seriously damaged. A message telling of this injury has been sent up along the nerve tracts of the arm to the spinal cord, and thence along other nerve channels until it reaches an ultimate receiving station in the brain. Here a tremendous commotion is started, comparable in a crude way to the commotion that is aroused in a fire house when the alarm rings that tells of a fire.

Just what the physical changes are that take place in the brain cell when such a message comes to it, no one knows, because no one knows just what are the changes that are associated with any kind of mental activity. But that the cellular activities are intensely stimulated is evidenced not only by the mental agony of the child, but by the convulsive action of its muscular system. For there is every reason to be-

lieve that all mental states have their concomitant in activities of the brain; and it is easily demonstrable that no muscle ever contracts at all except under direction of messages sent to it from the central nervous apparatus in the brain, or the accessory apparatus in the spinal cord.

Here, then, we have illustrated a case in which certain physical influences applied to the finger of a child result in making marked changes in the cells in the child's brain. Moreover, it is a rather curious fact that the secondary changes thus brought about in the brain cells of the child may be more permanent than the primary changes in the burnt finger tip.

The injury to the finger will probably be transient. In due course the wounds there will heal, new tissue will be supplied; and unless the burn has been very deep, there will be not even a scar to serve as a reminder of the incident.

But the alterations in the plastic material of the brain cells will not be thus easily healed. Long after all external evidence of the injury has departed, the child will retain a vivid recollection of the incident.

When it next sees a fire it will not experience pleasing sensations that will tempt it to grasp the embers, but will instead have a modified reproduction of the sensations of pain and injury.

The memory of that injury will have become a permanent part of the child's mental endowment.

So long as it lives, though its finger may never again come in contact with a glowing ember, that child will remember that fire is a dangerous plaything. In the current phrase, it will "dread the fire."

And the only way we can explain this is by supposing that the central mechanism of the brain has had stamped on it a record—comparable, if you please, to the record of a phonograph—which, when reproduced, is the sole foundation for memory. The reproduction of the record is never quite so intense as the original production; so the agony of a remembered pain is not quite comparable to the pain itself. Yet in quality the two are closely akin; or, better stated, one is a replica of the other. And all mentality is built up out of such reproductions of past experiences.

If, then, the burnt child dreads the fire, it is because the brain cells of the child register permanent records of the burning. The child that did not remember its unfortunate experiences would go to the fire a second time as eagerly as the first, and its incapacity to remember would probably prove its ultimate undoing.

PAIN AND EVOLUTION

And this suggestion gives us, by implication, an insight into the essential and fundamental purpose of pain.

If, when the child grasped the coal, the nerve cords of the child's arm had been in some way occluded so that no message was sent up to the brain, the child would have experienced no disagreeable sensation, and would have continued to play with the coal until its hand suffered irreparable injury.

And the same thing applies, obviously, to a thousand and one other experiences of child life. A large part of the experience of the growing organism in its contact with the environment, leads to minor injuries—bumps, bruises, contusions—that register

themselves in the brain as painful sensations, and are reproduced as memories associated with the conscious or unconscious verdict: "I must not do that particular thing again."

So by the time the individual comes to maturity, his brain is pigeon-holed with an intricate series of memory-records, telling that this, that, and the other thing cannot be done without painful consequences. And, thanks to the constant guidance of these admonitions, the adult organism is able to steer its course in a world full of dangerous possibilities with a measurable degree of safety.

"Experience teaches a dear school," says the old adage, "but fools will learn in no other." The adage is unduly, not to say offensively, blunt. The simple truth is that every organism must learn in the school of experience, there being no other school. And among the multitudinous experiences that come to guide us each and all, there are perhaps no others that are fundamentally more important than those that when first experienced were registered as painful sensations.

"There is purpose in pain, otherwise 'twere devilish," says Owen Meredith. And the briefest analysis, such as that just attempted, suffices clearly to reveal that purpose. The purpose of pain is to preserve the individual and make possible the evolution of the race.

BUT WHY THE PAINS OF CHILDBIRTH?

All this seem indubitable enough. Indeed, once studied, this philosophy of the purpose of pain seems almost axiomatic.

But when we attempt to make application of this interesting philosophy to the case that supplies our present text, we are at once confronted by complications and seeming contradictions.

For who can consider the question at all attentively without asking, Just how do the pains of the woman in labor fit into this scheme of beneficence?

The purpose of pain is to teach us to avoid the experience that produced the painful sensation. Well and good. Shall we then infer that the purpose of the pain suffered by the parturient woman is to give

her clear warning that she had best never have another child?

That question answers itself. For clearly, if every woman brought to childbed were to make such interpretation of the warning, and never repeat the experiment of motherhood, the human race would dwindle at a geometrical ratio, and incur every probability of elimination; whereas the most casual observation of Nature's way in the world suffices to convince one that the fundamental intention (if the old teleological way of speaking be permitted) is that every organism shall reproduce its kind to something like the limits of its capacity.

So here we are confronted with a fine paradox. The purpose of pain in general we seem clearly to know. Yet the pain of childbirth—the most intense, perhaps, to which a human being can be subjected—can only be interpreted in a directly inverted sense.

Suppose we state the matter thus: Nature desires that woman shall bear a large number of children. Nature provides pain as a warning against repetition of a pain-engendering experience. *Therefore,* Na-

ture provides that when a woman bears a child she shall suffer the most intense pain that can be devised!

Stated thus, the *non sequitur* is obvious. Our attempted syllogism does not work out at all. There must be a lost link in the reasoning somewhere. It is worth inquiring a little farther to endeavor to find out wherein lies the weakness of our argument.

CHAPTER IV

ARE LABOR PAINS A DISGUISED BLESSING?

THIS much, at least, is certain. If the pains of labor are a disguised blessing, the blessing is singularly *well* disguised. The argument of the preceding chapter led us safely to that conclusion, if to no other. We saw that on the face of things the attempt to trace the purpose of labor pains, and to coordinate them with the scheme of life, led us to a hopeless contradiction.

But is there not some subtler interpretation that will enable us to reconcile the seeming contradiction? Shall we not find, if we look deeply enough, that the suffering of women in childbirth serves a beneficent, even though an occult, purpose in the scheme of human evolution?

Otherwise, how harmonize the phenomena of painful childbirth with the accepted thesis of evolution through natural selec-

tion—the thesis according to which useful traits are the ones preserved?

The question is undeniably puzzling. But an inkling of the answer is found when we learn that the women of primitive and barbaric tribes appear to suffer comparatively little in labor; coupled with the fact that it is civilized women of the most highly developed nervous or intellectual type who suffer most.

This seems at once to suggest that the excessive pains of childbirth are not a strictly "natural" concomitant of motherhood, but rather that they are an extraneous and in a sense an abnormal product of civilization.

Every one knows that the law of natural selection through survival of the fittest, which, as Darwin taught us, determined the development of all races in a state of nature, does not fully apply to human beings living under the artificial conditions of what we term civilization. These artificial conditions often determine that the *least fit,* rather than the *most fit,* individuals shall have progeny, and that undesirable

rather than desirable qualities shall be perpetuated.

When we observe certain characters or habits in connection with animal races in a state of nature, we may fairly assume that these characters and habits are beneficial to the species, harmonizing it with its environment; but it is never safe to draw a similar conclusion unreservedly regarding any trait or habit of civilized humanity. Said trait or habit may be directly detrimental to the individual and to the race, and yet may be preserved, generation after generation, through the fostering influence of the hot-house conditions of civilized existence.

Is there not fair warrant for the assumption that the pains which civilized women —and in particular the most delicately organized women—suffer in childbirth may be classed in this category?

I believe the answer must be an unqualified affirmative.

Considered from an evolutionary standpoint, the pains of labor appear not only uncalled for, but positively menacing to the race.

From the standpoint of evolution, it might rather be expected that the experience of childbirth would be the most pleasurable of human experiences. That in point of fact it is the most painful, seems in itself to demonstrate that it is not a "natural" experience in the broad sense of the word. Rather is it to be regarded as an abnormality, and one calling for the careful attention of the pathologist, that a means may be sought to eliminate it, as we seek to eliminate all other abnormal conditions.

SEEKING DIRECT EVIDENCE

This inferential conclusion as to the abnormality of painful childbirth is supported by a mass of direct evidence from two quite different fields.

On one hand we have the testimony of experimental physiologists and pathologists, who tell us that pain has a directly exhausting influence on the brain and nervous mechanism, lowering the vitality, and decreasing the powers of recuperation. Arguing from such data, it would appear that the woman who suffers greatly during

childbirth may be expected to make a retarded recovery, and is physically less well fitted to care for her infant than she otherwise would be.

