The following manual was originally issued as a separate pamphlet and is reprinted in its entirety here. It sums up the theory of Painless Childbirth and describes the necessary exercises.

The techniques described by Mmes. Rennert and Cohen are those used in France where the psycho-prophylactic method was introduced by Dr. Fernand Lamaze in 1951 and subsequently modified in the light of French experience.

The following does not pretend to be a complete exposition of the theory or technique of Painless Childbirth, but is merely a manual of information and practical exercises for the use of women who do not have access to the full course of lectures, movies, and instruction. It should not be imagined that even careful study of this pamphlet is more than an inadequate substitute for the full course of instruction.——Translator's note.

1. INTRODUCTION

Throughout most of history, childbirth was considered a painful and passive experience. A woman looked forward to her first delivery with apprehension, anxiety, or fear, and the memory of the first was seldom encouraging in facing those that followed. All she had heard about childbirth, whether from books, doctors, midwives, or family gossip, dwelled on its painfulness. Without any knowledge of what was happening to her, she submitted to the contractions that constitute labor, and her negative attitude toward them interfered with their natural working. Each contraction was an enemy. She fought it with disorganized contortions, tightening up her entire body. Her nervous tension added to her suffering by intensifying the sensations she felt. But nowadays a woman can learn beforehand what is likely to happen to her during her delivery. She can also learn what she can do to help the work of her body.

Childbirth is a natural biological process, but it is a demanding one. It requires a considerable effort. To accomplish it in the best conditions, the mother should know its mechanics and be able to follow its progress with understanding; she should know what to expect during each phase of labor and be able to do the right thing at the right time. This is not a task for the body alone. It is the brain that is responsible for the smooth progress of the labor, for it is the brain which, conditioned by a preparatory course, orders the appropriate actions when they are needed.

The woman's body begins to prepare for childbirth from the beginning of pregnancy. At the moment of delivery the uterus (or womb) is ready to open and expel what it contains. This, in essence, is what happens during labor. A well-directed effort by the woman herself can facilitate the work of her body.

The psycho-prophylactic method of painless childbirth (known in France as *accouchement sans douleur* or A.S.D.) is a technique which enables a woman to facilitate and assist the contractions by which the uterus does its task. When using this technique, the woman remains fully conscious and feels every one of the contractions, but they are felt as muscular movements with a beginning, growth, climax, and decline, rather than as unbearable pains.

The training which is given to a woman who wishes to avail herself of the technique of A.S.D. changes her attitude toward childbirth by showing her that she has means to help the normal functioning of the uterus. In order to do this, this training demands a twofold effort. First, a mental effort which consists of learning about the process of childbirth and building up the mental concentration necessary for control during labor. Second, a physical effort of practicing a group of exercises in muscular control, breathing, and limbering, which prepare for the physical exertion demanded during the delivery of the child.

The technique of A.S.D. is not a technique of childbirth without effort. One might add that the effort demanded begins with the training itself.

This pamphlet is written for women who wish to train themselves at home in the technique of A.S.D. It describes exercises which are indispensable for the success of a painless childbirth without anesthesia. The daily repetition of these exercises, beginning two or three months before the due date, will enable the future mother to develop reflexes that will help her the day of her delivery. Then, like a skilled worker, she will know how to accomplish her task with precision and ease.

All scientific discussion of the relation of brain and muscles has been left out of this work, which is devoted solely to practical preparatory exercises of neuro-muscular control. Excellent technical works on A.S.D. exist for those who wish to look further into these questions.

2. CHANGES IN THE BODY DURING PREGNANCY

Many changes take place in a woman's body in preparation for childbirth and during the delivery itself. There are several exercises that help the body make these changes and utilize them to the fullest advantage.

The baby develops in an organ known as the uterus or womb, which is found in the lower abdomen between the bladder and the rectum. This organ is shaped like a little bottle turned upside down (it is also called "pear-shaped"). On either side of the uterus, the Fallopian tubes lead out to the ovaries which produce the egg cell that becomes the future child. The egg is fertilized in the Fallopian tube and then moves down into the uterus which provides it shelter while it grows. There it is completely isolated from the rest of the mother's organism, as the umbilical cord leads to the placenta, or membranes surrounding the baby, and not to the mother's navel as some women think.

