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The wonderful  
story of life.



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THE  
WONDERFUL STORY  
OF LIFE



21-26715

A MOTHER'S TALKS WITH HER  
DAUGHTER REGARDING LIFE  
AND ITS REPRODUCTION



*The*  
Wonderful Story of Life

A Mother's Talks with her Daughter  
Regarding Life and its Reproduction



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## FOREWORD.

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To-day most enlightened parents recognize the need of instructing their children in matters of sex. They know that such instruction is of real value for wholesome development; that it prevents much needless worry and possible bad practices on the part of the growing child. They understand also that it provides a valuable protection later against the very serious venereal diseases. In increasing number parents are endeavoring to teach their children, and the results achieved indicate very clearly the importance of widely extending this work. Eventually every child should be instructed concerning sex matters just as surely as it is taught to walk, to eat properly, to wash.<sup>1</sup>

Nevertheless, this instruction is not altogether an easy task for many parents. Their own education along this line was too negative; it created a false modesty which they find it hard to overcome. And yet most of them, as has been said, realize its importance, not to say its necessity. They do not mean to allow their child to go forth into the world unprepared. They know that reliable information on sex subjects is essential for happiness and well-being. They realize that too often such instruction as is given comes altogether too late. They are convinced that sex education is one of their responsibilities to their children, just as it is their duty to teach the care of the teeth, good manners, and habits of cleanliness. Yet they can not bring themselves to the point of telling the simplest facts of sex, although the critical years are approaching rapidly—in some cases are already at hand.

This booklet is an attempt to provide such parents with a means of sane instruction for a daughter 7 to 10 years of age. This will not be too early to begin. It is suggested that the mother or father read the book aloud to the child. If the parent is in the habit of reading aloud this procedure will not attract special attention. First, the parent should go through the book alone in order that its contents may be clearly understood. Then gradually a chapter or more at a time may be read to the child. This should be done as informally as possible. Such informality may be assisted by introducing details which relate directly to the child's personal experience. Perhaps she has been planting some seeds; perhaps some robins are building a nest in the tree outside her window. Questions or comments from the child should be encouraged and met sympathetically. Parents should not be shocked at anything the child may say, else she will stop confiding in them. An atmosphere of informality can be created which will help to make this rather formal method of sex instruction effective.

Some parents will not wish to read this material to their children, but will prefer to tell the story informally. This method has numerous advantages. For such parents, however, it is believed this book will furnish useful suggestions and possibly some information which can be effectively used.

It is hoped that this little book will prove of real assistance to the many parents who have been hesitant but anxious to give their children the necessary sex instruction. Simple but clear terms have been used to make known the exact facts of sex life. In these days information on this subject can not be kept from a wide-awake child. It is merely a question as to whether the child will get this information from reliable or unreliable sources. With instruction from good sources the child will be better able to meet such problems of her sex life as may immediately arise. This material will, moreover, furnish a solid foundation for the further instruction and training which will be necessary later.

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<sup>1</sup> Evidence of the need for sex education is to be found in V. D. pamphlet No. 32, issued by the U. S. Public Health Service. See also M. J. Exner: A study of 948 College Men.

FORWARD

CHAPTER I.

This little book, Helen Elizabeth, is written particularly for you and me. We are going to read it together because I want to be sure that you understand the things which we shall find in it. If, as we read, there are any words or sentences which puzzle you, which you do not understand, be sure to ask about them. I shall try to answer questions for you as well as I can.

We are going to read, you and I, about wonderful and beautiful things. Now, there are many, many beautiful things in the world. That maple tree out in front of the house, which is so fresh and green; the rose bush in the garden just covered with roses; the birds which sing outside your window every morning; and the fishes, if you catch a glimpse of them in the cool, dark waters of the little pond just outside the town, the silvery fishes, which dart to and fro so quickly—all these things are beautiful. If it were not for them and for many other living things this would be a very dreary and unhappy world to live in. What would the world be like if there were no plants, no fishes, no birds, no animals, or men upon it? Nothing but the unchanging rocks, the drifting sands, and the lonesome waters. You and I would not like to live in such a world.

Already probably you have noticed that all living things change almost continually. If a thing does not change we say it has no life. That rock beside the road is just the same to-day as it was yesterday, and if we come back next year it will, as far as we can see, still be the same. It does not grow at all. The pile of sand in which you and your friends play changes only because you dig holes in it; the sand itself does not change. But flowers and trees, and fishes, and you yourself, Helen Elizabeth, are never quite the same one day as you are the next. Yesterday you were not as big a girl as you are to-day, and you are not as big



to-day as you will be to-morrow. We human beings grow from childhood to youth and from youth to womanhood, and then we gradually grow old and finally die. All living things, plants and animals, do the same.