Then there is the confirmatory evidence of those practitioners who have used anæsthetics to lessen or annul the pains of labor, supplemented now by the wide experience of Dr. Krönig and his associates at Freiburg, testifying that women who are not permitted to suffer, but are given the blessings of anæsthesia, or of the "twilight sleep," rally quickly from the ordeal, recuperate rapidly, and in general make better recoveries than the average woman not so treated.

As to all this, and by way of summary as to the abnormality, so to speak, and the needlessness and harmfulness of painful labor, I cannot do better, perhaps, than to quote the comment of Dr. Krönig himself. I am the more disposed to do so because the Freiburg specialist, in addition to pointing out the exhausting and harmful effects of painful labor on the women of sensitive organization, has something to say also about an aspect of the matter to which I

have hitherto referred but very briefly—the fact, namely, that when women are given respite from the pains of labor, there is much less liability of the use of forceps.

But as to this, as well as to the main question at the moment under consideration, let Dr. Krönig speak for himself:

"Of late," he says, "the demand made of us obstetricians to diminish or abolish suffering during delivery has become more and more emphatic. The modern woman, on whose nervous system nowadays quite other demands are made than was formerly the case, responds to the stimulus of severe pain more rapidly with nervous exhaustion and paralysis of the will to carry the labor to a conclusion. The sensitiveness of those who carry on hard mental work is much greater than that of those who earn their living by manual labor.

"As a consequence of this nervous exhaustion, we see that precisely in the case of mothers of the better class the use of the forceps has increased to an alarming extent, and this where there is no structural need of forceps.

"When one goes into the records of the

cases of women like these concerning their previous confinements, one is almost driven to the conclusion that spontaneous birth is, in their cases, practically impossible. It is by no means unusual to hear that the forceps had to be used at every previous confinement. Neither structural difficulties nor muscular weakness had indicated the necessity for operative interference. The forceps had been used simply and solely to shorten the pains of labor.

"On the occasion of a meeting of the Berlin Obstetrical Society, it came to light that obstetricians practising in the best society in Berlin were obliged to use the forceps in nearly forty per cent. of their cases.

THE DANGERS IN THE USE OF THE FORCEPS

"Although in the hands of a skilful operator the forceps is not so dangerous as in those of an inexperienced one, yet for those who know how great is the local susceptibility to infection it is hardly necessary to say that the chances of a favorable confinement and recovery are considerably diminished by any operation.

"If you follow the lyings-in, even in the best hospitals, you will find the number of cases of temperature considerably higher where there was not spontaneous delivery. In the unfavorable external circumstances of ordinary practice, all these injurious results increase. The great increase of the spread of puerperal fever corresponds to the increasing frequency of operations shown in the statistics of the larger towns.

"It might have been thought that the introduction of asepsis in obstetrics, and its careful application outside the hospitals as well as in, would have decreased the number of deaths in childbirth in comparison with those under former conditions. But we note a not inconsiderable increase. Every one agrees that the absence of reduction in the number of cases of puerperal fever is chiefly caused by an enormous absolute increase in the number of operations, and especially a huge increase in deliveries by the use of forceps.

[In the Frauenklinik, since the introduction of the Twilight Sleep method, the frequency of forceps cases, we are told, has

settled down to an average of from six to seven per cent.]

"In theoretical medical instruction, the 'rescuing' forceps finds no place. In practice the conditions are different.

"The cases available for obstetric study in the hospitals consist, for the most part, of women of no great intelligence, who earn their bread by manual labor.

"In private practice we not infrequently have to do with women of nervous temperament who declare themselves incapable of enduring the pains of labor to the end. A medical man often, in such cases, finds himself before the alternative either of ending the delivery operatively with the forceps, or of retiring in favor of another doctor.

"If we take the trouble to sit at the bedside of women of some sensitiveness during the whole course of labor, and to observe the state of their nervous system, we are compelled to admit that all power of will to hold out till the end of birth is paralyzed.

"I hardly believe that any one who takes the opportunity of observing a birth in the case of one of these women, from beginning to end, would afterward agree with the

statement that the pain of birth is a physiological pain which is really of advantage to the mother and must not be reduced. Such a statement can only be made by those clinicians who, having to do with too large a number of cases, have not taken the trouble to follow the nervous condition from beginning to end of labor, and who content themselves—as, indeed, is necessary when working on a large scale at high pressure—with ascertaining occasionally how the case is going on.

"Acute pain at birth cannot, in the case of sensitive women, be termed physiological, for it frequently occasions a condition of severe exhaustion even after birth.

"Any gynecologist who considers that he ought to be something more than merely as good an operative manipulator as possible —who thinks, that is, that he should observe the nervous condition of the mother —will not infrequently note that neurasthenic symptoms appear in immediate connection with the delivery. One is only astonished that long-continued exhaustion does not occur more frequently, when we realize what a sensitive woman has to en-

dure during her confinement, even taking into consideration the mental impressions alone.

"The preliminary pains are probably stood well. But with their increasing frequency and violence the moral resistance breaks down. She feels her strength giving way, and does nothing but beg the doctor to use the forceps and put an end to her agony, and longs only for the moment when she will be released from pain by the chloroform or ether.

"If, as often enough happens in private practice, the forceps is used without an anæsthetic, because the doctor is afraid to trust the continued administration of the anæsthetic to an unexperienced helper, then, in addition to the ordinary pains of birth, the woman has the pain of the operation. The loss of blood, especially in the case of a first child, is relatively great, and bodily exhaustion is thus added to mental.

"It is true that robust women can stand all this without consequent injury to their nervous system; but it is equally undeniable that, if there is the slightest inclination to a neuropathic condition, such severe bodily

and psychical injury is the cause of a long period of exhaustion."

I think we may take it as settled, without further discussion, that the agonies of childbirth do not benefit the mother. No one has claimed, I believe, that they benefit the child.

Shall we not say unreservedly, then, that painful childbirth in this age of scientific medicine is an unwarranted anachronism?

And when we have said this, why not go farther and say that it is a reproach to medical science and a blemish on our boasted twentieth century civilization?

CHAPTER V

THE TWILIGHT SLEEP AND ANÆSTHESIA

In the last chapter or two, it will be observed, we have dealt with the question of the suffering of the parturient woman as a general problem rather than with any particular means of assuaging that suffering.

Of course, the reader has had in mind, at least as a mental background, the Twilight Sleep of Freiburg as the implied remedy for what we have agreed to consider the evils of painful childbirth. Just what the twilight sleep is, and what it is alleged to have accomplished, were matters considered in some detail in the earlier chapters. It remains now to consider the Freiburg method from a somewhat different standpoint; to give audience to the criticisms that have been passed upon it, and to inquire whether it probably represents a final method, or whether it only calls vivid at-

tention to the problem, and points the way to its solution.

We must inquire, also, whether there are alternative methods, or methods that may be used in combination with that devised at Freiburg.

In a word, I would make it clear that my object is not primarily to sanction or exploit the method of making childbirth painless that is employed at Freiburg, but to emphasize the desirability of investigating that method, searching diligently for a better method, if such can be found, and in general taking up on a comprehensive scale the vitally important project of lessening the sum total of human suffering by systematically and habitually assuaging the pain needlessly suffered by the mothers of the race in carrying out their essential function of motherhood.

In the pursuance of this general object, let us first consider a little more critically than we have done heretofore the Freiburg method. We have told what it accomplishes in the hands of Dr. Krönig and his associates at Freiburg, let us inquire what it has

accomplished in other hands, and, incidentally, what it has failed to accomplish.

DEFECTS OF THE METHOD

It must appear, from what has already been said, that the administration of scopolamin and morphine, as practised at Freiburg, is a rather delicate operation. That is to say, it is not something that can be done as a mere routine dosage, to be practised by nurses, or even by physicians untrained in the particularities of the method.

As a general thing with the use of other drugs, the physician gives a dose of recognized standard size, and repeats it presently if certain rather clearly defined symptoms do not manifest themselves.

But with the scopolamin treatment, the tests of full dosage are not physical; they are mental. The patient who is narcotized to the full extent desired does not seemingly have her suffering alleviated in the least during the period of vigorous uterine contraction, which is commonly described as a "pain." So even the skilled observer could not determine from direct observa-

tion of the patient whether or not the dosage had been sufficient. But immediately after the pain the patient falls into a deep sleep, and if awakened and questioned about the pains she has had, she has no recollection of having had any pains at all.

It is this *forgetting* that constitutes the test, and, according to the authorities at Freiburg, the sole dependable test, of the sufficiency of the scopolamin medication.

"As technically described by Gauss, 'Twilight Sleep' is accomplished successfully when there is an adequate abolition of the *apperception* of pain. It is to be looked upon as a kind of subconsciousness in which the cortex of the cerebrum is completely cut off from the reflex columns of the spinal cord."