In a woman who has never had children, the height of the uterus before pregnancy is only about three inches and its weight about two ounces. The uterus itself is a thick, firm muscle that surrounds a hollow cavity scarcely big enough to hold a teaspoonful of liquid. By the end of pregnancy, the average uterus has grown to an average height of fourteen inches and its weight, not counting its contents, has increased about two pounds. The muscle stretches easily, and the cavity within it enlarges to accommodate the growth of the child. By the end of the ninth month, it easily holds a child of seven or eight pounds together with the membranes that surround it (the placenta), which weigh about one pound, and about two quarts of liquid called amniotic fluid and generally referred to as "the waters." The uterine cavity can get much bigger if it contains several children or more fluid.

The part of the uterus that corresponds to the neck of the little bottle is called the cervix. It is about two inches long and of a firm consistency. It hangs downward into the end of the vaginal cavity rather like the clapper of a bell, and can therefore be examined easily by the doctor's touching it. Like the uterus, it also undergoes important changes during pregnancy, becoming more and more elastic as the pregnancy advances until on the day of delivery it is ready to open up and allow the baby to pass through without difficulty.

The pelvic cavity into which the uterus expands is surrounded by three bones which form a sort of barrel: two *iliac* bones (the hip bones) which join in front at the *pubis*, and a third, the *sacrum*, behind. These bones are held solidly together by ligaments; the joint in front is called the *symphasis* and the two in back the *sacroiliac* joints. During pregnancy and delivery these joints loosen up and spread slightly apart, thereby widening the space between them for the passage of the child. This loosening and spreading can be aided by exercise.

The bottom of the pelvic cavity is formed by several layers of muscle known as the pelvic floor. The three openings in the pelvic floor are, from front to back, the *urethra*, the *vagina*, and the *rectum*. The pelvic floor, like the cervix, becomes more elastic during the course of pregnancy, relaxes, and becomes capable of great distension during the delivery.

3. LIMBERING AND POSTURE EXERCISES

These exercises are not preparation for the actual delivery, but are rather for use throughout pregnancy as a means of improving the expectant mother's physical state, and keeping her body in good condition. As pregnancy progresses, the growing uterus exerts pressure on the bones of the pelvis, occasionally to the extent of interfering with the functioning of its joints. At the same time it presses on

the blood vessels more than usual, which often leads to leg cramps and varicose veins. The following exercises will help prevent the development of these complaints, release tensions, and be an aid later on, during the delivery, as they lead to limberness and better muscle tone in the pelvic region, and a greater elasticity of the pelvic floor.

The first two exercises should be done while lying on the back on a firm surface (a mat or carpet on the floor), with a pillow under the knees, and the arms stretched out on each side.

1. Slowly raise the right leg until it is vertical (at right angles to the floor), while inhaling deeply through the nose. Then slowly lower the leg again, while exhaling through the mouth. Then do the same with the left leg. Repeat this exercise five or ten times, alternating legs.

2. Raise the right leg and swing it out to the side and toward the right hand, spreading the thighs as far as possible, while inhaling deeply through the nose. Then drop the leg slowly to its starting position while exhaling through the mouth. Repeat this exercise five or ten times, alternating legs.

3. Sitting tailor position: Sit on a firm surface, legs bent, knees spread apart, the back rounded and the body bent slightly forward. By pressing on the knees spread the thighs and limber the joints. Try to spend ten to fifteen minutes, several times a day, sitting in this position. It is extremely helpful in relaxing the back and preventing fatigue, as the weight of the uterus usually pulls the spine forward and tires the muscles of the back by forcing it to a concave position.

Unless your doctor forbids it for some medical reason, do these exercises every day, several times a day if possible. Don't overstrain yourself. Regulate the amount of exercise according to your physical condition. Begin slowly, and you will soon notice with pleasure a delightful increase ir

your general well-being that will serve you also at the time of your delivery.

4. THE FOUR STAGES OF THE DELIVERY

1. *The effacement or flattening out of the cervix:* This may precede the delivery by several days or several hours. By this process the cervix is reduced to the shape of a ring. Some women are aware at this time of a few contractions which are felt as a pulling sensation in the abdomen, but usually this stage goes entirely unnoticed.