Since all living things change and finally die, it is necessary always that new plants and animals be created to take their places. If new plants, fishes, birds, animals, and people were not constantly produced, the earth would soon be left without any. In a short time it would all be a vast desert without a living thing on it; no plants, fishes, birds, animals, or men.

Now, this does not happen, because all living things multiply or repeat themselves in their offspring. Every kind of plant, every kind of animal in the world, has the power to produce baby plants and baby animals like itself. The grass makes or brings forth new grass; the oak tree new oaks; the pretty violets and all the other flowers, new flower plants; the chickens, little chicks; cattle, their calves; dogs, their puppies; and people, their babies.

How they do this is a wonderfully interesting story. I am going to tell you about it—tell you how the flowers make the new little plants which will produce flowers next year; how the fishes which we eat for breakfast or dinner have already provided for the little fishes which will take their places; how the birds arrange so that there will always be birds to come to us in the springtime; and how your little baby brother and you yourself, Helen Elizabeth, came to be born.

This story of reproduction, as we call it, is a wonderful and beautiful story. It is beautiful because it tells about living things which, we have agreed, are among the most beautiful things in the world. It is wonderful because it tells about wonderful things. Men have made many marvelous inventions, like automobiles and steamships and airplanes; but they have never been able to invent anything so wonderful as the simplest little plant or animal which may reproduce itself. Yet unless God had given all living things this power to reproduce, plants and

animals and men would long ago have disappeared from the earth. That is why we say this story is not only beautiful and wonderful; it is sacred.

About sacred things we do not talk lightly. We do not talk about them with other children, for many children do not know how wonderful and beautiful this story of the reproduction of life is. But you may talk about it freely with your father and me. We are always ready—yes, anxious—to help you understand and will always answer your questions as well as we can.

## CHAPTER II.

We have agreed, Helen Elizabeth, that living things are among the most beautiful things in the world, and that because all living things change and finally die there would soon be none of them left unless new ones were produced. How sad it would be if all the green grass and the beautiful flowers, and the birds, and all the animals should disappear. If you will listen very carefully I shall tell you why they do not disappear.

First, we shall consider the flowers. How many, many different kinds of flowers there are. There are violets and dandelions and buttercups and roses and sweet peas and daisies and forget-me-nots and lilies and pussy-willows and hollyhocks, and perhaps you can name a lot more. All these flowers are beautiful, and you and I would be very unhappy if a time should come when there were none.

Now, flowers come from plants, and each flower has its own particular plant. In order to have a wild rose you must have a wild rose bush. In order to have dandelions there must be a dandelion plant. Sweet peas do not grow on apple trees or currant bushes, but on sweet-pea vines. You know that as well as I.

The sweet-pea vine, like other plants, has roots by means of which it draws water and nourishment from the ground. You know that if you cut off its roots the vine will die. It also has leaves, by means of which it gets air, and you know that if bugs continually destroy its leaves it will die. You know that it has a stem which holds up the leaves and flowers, but that without the sap from the roots the stem will die. You know that it has flowers, lovely and sweet, beloved by bees and girls, and that after the flowers have faded and their petals fall, the little stumps which are left change into pods filled with seeds.

These seeds, if planted and given water, air, and sunshine, will sprout into young sweet-pea vines. So every year when all the old sweet-pea vines have died we can still count upon new sweet-pea vines starting from the pea-vine seeds. These new pea vines will bear sweet peas, just as pretty and sweet as the old pea vines did.

Did you ever think what a wonderful thing a seed is—that a little pea seed has in it something which will sprout and grow and become another plant, and something also which will surely make that plant take a certain form? Its stem will have tendrils; its leaves will be pea leaves and not oak leaves or tea leaves. It will bear flowers which will surely be sweet peas and not hollyhocks; surely white or pink and not blue or yellow; and which will have a certain odor and no other; and which will be followed by pea pods, not by peach or sunflower seeds. All of that and much more is wrapped up in the tiny seeds.

The seeds are so very wonderful, Helen Elizabeth, that I am going to tell you more about them. Every part of a pea vine or any other plant has a particular work to do. I told you a little while ago why roots were necessary, why leaves, and why the stalk. They all have a very definite work. But how about the flower? Is it only a pretty decoration for you to put in a vase on the dining-room table or for me to wear to parties? No; the flower, like the leaves, has a definite work. It is to help form this very wonderful little seed.

In the very center of all flowers there is a stalk called the pistil. And what is a pistil, you ask? Well, I will try to draw a picture of a pistil for you. Or wait; perhaps we can find it here in this flower.<sup>1</sup> That will be better, because my pictures would not help you very much, I am afraid.