Professor Gauss is said to have illustrated the matter colloquially to an American thus: "In the spine are telephone girls. I am asleep and a fly bites my foot; I brush it off. If I am awake, a telephone girl calls my brain also. If I am asleep, she does not. But the action is the same either way."

The entire condition is well described by Dr. H. Fuchs, of Danzig, in a recent analy-

sis of different methods of narcosis in childbirth, as follows: "When the pains come, the women usually cry out just as loud as any other lying-in women, answer the question whether they have pains in the affirmative, but during the intervals between the pains fall into a deep sleep. If awakened from this sleep and questioned about the pains they have suffered, there is a complete loss of memory, that is, if the semi-sleep is complete. Psychologically the facts of the case are that the pains are perceived at the moment, but they make no impression. They leave behind in the higher cerebral centers no memory picture. It results that if the semi-sleep is properly produced the whole of the processes of labor are banished from remembrance."

It remains to be said, however, that the morphine-scopolamin treatment, even in the hands of the skilful exponents of Freiburg, is by no means certain in its beneficent action.

Dr. Gauss himself has given an analysis of the 3,000 cases treated at the Frauenklinik up to 1911, from which it appears that there is a great difference in suscep-

tibility to successful treatment by the Freiburg method, according to the temperament of individual women. In general, it appears that the women of the upper classes are more amenable to the treatment, and that successful results are gained with them in a much higher percentage of cases than with women of the peasant class.

It appears that the lying-in department of the hospital is divided into four classes, according to accommodations, which grade all the way from well-furnished private rooms to open wards. Dr. Gauss' report shows that among patients of the first class 82 per cent. of the cases were successful, in the sense that they experienced "perfect Twilight Sleep" (with attendant loss of memory) under the treatment. But among patients of the second class only 66 per cent. of the cases were successful; with the third class only 59 per cent.; and with the fourth class only 56 per cent., or slightly more than half of the cases treated. So even if the number of patients in each class were the same, success would be attained, on the average, in only 66 per cent. of cases.

In other words, even under the condi-

tions that obtain at the Freiburg Frauenklinik, only two women in three who receive the morphine-scopolamin treatment are blessed with the painless delivery that they sought.

But who will deny that to give surcease of sorrow to two women out of three that are brought to childbed, is a very notable achievement?

IS THERE INJURY TO THE CHILD?

There remains one other important point to be considered. This is the question of the effect of the treatment on the child.

It is well known that the nervous system of the infant is peculiarly susceptible to the effects of drugs. Opiates in the smallest quantity sometimes have an alarming effect when administered to young children. It is not surprising, then, to learn that the critics of the method have declared that the morphine-scopolamin treatment not infrequently has a more or less alarming effect on the child. According to the analysis of Dr. Fuchs: "The excitability of the respiratory center is lowered, with the result

that one-fourth of the children are born in a state of oligopnea or apnea''—that is to say, in a state of partial asphyxiation.

The authorities at Freiburg contend, however, that the tendency to retard respiration on the part of the child may sometimes be beneficial, preventing the infant from inhaling too early, and thus minimizing the danger of strangulation from inhalation of fluids. It appears, further, that statistics of the Frauenklinik show that the percentage of infant mortality is low. Let me quote:

''As against an infant mortality of 16 per cent. for the State of Baden in the same year, a report on 421 'Twilight Sleep' babies showed a death-rate of 11.6 per cent.

''For this strikingly low mortality of the children during and after birth under seminarcosis, explanation was sought of Professor Ludwig Aschoff, the great German authority on morbid anatomy. He offered the theoretic explanation that slight narcotization of the respiratory organs during birth by extremely minute quantities of scopolamin is advantageous to the child, as it tends to prevent permanent obstruction

of the air-passages of children by premature respiration during birth."

Whatever may be thought of this explanation, at least it would appear from Dr. Gauss' figures that the morphine-scopolamin treatment, as practised under skilled direction at Freiburg, does not very greatly endanger the life of a child. The partially asphyxiated condition in which some of the children are born is one from which they recover under the skilled and vigorous treatment given them.

But, on the other hand, it must appear that a drug which produces such effects, even when given in just the right quantity, might readily produce effects not so remediable if given in slightly larger quantity. So the necessity for exceedingly careful dosage is emphasized, and the possible dangers of the morphine-scopolamin treatment in careless or unskilful hands are very apparent.

WHY THE METHOD HAS NOT BEEN WIDELY ADOPTED

Even the most partisan advocates of the treatment admit that it cannot be applied

successfully in large hospitals. At the Freiburg clinic only about three patients are confined daily, on the average, and yet it has been necessary entirely to remodel the Obstetrical Department. Just why this is necessary, and why the method cannot be applied in large hospitals, is well stated by Dr. Krönig himself:

"The proper carrying out of the method," he says, "demands concentrated attention on the part of the obstetric staff, for the purposes of perfecting our method and for giving it the widest possible application to all classes of the population. We were able, thanks to the Grand Duke of Baden, to triple the obstetric staff in the delivery room. I mention this intentionally, because I am of the opinion that, especially in hospitals with a very large number of cases, our procedure can be employed with any prospect of success only when *a complete administrative reorganization has been affected in the assignment of duty in the delivery ward.* If, as is the case in large hospitals, the medical man on observation duty is relieved every twelve hours, the colleague who comes on duty will not

be sufficiently well-informed as to the condition of the various patients in labor. In such a case failure is certain beforehand.

"I consequently do not consider it the result of chance that it is precisely in hospitals with a smaller number of cases that our method has been adopted. In large hospitals, with many thousands of births a year, as in the cases of the large hospitals of Berlin and Dresden, our procedure has proved a total failure.

"This is easier to understand when we remember that the surroundings of the patient have an importance which we should not underestimate for the success of the method. Sense impressions, loud noises, bright light, etc., considerably disturb the half-consciousness. When six or seven parturient patients lie side by side in one ward, it is obviously impossible to obtain an even fairly effective semi-consciousness. This makes itself felt even with the small number of patients that we have (a yearly average of three births a day).

"The number of cases in which we obtain loss of memory or amnesia is in Freiburg far smaller in those deliveries which

occur in the general ward than in the case of patients treated in our private wards, where they lie in a separate room protected as far as possible from all impressions of sight or hearing."

IS THERE AN ELEMENT OF MENTAL SUGGESTION?

It may be added, as further illustrating the difficulties of the method, that a patient in a private room, where the best results are attained, as we have seen, is kept in semi-darkness until just the moment of delivery, when the electric lights are suddenly turned on with a dazzling glare; which seems strongly to argue that there is a pronounced element of suggestion or hypnosis in the Freiburg method.

I do not wish to imply that the drugs employed do not have a large share in producing the observed results; nor would I imply that the use of suggestion is in any sense illegitimate. But the analysis serves to emphasize the rather large share of the personal element in the success of Dr. Krönig's method.

All in all, then, it appears on critical analysis that the Freiburg method, whatever its merits, cannot be pronounced ideal. Nevertheless it has profound interest, because this method, whatever its limitations, has been so energetically and systematically carried out through a term of years as to command the attention of obstetricians all over the world; because it calls persistent attention to the *idea* of making childbirth painless; and because finally, it seems more than probable that there is a measure of permanent value in the morphine-scopolamin treatment. It is hard to question this in the face of the testimony of thousands of women who have shared its benefactions.

And even if the Freiburg method now lacks something of perfection, it may very well serve as a forerunner of methods that will accomplish what it fails to accomplish.

It is at least possible that the morphine-scopolamin treatment may be used advantageously in connection with ether or chloroform, and that the combination may produce a really ideal result.

And even if the morphine-scopolamin

treatment itself should ultimately be altogether abandoned for some better method, it still will have served a useful purpose in calling attention to a great need, and in stimulating experiment through which that need will ultimately be met.

THE METHOD TO BE TESTED AT JOHNS HOPKINS

As to the latter point, there can perhaps be no better evidence than the fact that the Freiburg method is to be put to a careful test in the near future at the Johns Hopkins Hospital in Baltimore, under the skilled direction of the Dean of the Medical Faculty of the Johns Hopkins University, who is also the Professor of Obstetrics and the Obstetrician-in-Chief to the Johns Hopkins Hospital, Dr. J. Whitredge Williams.

I talked with Dr. Williams about the matter not long ago. He told me that he had made tentative tests of the morphine-scopolamin method at the Johns Hopkins Hospital in the past, and had not been favorably impressed with it.

Moreover, he personally visited the Freiburg Frauenklinik two years ago and there witnessed the delivery of two women under the conditions of the Twilight Sleep. The fact that the women appeared to suffer and were even more vigorous in their outcries than women usually are who receive no medication, made an unfavorable impression on his mind, despite the fact that the women may afterward have had no recollection of what had occurred.