2. *The opening of the cervix:* This usually begins slowly and gets progressively faster. The diameter of the opening is measured in centimeters and occasionally described in numbers of fingers. Early in labor it is a little opening the width of one finger. Later on, while the contractions are still rather far apart (about every eight to ten minutes) the opening reaches the width of two fingers. Soon afterward the contractions begin to come closer together; the interval between them decreases from eight minutes to five, to four, to three, and finally to two minutes. The opening of the cervix increases little by little from two fingers to three, then four, and so on until it reaches complete dilatation or a diameter of about ten centimeters. The doctor or nurse will examine the expectant mother from time to time to observe the progress of the dilatation.

The contractions that do the work of opening the cervix are of a different nature from those that some women feel during their pregnancy. The earlier contractions merely harden the body of the uterus, while these pull on the cervix so as to open it.

When the cervix has dilated sufficiently, the membranes may be artificially ruptured by the doctor or nurse if they have not already broken by themselves. This permits the baby's head to press down more forcefully on the cervix and helps it to open more rapidly.

Some women feel a desire to push just before the expulsion itself begins. It is preferable for them not to do so. When the cervix is not completely dilated, they run the risk of thickening it by pushing and thereby slowing up the completion of dilatation. This time when the woman feels the desire to push but should not do so is often referred to as the *transitional* or *intermediary* period. It generally lasts about twenty minutes in a woman having her first child (primapara) and less in subsequent births. This is because the cervix is firmer in a primapara and resists the contractions more.

3. *The expulsion:* This begins as soon as dilatation is complete. The obstetrician will tell the mother when this has occurred. She should not begin to push without his authorization.

The expulsion of the child demands a much greater effort on the part of the mother than the dilation of the cervix. Now muscular force must be added to conscious control. The child first passes through the opening in the pelvis, or bony passage, and then through the perineum or muscular passage. The mother must help to push him through. During the period of expulsion, the contractions are much more powerful than during the phase of dilation. Nonetheless, by themselves alone they are not sufficient to expel the child; the mother must add her own strength to them by pushing. If the mother pushes strongly and is not afraid, she will find the expulsion the most agreeable part of the whole delivery. She will have the satisfaction of carrying out the task that Nature has demanded of her.

The period of expulsion is much shorter than that of dilation, but it demands a much more strenuous effort. The length of an expulsive contraction is about 70 seconds, and the time for rest between them only about two or three minutes. It is best therefore to take advantage of each contraction as much as possible, to push strongly, and to use the interval to rest. Each poorly utilized contraction makes more pushing necessary and so leads to unnecessary fatigue for the mother and a prolonged time

in the passage for the baby. On the other hand, a push well done relieves the mother and helps the child.

The child may lower to the pelvis at the end of pregnancy or only at the moment of delivery. During the period of dilation, the child descends very little in the pelvis, remaining relatively stationary in the uterus while the cervix opens. During the expulsion, he is pushed through the cervix, through the bony passage, and then through the perineum which little by little stretches to form an elastic tube. It is often said that each child is made to the size of his mother's passage and this is usually true.

When the child's head has gone through the bony passage it encounters the perineum which stretches under its pressure. Little by little, because of this pressure, the perineum becomes insensitized. The head can be freed without pain so long as the woman opens and relaxes her thighs as much as possible, keeping her buttocks firmly pressed on the delivery table.

At the moment of the freeing of the head, even though a contraction is in progress, the woman should stop pushing; she must try to remain completely relaxed so that the obstetrician can free the head carefully and easily without damaging the perineum which is now stretched to its maximum capacity.

The freeing of the shoulders follows that of the head, and then the rest of the body slips out by itself. As soon as the shoulders have come out, the mother can lift her head a little and watch the birth of her child. Often he has already begun to cry or has made a little face, and the mother can watch his first gestures with her own eyes.

Although the length of labor cannot be predicted with accuracy, it is generally true that first deliveries take longer than those that follow, as the tissues are firmer and stretch more slowly. The period of dilation is 8 to 12 hours on the average. The expulsion takes 10 to 40 minutes. These figures are extremely variable, however, differing greatly from one woman to another and from one delivery to another in the same woman.

4. A few minutes after the delivery of the child, an additional push is usually sufficient to deliver the placenta.

5. EXERCISES IN MUSCULAR CONTROL

A woman who has had no preparation for childbirth contracts her muscles almost instinctively when a uterine contraction occurs. She tires herself out in this way and wastes a great deal of energy. She also interferes with the useful work of the uterus. The exercises described below will help her to prevent this from happening.