"In Johns Hopkins Hospital," said Dr. Williams, "no patient is conscious when she is delivered of a child. She is oblivious, under the influence of chloroform or ether. I could not see wherein the patients at Freiburg have a great advantage over those under chloroform narcosis; I certainly think the condition of the latter is a more pleasant one for the attendants and surrounding patients. But the obstetricians of Europe do not use chloroform and ether to assuage the pains of labor habitually as we do here in America, and this perhaps accounts in part for the interest that has been shown in the morphine-scopolamin method."

Dr. Williams further stated that, to his mind, there seemed a strong probability that there is an element of suggestion associated with the Freiburg method, accounting in part for its success, quite aside from the direct influence of the drugs employed.

Nevertheless this leader among American obstetricians went on to say that his preconceptions would not be allowed in any way to influence his final judgment on the Freiburg method, which as yet he held in abeyance.

"A physician who has spent an entire year in the Frauenklinik at Freiburg studying the method at first hand is coming to Johns Hopkins as an assistant next fall," he said, "and he will be given every opportunity here to apply the method and test it fully. When these facts have been carried out for a sufficient period, we shall be in a better position than we are at present to pronounce judgment on the morphine-scopolamin method."

Such, then, is the attitude of mind of one of the foremost obstetricians and teachers of obstetrics in America.

It is perhaps not too much to say that every prospective mother in the land should feel a vital and personal interest in the outcome of the unprejudiced and scientific investigation of the Twilight Sleep that is thus about to be carried out at the Johns Hopkins Hospital.

CHAPTER VI

BEING A WOMAN

It is peculiarly appropriate that the test which will probably determine the availability in this country of the twilight sleep should be made at the Johns Hopkins Hospital; both because this institution stands admittedly first as a seat of research and education among institutions of its kind in America, and because Dr. Williams, its chief obstetrician, is the most aggressive advocate of new standards and methods of medical research and instruction with regard to the betterment of the condition of women in all that pertains to their sexual functions.

It chances that Dr. Williams has written extensively on this subject, and delivered addresses on it before bodies of his confrères, and that his views are so radical and so vigorously expressed as to have attracted wide attention; while his own per-

sonality and the position he occupies insure respectful attention for any views he promulgates.

I cannot do better here than very briefly to summarize these views of Dr. Williams as to the needs of American women.

In so doing we shall be led to see that the matter of painless childbirth, which I have hitherto used as a text, is after all only one of several questions that concern the interests of women in the relation of motherhood.

Few subjects could be of greater importance or of wider appeal, and for most of us Dr. Williams' sober presentation of facts and analysis of conditions will have the effect of a somewhat startling revelation. And what is equally or perhaps more to the point, we shall see that the analysis of conditions is followed by suggestions as to possible remedies.

Things are not what they should be with the women of America. That fact should make universal appeal. But things may assuredly be bettered if we will take the right action, and that fact should make still stronger appeal.

The peculiar ills to which women are subject in virtue of their sex are so familiar that we are apt to overlook their number and their importance. Dr. Williams called attention to some of them in a recent address before the American Association for the Study and Prevention of Infant Mortality, and he emphasized others in a private conversation.

"Have you ever considered," he said, "the economical significance of the fact that three out of every five women are more or less incapacitated for several days each month, and that one of them is quite unable to attend to her duties. Granting that the two sexes are possessed of equal intelligence, it means that women cannot expect to compete successfully with men. For until they are able to work under pressure for thirty days each month, they cannot expect the same compensation as the men who do so."

The pregnant woman is subject to a multitude of dangers, some of which are by no means insignificant. Overlooking the minor ills of the earlier period, with the danger of miscarriage and its attendant compli-

cations, there are frequently serious disturbances of the physiological functions in later stages when pressure on the kidneys and on the large vessels of the abdomen may lead to very grave interference with the normal functions of excretion, resulting, in exceptional but by no means rare cases, in actual toxemia that may even threaten life.

During parturition, not alone is the woman afflicted with the excruciating pains to which we have all along referred, but she is subject to the danger of serious lacerations of the cervix of the uterus, or of the perineum; there may occur contusions involving the wall of the bladder; and there is always the possibility of the condition known as placenta prævia, with attendant certainty of severe hemorrhage.

Then in the puerperal period immediately following delivery, there is danger of infection, now fortunately minimized by modern asepsis, but formerly a menace of appalling significance; there is the possibility that the uterus may not contract and resume its normal size; and there is a chance—becoming a reality with every

third or fourth woman—that the uterus will become displaced, in which case, if the displacement is not early corrected, it becomes a permanent source of discomfort and even serious illness, remediable only by a severe operation.

Moreover, a large number of women are subject to peculiar dangers because of abnormalities (usually contraction) of the pelvis. "It is my experience," says Dr. Williams, "that eight per cent. of white and thirty-three per cent. of black women going through my hands have abnormal pelves. Of course the minor grades may not do much harm, while the marked degrees are usually recognized; but the trouble comes in the large group lying between the two extremes, which is ordinarily recognized only after serious trouble has occurred, and when it is too late to obtain ideal results."

If we add that the pelvic organs are peculiarly subject to become the seat of fibroid tumors, and of malignant growths, and that some of these are almost certainly stimulated to abnormal activity by incidents attendant on child bearing; reflecting further

that cancer of the pelvis claims by death a really appalling percentage of the women who reach middle life,—the list of ills to which woman is subjected by her reproductive organs is by no means completed, but is rendered sufficiently impressive for our present purpose.

We are often enough reminded of the profound truth that mothering the race is a glorious function. It would not be amiss to recall somewhat more vividly an allied truth—that *being a mother* is a rather dangerous vocation.

THE OBSTETRICIAN TO THE BAR

And what, meantime, has been done in this boasted age of scientific medicine, to remedy the incidental evils and minimize the dangers of motherhood?

I can best answer that question by quoting verbatim from recent utterances of Dr. J. Whitridge Williams, that there may be no possible question about the authenticity of the verdict:

"Those who are not familiar with medical topics," says Dr. Williams, "will be

surprised to hear that we are almost as ignorant concerning the significance of menstruation and of the cause of labor as were Adam and Eve's first children; that difficult menstruation which disables millions of women several days each month is as great a problem to us as to our forefathers, except when due to some gross lesion that can be removed by the knife; that we are grossly ignorant concerning the cause of most of the abnormalities of pregnancy, which we are therefore obliged to treat empirically, and that we know practically nothing concerning the mode of production and the means of preventing displacement of the womb."

Then as to the medical supervision of childbirth itself, Dr. Williams has something to say that is even more startling. In the course of the address before the American Association for Study and Prevention of Infant Mortality, already referred to, he said:

"In this country, and to some extent in Great Britain as well, obstetrics has sufferred greatly from the so-called maternity hospital, with its narrow ideals and its re-

stricted opportunities. Doubtless, most of the non-medical members of this audience believe that American women are the recipients of the most expert obstetrical care in the world, and that obstetrics has attained its highest development in this country. I am here to tell you that such is not the case; and, while I have no desire to deny that there are many expert obstetricians, I have no hesitation in stating that in this country obstetrics is the most poorly taught of all the major branches of medicine, and that the average practitioner leaves the medical school very poorly equipped to carry on this important part of his work.

"This is due to no fault of his own, but is attributable to the peculiar development of medical education in this country. Until recently the medical schools were entirely in private hands and not under the control of strong universities. Any one was considered good enough to be made a professor of obstetrics, and was very fortunate if charitable persons made it possible for him to direct a small lying-in hospital, where he might enlarge his own experience and give meagre instruction to his students.

Even now, after the stronger schools have come under the nominal or actual control of the universities, somewhat similar conditions prevail, and at the moment I know of only one school in this country which possesses adequate facilities for the instruction of its students.

"As the professors are usually poorly paid, they are obliged to devote the greater part of their energy to making a living by private practice, and necessarily regard the conduct of the small lying-in hospital and the training of students as a very secondary consideration. Faulty training, meagre facilities and lack of time make it impossible for them to investigate the fundamental problems of the subject, with the result that our professors are the least productive in the world and have contributed practically nothing to the scientific side of their profession. I am sure that you will be surprised when I tell you that I know of only two Americans who have made fundamental contributions to the subject and neither of them were obstetrical teachers."

The results of the investigation which Dr. Williams epitomizes in the address just

noted were published in the Journal of the American Medical Association for January 6, 1912. Therein were detailed the results of a questionnaire containing some fifty questions concerning obstetrical education and the midwife problem, which was sent to the professors of obstetrics throughout the country, and to which 43 sets of replies were received, "representing one-half of the acceptable and one-fifth of the non-acceptable medical schools," and indicating, so Dr. Williams declares, "a most deplorable condition of affairs, briefly as follows:

"1. Generally speaking the medical schools are inadequately equipped for teaching obstetrics properly, only one having an ideal clinic.

"2. Many of the professors are poorly prepared for their duties and have little conception of the obligations of a professorship. Some admit that they are not competent to perform the major obstetric operations, and consequently can be expected to do little more than train men-midwives.

"3. Many of them admit that their students are not prepared to practice obstetrics

on graduation, nor do they learn to do so later.

"4. One-half of the answers state that ordinary practitioners lose proportionately as many women from puerperal infection as do midwives, and over three-quarters that more deaths occur each year from operations improperly performed by practitioners than from infection in the hands of midwives."

In commenting at length on the different aspects of the matter, as revealed by his investigations, Dr. Williams says: "The replies clearly demonstrate that most of the medical schools included in this report are inadequately equipped for their work, and are each year turning loose on the community hundreds of young men whom they have failed to prepare properly for the practice of obstetrics, and whose lack of training is responsible for unnecessary deaths of many women and infants, not to speak of a much larger number, more or less permanently injured by improper treatment, or lack of treatment."

"I do not wish to convey the impression," he adds, "that all practitioners are

included in this condemnation, as I am glad to say that I know many, and there are thousands of others in the country, who, from natural ability or from extensive experience and study, are thoroughly accomplished in the management of all but the most complicated cases. Furthermore, I desire to go on record as stating that the average practitioner is not entirely to blame for his ignorance in obstetric matters, as he is usually as benevolent, as intelligent, and as anxious to do good work as any one else. The fault lies primarily in poor medical schools, in the low ideals maintained by inadequately trained professors, and in the ignorance of the long-suffering general public."

EDUCATION OF THE LAITY

As to the last named point, Dr. Williams has some pertinent things to say that are peculiarly interesting in the present connection.

"The public should be taught," he declares, "that only the well-to-do, who can afford to employ competent obstetricians,

and the very poor, who are treated free in well-equipped lying-in hospitals or out-patient departments, receive first-rate attention during childbirth; while the great middle class, and particularly those at its lower end, is obliged to rely on the services of poorly trained practitioners. It should be taught that while pregnancy and labor is normally a physiologic process, it is not always so, but is liable to so many aberrations and abnormalities that the pregnant woman should early place herself under the care of an intelligent physician who may detect and cure in their early stages many complications which, if neglected, might place her life and that of her child in serious jeopardy.

"The laity should also learn that most of the ills of women, with the exception of those due to tumors and gonorrhea, are the result of bad obstetrics, and could have been prevented, or at least materially mitigated, had they received proper attention at the time of labor or during the weeks immediately following it. Stress should also be laid on the fact that obstetric operations are not trifling, but are fraught with grave

danger to mother and child, and that the more serious ones should be performed only by experts, preferably in well-conducted hospitals.

"Every effort should be made to emphasize the great responsibility which the obstetrician must bear in the management of abnormal cases. The public must be taught that the conduct of labor complicated by a moderate degree of pelvic contraction is quite as serious as a case of appendicitis, and that its proper management requires the highest degree of judgment and skill, while eclampsia or placenta prævia are even more serious. At present, however, the average practitioner does not recognize the existence of the former until irreparable damage has been done, and usually considers himself quite competent to treat the latter, instead of immediately placing his patient under expert care, as he would were she suffering from even a minor surgical ailment.

"The public should also learn that the repeated birth of dead children indicates ignorance or neglect, and can in great part be prevented under proper care; and

furthermore that the development of ophthalmia in the children indicates neglect of the most rudimentary precautions.

"The laity should also be taught that a well-conducted hospital is the ideal place for delivery, especially in the case of those with limited incomes. Moreover, they should learn that the average compensation for obstetric cases is usually quite inadequate; and should realize, although I regret to confess it, that doctors who are obliged to live on what they earn from their practice cannot reasonably be expected to give much better service than they are paid for. I think I may safely state that obstetric fees are generally as much too low as those for many gynecologic and surgical operations are absurdly high. I am loath to mention so sordid a matter, and I do so at the risk of being misunderstood, but I know from my own experience that many well-to-do patients object to paying as much for the conduct of a complicated labor case, as for the simplest operation which involves no responsibility.

"Finally, the laity should be impressed with the fact that the remedy lies in their

hands, and that they will continue to receive poor treatment as long as they do not demand better. Moreover, as long as they choose their medical attendant by the way he curls his mustache, or on the recommendation of some foolish or ignorant woman, they will get what they deserve. If they desire competent attention, they should go for advice to conscientious medical men."

I have not space here, nor would it comport with the main object of the present work, to quote in detail, as I should like to do, Dr. Williams' suggestions as to remedies needed to meet the really amazing condition of things which his questionnaire revealed. Something more as to practical remedies will be said in the ensuing chapters. Here I must be content to quote in the briefest summary the reforms which Dr. Williams names as in his opinion the most urgently needed and most important. He summarizes them thus:

"1. Reduction in the number of medical schools, with adequate facilities for those surviving, and higher requirements for admission of students.

"2. Insistence in university medical

schools that the head of the department be a real professor, whose prime object is the care of hospital patients, the proper training of assistants and students and the advancement of knowledge, rather than to be a prosperous practitioner.

"3. Recognition by medical faculties and hospitals that obstetrics is one of the fundamental branches of medicine, and that the obstetrician should not be merely a man midwife, but a scientifically trained man with a broad grasp of the subject.

"4. Education of the general practitioner to realize that he is competent only to conduct normal cases of labor, and that major obstetrics is major surgery, and should be undertaken only by specially trained men in control of abundant hospital facilities.

"5. The requirement by state examining boards that every applicant for license to practice shall submit a statement certifying that he has seen delivered and personally examined, under appropriate clinical conditions, at least ten women.

"6. Education of the laity that poorly trained doctors are dangerous. that most of

the ills of women result from poor obstetrics, and that poor women in fairly well-conducted free hospitals usually receive better care than well-to-do women in their own homes; that the remedy lies in their hands and that competent obstetricians will be forthcoming as soon as they are demanded.

"7. Extension of obstetric charities—free hospitals and out-patient services for the poor, and proper semi-charity hospital accommodations for those in moderate circumstances.

"8. Greater development of visiting obstetric nurses and of helpers trained to work under them.

"9. Gradual abolition of midwives in large cities and their replacement by obstetric charities. If midwives are to be educated, it should be done in a broad sense, and not in a makeshift way. Even then disappointment will probably follow."

Here, obviously, are suggestions for a comprehensive educational campaign,—a campaign involving the interests of every woman in the land, and therefore calculated to make the most universal and the most

insistent appeal. Let us inquire specifically as to practical ways in which this appeal may be met in the interests of the mothers and wives and daughters of the race.

CHAPTER VII

WHAT THE AVERAGE LAYMAN CAN DO

It will have been gathered from what was shown in the preceding chapter that there is urgent need of improvement here in America of the facilities for the investigation and teaching of the practicalities of obstetrics.

We are told on the highest authority that the average young man who goes out with his degree of M.D. to practice his profession has had no opportunity to acquire an adequate practical knowledge of the routine practise of delivering a woman of a child, should the accouchement chance to be one that departs in the slightest degree from the normal.

With the average practitioner, it is not a question of capacity to deal with the niceties of administering drugs to produce painless childbirth; it is a question of being able to carry the mother through the ordeal with

safety to life itself, and with a reasonable regard for her future physical welfare.

And even if the average practitioner were thoroughly competent to meet these conditions, the safety of the average woman in parturition would be by no means assured, because it is matter of record that in many of our larger cities from 40 to 60 per cent. of all deliveries are made by midwives without the attendance of a legally qualified practitioner of medicine. To be sure, we are told that midwives on the whole get along as well with the average normal case as does the average doctor; but who is to guarantee that any given case will be normal; and who will be satisfied with conditions that subject a majority of women—or for that matter a small minority—to needless dangers in the performance of this most sacred function of maternity?

But what, practically speaking, is the remedy? How can it be arranged that all women, or a large percentage of women, in particular that middle class which we are told now suffers most, shall be given skilful medical attention in childbirth, and assured the best chance of passing through

the ordeal in safety, whatever complications may arise?

Needless to say the change cannot be brought about in a day or in a year, or by *ipse dixit* of any individual, or any legislative edict. Yet I believe that much can be accomplished in almost every community toward bettering conditions rather rapidly, if a general interest can be aroused and the right sort of co-operation secured among citizens of all classes.

The matter of better medical education is one that obviously concerns a few leaders rather than the masses. I shall have something more in detail to say about this presently. But first I wish to inquire what the layman can accomplish, individually and collectively, toward bettering conditions in his own community.

The answer is found, I think, in Dr. Williams' suggestion that there should be an "extension of obstetric charities—free hospital and out-patient services for the poor, and proper semi-charity hospital accommodations for those in moderate circumstances."