There are two sorts of muscles: the "smooth" muscles which constitute the tissues of internal organs such as the stomach, intestines, bladder, and uterus, and the "striated" muscles, such as the biceps, which are attached to the skeleton and which can be contracted voluntarily. These muscles function under the conscious control of the brain, while the "smooth" muscles, although the brain is informed of what they do, work independent of conscious control. These exercises in muscular control aim at making the "striated" muscles relax, that is to say those that can be controlled by the brain and are not required for the work of dilating the cervix.

These exercises should be done lying stretched out on the floor, a pillow under the head and another under the knees. They should be done a minimum of five times a session with a rest between each one.

1. Raise both arms slightly from the floor, keeping them stiff, with the fists clenched. Let both legs remain relaxed and flabby. Hold for about twenty seconds; then *slowly* relax the arms, letting them sink to the floor.

2. Raise both legs slightly from the floor, keeping them stiff and keeping the knees straight. Let the arms lie relaxed alongside the body. Then, after about twenty

seconds, *slowly* relax the legs, letting them sink to the floor.

3. Stiffen the right arm and the left leg at the same time, keeping the left arm and the right leg relaxed. Hold for twenty seconds and then relax *slowly*. Then reverse the position—stiffen the left arm and the right leg, leaving the right arm and the left leg relaxed, etc.

4. Stiffen the right arm and the right leg and raise them *slowly* letting the left side remain relaxed. After twenty seconds reverse the position—stiffen the left arm and the left leg and raise them slowly, letting the right side remain relaxed.

6. MASSAGES FOR USE DURING THE DILATATION OF THE CERVIX

The skin and muscles of the abdomen are very tense during a uterine contraction. A light massage or brushing will lessen this tension, but should only be used during the contraction. It should be done simultaneously with the breathing exercises that are described in the next section.

1. First powder the abdomen with talcum to avoid irritating the skin. Then do the following movement. Place both hands on the pubic region (lower abdomen) with the fingers slightly spread apart. Slide the fingers upward and outward moving toward the hips. When the hands reach the hips, lift the fingers from the skin and begin the same movement again, repeating it until the end of the contraction. This movement should be done lightly, slowly, and regularly. During the contraction, if you pay attention to the sensation of the contraction, you can regulate this massage according to your needs. You can press more or less firmly, always being sure not to irritate the uterus by an uncontrolled clawing, and can, if you wish, direct your fingers about the uterus so as to return, without lifting them, to the starting position.

2. The contractions which are felt in the sacro-lumbar region that are called "back labor" call for a much stronger massage than the one just described. At the moment of such a contraction you should use the following movements in conjunction with the breathing. Place the thumbs on the iliac peaks (hips) and the other fingers on the region which feels the contraction. Do a rotating movement with the fingers pressing strongly on the region. For a greater pressure, close the fingers while placing them in the most sensitive region and let the knuckles be pressed on by the weight of the lumbar region (lower back).

Both kinds of massage may be done while lying on either side as well as on the back, doing the brushing or pressing with one hand only and leaving the other hand relaxed.

7. BREATHING EXERCISES

The muscles that control breathing are the diaphragm, the intercostal muscles (between the ribs) and the abdominal or belly muscles. The diaphragm is attached to the ribs and separates the thoracic cavity from the abdomen. During inhaling, the intercostal muscles pull the ribs apart enlarging the thoracic cavity, the lungs spread out and fill with air, the diaphragm lowers and flattens out. During exhaling the lungs are emptied under the pressure of the diaphragm and the intercostal muscles. In the exercises that follow, breathing should be done above all with the intercostal muscles to permit the lungs to take in more air without disturbing the abdomen. During labor intercostal breathing is preferable to abdominal breathing.*

There are three kinds of breathing that are used during the dilatation of the cervix. They should be used only while the uterine contractions are in progress.

* This use of chest breathing rather than abdominal breathing is one of the ways in which the technique of *A.S.D.* differs from the various techniques of "natural childbirth" taught in the United States.—*Translator's note.*

1. *Slow and deep breathing to be used during the early part of labor:* Slowly inhale by the nose and exhale by the mouth. Occasionally place the hands on the ribs to be sure that they spread during the inhalation and fall back to place during the exhalation. Do this exercise for one minute trying to keep the rate of breathing as steady as possible.