Let us briefly inquire just how this may

be interpreted, and how such a project may be put in operation.

OBJECTIONS FROM WOMEN

Of course there will be difficulties in the way of carrying out such a scheme, with its implied sojourn in a hospital, for the great majority of women during their accouchement.

The chief objections will come from the women themselves. Indeed, this is about the only opposition that need be considered. Woman is the ruler in America, and what she wishes is never denied her. So it remains only to gain the assent of women to put the project for the wide extension of a lying-in service in line of application.

But, as I said, it will not be easy to gain this assent. A large number of women, at the outset, will declare that the bearing of children is a natural and physiological function, and that no woman worthy to be a mother should care to minimize its dangers or to shun its pains.

But this is only a reminiscence of an archaic spirit the illogicality of which I have

attempted to show in the earlier pages of this volume.

That word "physiological" has all along stood as a barrier in the way of progress.

Of course the bearing of children is a physiological process; all the functions associated therewith are physiological in one sense of the word. But a physiological function that involves danger to the life and health of the individual; causes her months of illness and hours of agony; keeps her in bed for two or three weeks; subjects her to a series of surgical operations, and perhaps leaves her permanently incapacitated for normal activities—such a process is not a normal one, whether or not it be physiological.

The truth is that in assuming an upright posture and in developing an enormous brain, the human race has so modified the conditions incident to child-bearing as to put upon the mother a burden that may well enough be termed abnormal in comparison with the function of motherhood as it applies to other races of animate beings.

Moreover, the cultured woman of to-day has a nervous system that makes her far

more susceptible to pain and to resultant shock than was her more lethargical ancestor of remote generations.

Such a woman not unnaturally shrinks from the dangers and pains incident to child-bearing; yet such cultured women are precisely the individuals who should propagate the species and thus promote the interests of the race.

The problem of making child-bearing a less hazardous ordeal and a far less painful one for these nervous and sensitive women is a problem that concerns not merely the women themselves, but the coming generations. Let the robust, phlegmatic, nerveless woman continue to have her children without seeking the solace of narcotics or the special attendance of expert obstetricians, if she prefers. But let her not stand in the way of securing such solace and safety for her more sensitive sisters.

EVEN THE STRONGEST WOMEN ARE MENACED

But, for that matter, even the woman whose constitution is such that she seems

to suffer little during pregnancy, and whose nerves are so adjusted that she dreads but little the pains of childbirth, may need the attention of a skilled obstetrician no less acutely than another woman of quite different temperament.

For her robustness of physique and phlegmatism of temperament will not shield her from the danger of hemorrhage if the placenta that supplies the lifeblood to her child chances to be lodged near the mouth of the uterus; her very strength may cause the rapid delivery that will make her peculiarly subject to laceration of the tissues; and her womb in regaining its natural size may suffer a displacement that, if not corrected, will make her a chronic invalid.

As to all these, and a number of other less familiar conditions, the presence or absence of a skilled obstetrician may determine the difference between safety and health on one hand, and danger and invalidism on the other.

Take, as a single illustration, the matter of displacement of the uterus.

I have quoted Dr. Williams to the effect that no one knows just why such displace-

ments occur, or in what cases they are likely to occur. What we do know is that in a certain large proportion of cases, such a displacement does occur in the course of the few weeks succeeding delivery. And Dr. Williams is authority for the statement that the displacement may ordinarily be remedied effectually and permanently by the simple expedient of using a supporting pessary for a few weeks, if the condition is diagnosed at once and the remedial agency employed.

But if the difficulty is not discovered in its early stages, and thus remedied, the maladjustment becomes permanent, and, as a rule, can be corrected only by a surgical operation of a rather serious character.

Thousands of women go through life without enjoying a really well day, because of such a uterine displacement, undiagnosed or uncorrected.

Yet it goes without saying that the woman who is attended by a midwife or by an unskilled practitioner is usually never so much as examined to determine whether the uterus has or has not maintained its natural position after childbirth.

If the service of the lying-in hospital had no other merit than the single one of assuring to each mother the normal involution, and retention of normal placement of her uterus, its service in the interests of the health and welfare of women would still be enormous.

Again there are hundreds of thousands of women who go through life with gross lesions, incurred in childbirth, that would be immediately corrected by any skilful obstetrician, yet which are allowed to go untreated, partially incapacitating their victims. Every gynecological surgeon has had experience in cases of this sort, where a woman has suffered for perhaps thirty or forty years before she finally sought assistance, becoming more and more crippled and menaced by a lesion that could have been permanently cured at the outset by a half dozen stitches.

But it is needless to elaborate. I have already quoted Dr. Williams to the effect that the major part of the surgical operations with which so large a number of gynecologists are busied are made necessary

solely by the inefficient or inappropriate treatment of women in childbirth. A considerable proportion of nervous disorders have the same origin.

What an incalculable boon and blessing it would be, then, if conditions could be so altered that every woman brought to childbed might be insured efficient and skilful service in carrying her through the ordeal that the performance of this physiological function imposes upon her.

And this can be accomplished in no other way that has been suggested, except by the extension of a lying-in service far beyond the bounds of anything that has hitherto been attempted.

A LYING-IN SERVICE FOR SMALL TOWNS

The promoters of such a service must have in mind the needs not merely of the residents of cities, but of the population of small towns and of the rural districts. Indeed, perhaps it is the latter that preeminently require attention.

To meet their needs, it would be necessary to have a small lying-in hospital

located in every town of three or four thousand inhabitants.

At first thought, this seems an ideal impossible of realization. But if we consider the matter with attention, without for a moment overlooking the practicalities, we shall see, I think, that such a project by no means presents insuperable difficulties.

Suppose, for example, we consider the conditions in a typical county of one of the states of the Mississippi Valley. Such a county, let us say, will be about twenty-five to thirty miles square, and will have a population of about twenty thousand. The county seat is a town of from three to five thousand inhabitants. There are half a dozen smaller towns, some of them mere villages, scattered throughout the county, making up something less than half the population; the remainder being pretty evenly scattered on farms throughout the entire territory.

In a population of twenty thousand people, there will occur, on the average, about seven hundred births in a year. So the obstetrical needs of such a community as this are by no means insignificant when con-

sidered in the aggregate. There is ample material for the patronage of a small hospital, located, let us say, at the county seat, if even a large minority of the women of the community can be induced to patronize it.

In time every mother in the community should come to patronize such a hospital; for it will come to be known that the home is no place for a woman during the ordeal of childbirth. Many women in the cities have learned this, and it has become not unusual for even the residents of luxurious homes to go to lying-in hospitals to be confined. The conditions there are far superior to what they can be in any private dwelling, and the woman who has experienced the comforts of a good lying-in hospital will never willingly be confined again elsewhere.

Like the woman already quoted: she "would walk all the way from San Francisco" if necessary, to secure the comforts of the lying-in hospital.

These comforts, it must be borne in mind, include the use of pain-annulling drugs. In this country, it is customary to anæsthetize

the patient with chloroform, though some competent practitioners prefer ether. We have already seen that the merits of the morphine-scopolamin treatment, inducing the Twilight Sleep, are to be fully tested at the Johns Hopkins Hospital, and it may be that this treatment, as used at Freiburg or in some modified form, will presently come into vogue in all well-conducted lying-in hospitals.

And in that connection, it is interesting to recall that the small lying-in hospital is precisely the place where, according to the experience of the Freiburg obstetricians, the morphine-scopolamin treatment may be carried out to best advantage. We have seen that this treatment cannot be utilized advantageously in large hospitals with a relatively limited staff. Obviously, it could not be applied in the private practice of the average obstetrician, even though he were thoroughly skilled in the administration of the drugs, because the demands on his time would not permit him to observe the patient continuously from the early stages of labor, as is necessary during scopolamin anæsthesis.

But the small lying-in hospital, with its average of one or two births per day, will be provided of course with a resident physician and with a staff of nurses competent to give the first doses of the drug. So the treatment may be carried out as it is at Freiburg, and a considerable proportion of patients will secure the hoped-for boon of the "Twilight Sleep."

And where this treatment fails, it will be supplemented by the use of anæsthetics, so that every patient who goes to the hospital may have full assurance that she will pass through what would otherwise be a dreaded ordeal in a state of blissful unconsciousness.

THE NEEDS OF WOMEN OF THE FARMING COMMUNITY

It is easy to see how the residents of the town in which the lying-in hospital is located can take advantage of its facilities.

But at first glance it may not be so obvious that, under modern conditions, the facilities of the hospital may be made almost equally available for the residents of neighboring towns, and even for the farm-

ing population to the remotest borders of the county in which the hospital is located.

Until somewhat recently, it would indeed have been difficult to accomplish this. But now that the automobile is everywhere in evidence, and good roads are becoming universal, there would be no difficulty in transporting the expectant mothers from a distance of a good many miles. According to the suggestion made above, there would be a lying-in hospital at the county seat of every county. Ordinarily the county is only twenty-five or thirty miles in diameter, so the longest distance to be covered would seldom be more than twelve or fifteen miles. An automobile covers this distance in the fraction of an hour, so even a patient who has neglected to go to the hospital a few days in advance of her expected confinement might usually be transported after the preliminary labor pains had set in, without danger or exceptional discomfort.

Of course the farm wife must be educated before she could be made to see the desirability of this arrangement. The first thought of the average wife is that she can-

not possibly be spared from home, and that the idea of going to the hospital is not even to be considered. But so soon as the advantages offered by the hospital—painless childbirth, safety to the offspring, and rapid and permanent recovery—come to be generally known the feasibility of the project will quickly be demonstrated.

No one who has not practised medicine in the country can perhaps adequately realize the exceeding discomforts and dangers that attend the average farm wife in giving birth to a child.

The doctor who is to attend the case will more than likely be some miles away in another direction just when he is needed most. Every country practitioner of large experience will recall cases in which his attendance has been desired at the same moment in two farm-houses, one located, perhaps, six or eight miles to the north of town and the other as far to the south. And it is not without precedent that a third call, sent post haste from a patient eight or ten miles to the east should arrive while the perplexed physician is endeavoring to decide, from the testimony of the messengers or

the telephone messages, which of the two cases already reported is the more urgent.

Such conditions, let it be recalled, represent the average conditions of the farm population of America, with its aggregate of thirty million souls.

Under such conditions, it is obvious that no woman can be sure that she is to have medical attendance at all during the period when attention is acutely needed, let alone skilful attendance; and the mere statement of that fact should be enough to make it apparent that the existing conditions are intolerable.

What a boon it will be, then, to the six million farm wives of America, when facilities have been provided, and customs have been established, making it certain that she may have the comforts of a lying-in hospital, with adequate medical attendance, to solace her in what would otherwise be the dangerous ordeal of motherhood.

COUNTING THE COST

The more one considers the matter, the more obvious it becomes that the project of

local lying-in hospitals, scattered everywhere across the country, as uniformly if not quite as abundantly as schoolhouses and churches are scattered, is one to appeal not alone to every woman but to every husband and father—in other words to the entire community.

But of course there will arise the inevitable question of the monetary cost, and the practical inquiry will be made as to how such institutions are to be financed.

I must not attempt to answer this question here in any detail. The conditions and needs of different regions are so variant that it would be impossible to make specifications except in the most general way. But I think it may safely be asserted that once public interest is aroused, the matter of monetary cost will present no serious obstacles.

Recall that the average annual birthrate is about thirty-five to every thousand inhabitants; that is to say, about one to every six families, and that sooner or later there are children in every normal household. We are dealing, then, with a project that concerns not here and there an exceptional

family, but one that concerns each and every family. No project could more justifiably call for the expenditure of public money,—money raised, if need be, by the issuing of bonds or by the levying of a special tax.

In many places small public or semi-public hospitals already exist. These can be enlarged at relatively small cost, or their existing wards,—which in many cases are now for the most part vacant,—may be utilized as lying-in quarters.

Once the hospital is in operation, it will in many regions be altogether self-supporting,—for, of course, all but the poorest classes will wish to pay for the services received. And even where the funds received are inadequate to meet the necessary outlay, there will be no part of the public service for which the average citizen will more willingly submit to taxation than for this institution which so manifestly adds to the comfort and well-being of the mothers and wives and daughters of the community.

But even without resort to public funds, there should be no difficulty whatever in any community in securing subscriptions for the

erection and maintenance of the lying-in hospital, so soon as the need of it and its manifold beneficences are clearly understood. Not long ago the women of New York raised the sum of four million dollars by public subscription in the course of two weeks, to be applied to the furtherance of the Young Women's Christian Association movement. It should be easily possible in any community to duplicate this record, in full proportion to the population, for the promotion of a movement wider in scope and more urgently needed.

Many a man who will give for almost no other object, will make liberal donations when he is convinced that the project is one that will immeasurably decrease the dangers and practically annul the pains of the women of the community in the condition which he has hitherto contemplated with the utmost apprehension as a menace, present or prospective, to the loved ones of his household.

Incidentally, it should be noted that the male population of the community will also benefit directly from the introduction of such lying-in hospitals, because it will be

possible to establish in connection with these hospitals, wards or departments of general surgery, for the treatment of various diseases, in many places where it would be impossible to maintain such a hospital service independently, because of insufficient patronage. The patronage of a lying-in hospital is an assured element, assuming good proportions even in districts relatively sparsely settled.

The need of such a service would long ago have been evident, had it not been for the current conviction that the bearing of children is a physiological function not to be considered seriously; and a function, moreover, that is scarcely to be referred to in general conversation.

Now that the time has arrived when a matter of such vital import can be frankly discussed in public, we may expect to see aroused a growing interest in the betterment of the condition of woman through amelioration of the evils incident to the performance of her supreme function.

There is no reader of these pages who cannot do his or her part toward bringing about this amelioration.

Whatever your position in the community, you can at least call the attention of your friends and neighbors to this vitally important matter. And it may well be expected that the response will be quick and keen; that knowledge of the movement will spread from house to house; and that the public interest aroused will lead to active steps for the establishment in your midst of an institution where the woman in childbirth may be given the solace of the "Twilight Sleep," with all the attendant blessings that the word in its widest implications is here meant to connote.

Is it not worth your while to have a share in this beneficent movement?

CHAPTER VIII

WHAT SOME PHILANTHROPIST MAY DO

EVEN were local lying-in hospitals to be established everywhere, however, there would still remain much to be done before the needs of women in connection with the great function of child-bearing have been adequately met.

The reader will recall what has been said in earlier chapters about the relative backwardness of obstetrics in America, in comparison with other departments of medical practice.

It will be recalled that we presented, on the authority of one of the foremost American obstetricians, a list of problems that concern every woman and which medical science has not yet been able to solve.

We were told that the most skilled practitioner knows scarcely more about the cause and proper treatment of painful menstruation than did our grandparents of the sup-

posedly pre-scientific days; that the ills that threaten the pregnant and parturient woman are a good many of them obscure as to origin, and hence, of course, obscure as to treatment; and that the displacement of the uterus after parturition is a condition of unknown cause, notwithstanding its frequency and the severe character of the suffering that it ultimately entails.

We were told also that the question of the best way to abolish the pains of childbirth is still a matter of debate in the profession, notwithstanding the interesting tests that have been made at Frieburg and the recognized value of anæsthetics under certain conditions.

Again, we were told that the standards of medical education in this country, as regards obstetrics, are deplorably low. Few colleges indeed are adequately equipped to give the future practitioner such direct and practical experience as he should obviously have before he is called upon to conduct a delivery in private practice.

As to the remedying of all these matters, it is obvious that the local lying-in hospitals, the need of which was urged in the

last chapter, could have but subordinate influence. Each such local hospital will, to be sure, give opportunity for the training of a few obstetricians, and in the aggregate an enormous body of competent obstetricians will thus be developed. But of course, in general, the physicians connected with these institutions will be largely occupied with outside practise, and it is obvious that institutions such as these cannot hope to be centers of research. They can at best apply the knowledge that is gained in larger institutions under conditions that permit research work to be carried out in accordance with the exacting requirements of modern science.

Our survey of the subject would be far from complete, were we to fail to consider the needs of these institutions, the existing shortcomings of which have been so clearly presented to us.

TRAINING THE OBSTETRICIAN

To make the matter tangible, I could not do better, perhaps, than to call attention to the existing conditions at the institution

which has for many years been looked to as setting the highest standards of medical education—the Johns Hopkins Medical School and Hospital, at Baltimore.

Fortunately I am able to make this presentation with full authority, largely from a report made to the Trustees upon the conditions in the department of obstetrics in the Johns Hopkins Hospital by Dr. J. Whitridge Williams, Professor of Obstetrics in the Johns Hopkins University, whom I have previously quoted as to the inadequacy of obstetrical teaching in America, and the backward state of this branch of medicine.

Dr. Williams believes that the backward state of obstetrical medicine in America is partly due to the fact that laymen and the physician alike have been prone to regard the caring for women in childbirth as a more or less contemptible task, sharply distinguished from the work of the surgeon who deals with the other infirmities of women,—a large proportion of which, paradoxically enough, are due to mishaps of the child-bearing period.

He believes that the obstetrical and gyne-

cological departments should be consolidated and housed together in a woman's clinic. Such is the practice in Germany, and to that fact he ascribes the present preeminence of that country in this field of medicine.