2. *Lightly accelerated and superficial breathing or panting:* This breathing will be used in labor whenever the first breathing becomes inadequate or impossible to maintain. You will probably feel the need for it near the middle of dilatation, between three and four fingers.

There are three steps to this breathing. Begin by inhaling deeply through the nose and exhaling through the mouth. Then, when you have finished exhaling, begin a shallow, rapid, rhythmic panting. This should be done either through the nose or the mouth alone. Practice so that eventually you can sustain this panting for as long as one minute. Finish with a deep inhalation and exhalation, blowing out all the air that remains in the lungs. Rest a minute between each repetition of the exercise.

To be done well and correctly, the panting should be almost silent and always at the same speed. The belly should remain practically immobile. The shoulders should be as still as possible, and not follow the movements of the breathing. (By placing the hands on either side of the rib cage, you can check the fact that the movement of the ribs is more rapid and less ample than during the slow and deep breathing.)

3. *Breathing for use during the period of transition:* During the period of transition, the desire to push may occur once, twice, or three times in the course of a contraction, depending on the strength of the contraction. Repeat the panting exercise described above, punctuating it every twenty seconds by a forced exhalation (blowing out forcefully), being sure not to lift the head from the pillow. This forced exhalation will be used whenever the desire to push becomes strong, to prevent you from pushing at that time.

All these breathing exercises should be practiced while lying on the back and on the left or right side.

8. EXERCISE FOR USE DURING THE PHASE OF EXPULSION (PUSHING)

Lie on the back on a firm surface *without* a pillow. Bend the legs at the knee and plant the feet as far apart as possible, keeping them flat on the floor or other surface. The weight of the legs should rest on the flat of the feet, and the buttocks should remain pressed on the exercise surface. Stretch the arms down alongside the body.

Inhale deeply through the nose, exhale through the mouth, take in another deep breath through the nose and hold it as long as possible (20 to 30 seconds) keeping the mouth closed. While holding your breath, lift the shoulders a few inches off the exercise surface, thus raising the upper part of the body slightly, and push them forward. At the same time, raise the head and bend it toward the chest, keeping the small of the back pressed well against the exercise surface and gripping the thighs with the hands. Don't let your elbows rest on the exercise surface (or later the delivery table) but spread them slightly away from the body, so that the arms are free to pull more strongly.

Push the abdomen up and forward (puffing out the belly) while taking care *not* to arch the back. Contract the abdominal muscles, beginning at the top of the belly thus pushing down on the uterus from above for as long a time as possible. The air caught in the lungs will exert pressure on the diaphragm and thus help the uterus to empty itself.

The expulsive contraction is too long for you to hold your breath the whole time. Therefore, after 20 or 30 seconds, exhale through the mouth, letting the head fall slightly back, then inhale once again, hold the breath, and

continue the pushing. While drawing this breath, it is important not to let go of the thighs (or in actual delivery the bars). At the end of 70 seconds, lie back on the exercise surface, letting go of the thighs which remain bent, spread apart, and relaxed. Breathe slowly and deeply for a rest period of about one minute.

Repeat this exercise three to five times, ending each time with complete relaxation and deep, slow breathing. (During the actual delivery this pushing will be done with all your strength; during the exercise however, be more moderate.)

9. A TYPICAL PRACTICE SESSION

It is advisable to take off your corset and brassière when practicing the exercises and to wear a leotard or pajama bottom. Do not practice immediately after eating. Repeat all the exercises two or three times a day whenever possible, but if the time till your delivery is short, concentrate on those that you are least successful with. You may practice the different kinds of breathing at any time during the day, sitting or standing, so long as you are relaxed. In the evening rehearse all the exercises, executing the commands given by your husband or someone else who knows about the method.

Here is a good practice plan:

1. Begin by a complete relaxation, inhaling deeply and exhaling slowly 5 times.

2. Do each movement for limbering and muscular control from 5 to 10 times, resting quietly between each exercise.

3. Do the slow and deep breathing 5 to 10 times (or even for several one-minute sequences), accompanying it with brushing or pressing.

4. Do the accelerated breathing (panting) 10 times, each time increasing the length progressively until you reach

one minute, accompanying it with brushing or pressing. Rest between each time.

5. Repeat the same breathing lying on the right or left side doing the brushing and pressing with one hand.

6. Rehearse the expulsion sequence 5 times. Whenever possible have someone time you and tell you when to inhale and exhale.