He urges the absolute necessity for the provision and proper equipment of large women's clinics, both for the opportunity that would be accorded for research work in solving the obscure problems concerning the normal and abnormal sexual processes of woman, and for the teaching of medical students who cannot otherwise by any possibility be adequately prepared to practise this branch of their profession.

He declares his belief that neither gynecology nor obstetrics—which jointly have to do with all the medical needs of woman as woman—will attain full development until the two are combined and united into a single strong department under the control of a full time staff.

This means a professor, several assistant professors, and a number of assistants, who give their entire time to the work of the department, in teaching and in research.

Some of these men must be highly trained in the underlying sciences—really accomplished chemists, physiologists, pathologists and what not; and they must be paid salaries sufficient to enable them to give their entire time to the work and not be distracted by outside private practise.

"It goes without saying," he says, "that the first function of such a clinic should be the relief of suffering and the treatment of disease; but almost as important is the proper teaching of students and the advancement of knowledge. Indeed, a woman's clinic should be regarded as a research institute having the closest affiliations with the departments of biology, embryology, and physiology."

After pointing out some of the open problems, in words that I have quoted in an earlier chapter, Dr. Williams continues:

"These problems and many others are of immense importance to mankind and are capable of solution, but years of patient clinical and laboratory work by properly trained scientific men are necessary to effect it, and such work can scarcely be ex-

pected from those who are engrossed by the cares of private practise and who can give only a few hours each day to hospital and university work.

"At present, gynecology and obstetrics are too sharply divided and are conducted upon too practical a basis to give ideal results. The progressive gynecologist considers that obstetrics should include only the conduct of normal labor, or at most of such cases as can be terminated without radical operative interference, while all other conditions should be treated by him—in other words, that the obstetrician should be the man-midwife.

"The advanced obstetrician, on the other hand, holds that everything connected with the reproductive processes of women is part of his field, and if this contention were sustained, very little would be left for the gynecologist.

"Where the two departments are conducted independently, both suffer; as the gynecological assistants are handicapped by knowing but little concerning the origin of many of the conditions which they are called upon to treat; for it is generally ad-

mitted that most gynecological complaints, except tumors and conditions following gonorrhœa, are direct consequences of mismanaged labor and abortion; while the obstetrical assistants suffer from not being able to follow to their conclusion the complications developing in the course of their work, as well as from lack of proper training in operative technique. Indeed where the two departments are active, differentiation is extremely difficult, and it is often effected only by an arbitrary time limit.

"Thus, a pregnant woman with an ovarian tumor is considered a gynecological patient in the first seven, and as an obstetrical patient in the last three months of pregnancy.

"Futhermore, the division of the two departments greatly hampers research. The gynecologists, for example, are not interested in the study of normal menstruation, which must be the basis for the rational treatment of its abnormalities, yet they object to normal non-pregnant women being admitted to the obstetrical ward for study and investigation. Consequently this problem and many others remains untouched.

"How much simpler and more effective it would be if the two departments were consolidated into a single one, which could be housed in a commodious and suitably equipped woman's clinic, with sufficient endowment to care for the necessary number of additional patients and to provide requisite facilities for teaching and research."

NEEDS OF A GREAT HOSPITAL

In the same communication to the Trustees, Dr. Williams states that the Johns Hopkins Hospital now maintains 56 gynecological and 39 obstetrical ward beds; including 12 or 15 for women awaiting confinement, as well as accommodations for the requisite number of private gynecological, but none for private obstetrical patients.

The ward accommodations of the gynecological patients, he says, are satisfactory, but the department suffers from the fact that the operating-rooms, private patients, and white and black ward patients are in four separate buildings; but more particularly because it is inadequately supplied with proper quarters or equipment for

teaching and research work. And then follows this surprising statement:

"The obstetrical department, which is altogether unworthy of a great hospital and medical school, affords fair accommodations for 17 out of the 39 patients and their babies, except for scant provision for toilet and general administrative purposes. The remaining 22 are housed either in the basement of the obstetrical or in the third story of the colored ward, which were not intended for use by patients, as they are unventilated, poorly heated, and devoid of all conveniences.

"Furthermore, the operating and delivery rooms are defective, and nursery overcrowded and ill-adapted for the proper care of the babies, while the teaching and laboratory facilities are so entirely inadequate that at different times of the year I am obliged to wander from building to building in order to find a meeting-place for my classes. The number of obstetrical patients is sufficient for the instruction of only one-half our present number of students. And if the Examining Boards of other states

followed the example of Pennsylvania in demanding a decent minimum of experience before granting a license to practice medicine, our students would be excluded from the examinations."

Such, then, are the deficiencies of the hospital connected with what is generally regarded as the foremost of American medical schools, as regards the study and teaching of a department of medicine that is vitally important to every woman in the land.

And, having stated the deficiencies, Dr. Williams goes on to point out specifically what added accommodations and facilities would be required fully to meet them:

"A woman's clinic adapted to our needs," he says, "should provide accommodations for 60 gynecological and 50 obstetrical ward patients, not including the babies, and 15 or 20 normal women awaiting confinement, but the latter should scarcely be counted as patients, as they are not sick and do a great deal of work in return for their board. They are also used several times each week for teaching stu-

dents the technique of various examinations.

"Private gynecological patients could be cared for in the private ward, but accommodations are needed for 10 private obstetrical patients, whose board and fees would be a source of revenue to the hospital. In order to facilitate the care of patients and to concentrate the work, both black and white patients should be housed in the same building, but on separate floors.

"In addition to providing proper accommodations for patients, the clinic should be provided with the necessary operating and delivery rooms and all that goes with them, and particularly with suitable laboratories for pathological, bacteriological, chemical and physiological investigation, together with a small museum. Teaching quarters should also be provided, including one room capable of seating 100 students, a number of smaller rooms for section work, as well as several rooms in which students can sleep while awaiting calls to labor cases."

That such an institution might operate with maximum efficiency, it would be necessary that the joint department of gyne-

ology and obstetrics should have at its head a physician who devoted his entire time to the work of the women's clinic, directing the investigations of his associates, and himself given the leisure to conduct personal investigations and coordinate the studies to others.

"Such an institution," Dr. Williams concludes, "would afford accommodations for 110 ward patients (not including pregnant women awaiting confinement), and would make possible the treatment of say 1,200 gynecological and 1,000 obstetrical patients each year, which would be available for teaching purposes. In addition to making possible this amount of humanitarian work, I believe that it would set a new standard for teaching and research throughout the English speaking world, and would enable us to send forth each year one or two exceptionally trained young men, who would be preeminently fitted to go elsewhere and do likewise."

WHAT HALF A MILLION WOULD DO

Here, then, is a brief outline of a project for the carrying out of investigations in

the interests of womankind, and for the better education of the physicians who are to minister to her physical needs.

And what, it will naturally be asked, stands in the way of the immediate carrying out of so beneficent a project?

The answer may be given in this brief sentence: Lack of funds.

The initial endowment left by Johns Hopkins for the foundation of the hospital that bears his name has been kept intact. But the entire income from it is required to conduct the various departments of the hospital on the existing basis, and it is impossible for the Trustees to apportion money, without an unjustifiable infringement on the capital, for the development of such a woman's clinic as is absolutely prerequisite to the carrying out of such a project as Dr. Williams outlines.

How much money would be required?

The answer seems almost ridiculous in these days of large financial enterprises. For we are told, on competent authority, that the paltry sum of $200,000 would suffice to enlarge the present buildings devoted to the obstetrical and gynecological

departments at Johns Hopkins Hospital, and that $300,000 more would suffice as an endowment for the maintenance of the additional patients.

Half a million dollars, then, entrusted to the wise stewardship of the Johns Hopkins authorities, would suffice to establish a woman's clinic, in which matters that vitally concern the twenty million mothers of America would be investigated, as they are being investigated nowhere else in this country.

The General Education Board has recently made a gift of a million and a half dollars to make possible (in connection with funds formerly allotted by the University and Hospital) the placing of the departments of medicine, of surgery, and of pediatrics on a full-time basis.

The Board has made it understood in a general way that when funds for a suitable building are available, they will similarly provide the money necessary to put the obstetrical department also on a full-time basis. So the donation of half a million from another source would do the work of a far larger sum, in that it would make

available resources that cannot be utilized until the present obstetric quarters of the hospital are enlarged. It is useless to ask any physician to give his full time to work in this department of the hospital until material is available to supply full opportunities for investigation and progressive work.

Surely there must be in America a hundred, or perhaps five hundred, philanthropically inclined capitalists to whom a half million dollars is a mere bagatelle, any one of whom would regard it a privilege, should the opportunity be brought to his attention, to associate his name with an enterprise fraught with such beneficent meanings for the mothers of the race.

THE END