Finish all the above exercises by a complete relaxation, doing slow and deep breathing.

Sit in the tailor position several times a day.

While doing any exercise, you must think what it is used for. Each one has a definite purpose. Remember that certain of them are not used during the delivery itself. These are (1) the limbering exercises, and (2) the exercises of muscular control, which are necessary to obtain a conscious relaxation on the day of the delivery. The others are performed during the delivery in just the same way as in the practice sessions. These are (1) all the ways of breathing with brushing or pressing, and (2) the sequence of expulsion, but done with greatly increased force.

10. SUPPLEMENTARY REMARKS

Arrange all the practical details at least two or three weeks before your due date. Pack your suitcase. Arrange for transportation to the hospital. If you have other children, arrange for someone to take care of them. Remember to bring a sponge for your husband to cool your face with and some talcum to prevent the massage from irritating the skin.

When your labor finally begins, you will set out upon one of the most thrilling adventures of your life. Labor can begin in three different ways: by the loss of the mucous plug, by the rupture of the membranes (loss of waters), or by uterine contractions. These three signs can occur simultaneously or separately.

The *mucous plug* is a gelatinous mass which closes the cervix during pregnancy and protects the child from germs coming from the vagina. It comes away in small quantities of whitish or greyish matter mixed with traces of blood from the surface of the cervix. Sometimes it is eliminated only at the moment of delivery. The *membranes* can break spontaneously, which may or may not be followed by contractions. The quantity of fluid lost may vary from a few drops, when the membranes are only perforated, to two or three glassfuls when the break is more pronounced, and occasionally even more. A *uterine contraction* is felt as a pulling sensation in the abdomen or in the lower back. When the contractions occur with a regular rhythm, becoming progressively stronger and closer together, true labor has begun.

If labor begins slowly and progressively, you can give yourself an enema of two tablespoons of olive oil or peanut oil in a pint of warm water. This will empty the rectum and avoid the expulsion of any excrement at the moment of pushing. This will be done for you at the hospital if you haven't the time to do it at home.*

Labor may last for many hours, and as it is a perfectly natural process you may become hungry and want to eat something. It is a good idea to eat something light and energy-giving at the beginning of labor.

If the contractions begin at home, stop all other activity, relax, and breathe deeply and slowly. You can relax and control your contractions standing as well as sitting. If the first signs go unnoticed, as they sometimes do, the contractions may begin with a rapid rhythm. The different stages of labor may occur more quickly than you expected,

* In America this is normally done at the hospital and unfortunately it is occasionally a source of discomfort, happening fairly late in labor. The French "do-it-yourself" practice has the advantage of getting the preparation over with early in labor when it is less disturbing and will not bring about a loss of control.—*Translator's note.*

and the alert mind of a well-trained woman must adapt itself immediately to each new situation.

Be sure to keep your eyes open during labor. Closing your eyes will tend to make you sleepy and reduce your vigilance. You may fail to notice the beginning of a contraction, and it will then be more difficult to control that contraction at its peak.*

After a few contractions, you will learn to recognize the beginning of each one by putting your hand on your abdomen. You will be able to feel the hardening of the uterus from the beginning, and will thus not confuse the movement of the child with the contraction of the uterus.

Begin with the slow and deep breathing, doing the massage if necessary. When the contractions become strong, switch to panting, continuing the massage. Remember to keep the limbs as relaxed as possible at all times, and to rest between contractions.

When the transition period occurs, remember to blow out when the desire to push becomes too strong. Ask the doctor when you may push, and do not do so until he gives you permission.

During the expulsion, the obstetrician will tell you to—

—Inhale!

—Exhale!

—Inhale, hold, push!**

In the middle of the push you may exhale again, take another breath, hold, and push again. (To *hold* is to tighten all the muscles of the abdomen and diaphragm and push

* This failure to perceive the contraction on time and subsequent loss of control is even more likely to occur as a result of sedation. Keep saying "no" to all the things you are offered "to take the edge off it," as they will probably reduce your alertness and your power of concentration and result in your allowing the contractions to get out of your control.—*Translator's note.*

** In France they are careful to set the signals precisely in advance to avoid confusion during the delivery. Try to arrange this with your obstetrician.—*Translator's note.*

down with them voluntarily at the doctor's command, with the added force of a lungful of air.)

The expulsive contraction lasts about 70 seconds, beginning slowly, then increasing, and then ending slowly again. Be prepared to start pushing at the beginning of each contraction. In the delivery room, you may receive a little oxygen between contractions to help you to keep up your strength.

At the last push the head of the child is ready to come out. The perineum is stretched as much as possible, and the obstetrician must deliver the head very carefully to prevent any tearing. You must give him enough time and space to accomplish this delicate task with ease. In the middle of the contraction he will ask you to stop pushing, for at this moment a long push might tear the perineum. The way to stop the push short when he asks you to is to let go of the bars, lie back leaving your knees bent, thighs spread apart and as relaxed as possible, with the buttocks resting on the delivery table, and pant. A clear-headed woman, conscious of the job she is doing, will be able to execute these orders promptly, and so aid the obstetrician in his art.

Suggested Reading

IN ENGLISH

A Practical Training Course for the Psychoprophylactic Method of Childbirth (Lamaze Technique)
Elizabeth Bing and Marjorie Karmel
ASPO

Psychoprophylactic Preparation for Painless Childbirth
Isidore Bonstein, M.D.
Grune and Stratton, Inc., New York, 1958.

Painless Childbirth
Fernand Lamaze, M.D.
Burke, London, 1958.

IN FRENCH

La Méthode Complète de Préparation à l'Accouchement sans Douleur
Micheline et André Bourrel et Colette Jeanson
Editions du Seuil, Paris, 1957.

Les Méthodes Psychosomatiques d'Accouchement sans Douleur
L. Chertok (*Technical*)
L'expansion Scientifique Française, Paris, 1957.

Pratique de l'Accouchement sans Douleur
Dr. Jacques Gaillard
Librairie Maloine S.A., Paris, 1957.

Principes et Pratiques de l'Accouchement sans Douleur
Colette Jeanson
Editions du Seuil, Paris, 1954.

Qu'est-ce que l'Accouchement sans Douleur?
Dr. Fernand Lamaze (*Listed above in English.*)
Editions La Farandole, Paris, 1956.

Témoignages sur l'Accouchement sans Douleur
Dr. Pierre Vellay et Aline Vellay-Dalsace
Editions du Seuil, Paris, 1956.

L'Accouchement sans Douleur
par une équipe de specialistes, préface du Dr. Vellay
Elle-Encyclopédie, Librairie Arthème Fayard, Paris, 1957.

L'Accouchement sans Douleur
par la Méthode Psychoprophylactique
Dr. Henri Vermorel (*Technical*)
Camugli, Lyon
(Contains a bibliography of 500 books and articles in all languages related directly and indirectly to Painless Childbirth and Pavlovian theory.)

The following books in English, while not about the Pavlov method, are nevertheless extremely interesting to the prospective mother for a study of the processes of pregnancy and birth. They also contain both antenatal and postnatal exercises that may be useful as a supplement to the exercises for the Pavlov method.

First Nine Months of Life
Geraldine Lux Flanagan
Simon & Schuster, 1962.

Natural Childbirth
Frederick W. Goodrich, Jr., M.D.
Prentice-Hall, Inc., 1956.

Pregnancy and Birth
Alan Guttmacher
The Viking Press; New American Library, 1957.

A Way to Natural Childbirth
Helen Heardman
E. & S. Livingstone Ltd., Edinburgh and London, 1956.

How to Relax and Have Your Baby
Edmund Jacobson
McGraw Hill Book Co., 1959.

The Experience of Childbirth
Sheila Kitzinger
Victor Gollancz, Ltd., London, 1962.

Childbirth: A Manual for Pregnancy and Delivery
John S. Miller, M.D.
Atheneum Publishers, 1963.

Childbirth Without Fear
Grantly Dick Read
Harper & Brothers, 1954.

Introduction to Motherhood
Grantly Dick Read
Harper & Brothers, 1950.

The Natural Childbirth Primer
Grantly Dick Read, M.D.
Harper & Brothers, 1955.

Understanding Natural Childbirth
Herbert Thoms and Frederick Goodrich
McGraw Hill Book Co., 1950.

Childbirth without Pain
Pierre Vellay
E. P. Dutton & Co., 1959.

All the names in this book are real except for certain members of the medical and nursing professions in this country.

The last book on this list is, in fact, the English translation of Dr. Vellay's book on the Lamaze Method. Dr. Vellay was Lamaze's junior partner.