Here is the pistil. It is this upright part in the very center of the flower. It is carefully protected there. As you see it broadens out at the lower end. There are tiny passages from the top of the pistil into the broader part at the

<sup>1</sup> Among the flowers particularly adapted to use for illustration are: Sweet pea, apple blossom (and other fruit blossoms), lily, wild rose, tulip, etc.

bottom. Now, if we cut through this broader part, the little green ball or stem at the bottom of the flower, we will see a number of little white dots. These dots or egg cells, as we call them, will in time grow into seeds. The tiny passages in the pistil lead to the egg cells.

Have you ever looked at a flower carefully? I know that you have been very close to one many times, and have, in fact, stuck your nose deeply into it in order to get all its fragrance. Now, sometimes when you have done this I have noticed that some yellow dust from the center of the flower has been left on your nose. It has looked very funny there. This dust is called pollen. It doesn't seem of very much importance to you and you brush it off quickly. Still, this pollen plays a most important part in the making of flower seeds.

When the bees and the butterflies fly into the center of the flower seeking honey, their feet and wings get covered with the fine yellow pollen, just as does your nose. Then, when they fly to another flower some of this yellow pollen dust is brushed off on top of the pistil as they pass by. But the pollen dust does not stay on top of the pistil. Through the passages in the pistil of which I have told you it sends a little shoot down into the little white dots or eggs. This process is called fertilization. After they have been fertilized the eggs enlarge and become seeds. Unless the pollen finds its way to the pistil the little white dots can never become real seeds. But if it does find its way, with the help of the bees or the wind, the little white dots become seeds, and these seeds, if planted carefully, will grow into fine flower plants and bear the pretty flowers which bring so much happiness to you and me.

### CHAPTER III.

In our last talk, Helen Elizabeth, I told you about plants—how each particular part, leaf, stem, root, and flower, has its work to do. We love flowers so much that we were particularly happy to know about flower seeds. Even if all the plants now living should die, these seeds would grow into new plants with the same beautiful flowers. And I told you about how the seeds were made—the little specks of pollen finding their way down through the tiny passages in the pistil to the little white eggs, which then grow into real true flower seeds.

To-day I have another interesting story to tell you. It is about fishes. I wonder how much you know about fishes, Helen Elizabeth. You know they live in the water, and you like to see them swim about. But you don't know what fishes do in their watery homes, and you don't realize how they live. There are thousands and thousands of fishes in the world, however, and many people depend on fishes for food. So you will see that they have quite an important place in life.

Let us take one kind of fish—the salmon—and I shall tell you some of the things I know about it. Salmon live in the great Pacific Ocean and spend most of their lives far from the sight and knowledge of people. They swim about in the deep water looking for food. Day after day they spend in this way, eating food and growing bigger and bigger.

There finally comes a time when each salmon feels an impulse, which it doesn't understand, that it has a work to do up a fresh-water stream. So the salmon turn toward the land and start up the rivers and brooks which lead from the sea. By thousands and tens of thousands they come. Fishermen catch many thousands of them, which are put into cans and sent all over the world for

you and me and millions of other people to eat. You will remember that we had some salmon for supper not so many days ago.

But, happily, not all of the salmon are unfortunate enough to be caught. The lucky ones press on up the stream, swimming hard, growing tired but always intent upon that great business which brought them in from the sea. They swim up the swiftest rivers, and though sometimes the water carries them back they try again and again, until they reach a very narrow stream far up among the cool, shady mountains.

Do you wonder why salmon work so hard to reach this narrow little stream, when they might be wandering happily in the ocean? Just as the rose bushes produce rose seeds from which new rose bushes will come, the salmon must produce little salmon which will grow up some day. Unless they did this, there would soon be no salmon left. But salmon can not produce their little ones in the dark waters of the sea, so they must come up into the sunny, clear, fresh-water brooks.

After days of swimming, as I have said, the salmon reach the cool, shallow mountain streams. Here the mother salmon (for there are father and mother salmon) can safely do her work in the making of baby salmon. She selects a bit of sandy bottom in the cool, clear stream, and with her tail scoops out a little hole. Then, hovering over it, she discharges into it from her body a stream of little golden beads—her eggs. She does this at a number of places on the sandy bottom. This is her part toward keeping the salmon family alive.

The mother salmon does not know, as we do, that not one of those eggs can hatch out into a little baby salmon until a father salmon has done his part—has furnished something from his body for it. He has come up the river also, driven by the same feelings as sent the mother salmon up from the ocean. After the mother salmon has given up her eggs, and they lie in the little hole which she has scooped out, the father salmon hovers above them

and discharges over them from his body a thin, light substance called milt. This milt carries thousands of little wriggling bodies called sperms, much smaller than the pollen grains of the flower. But milt has the same purpose and work to do as the pollen grains. By it the mother fish's eggs are fertilized, just as was the white dot or egg in the flower. One of these little wriggling bodies enters each of the eggs that the mother salmon left. In this way each egg contains a part of the mother's body and part of the father's body. It at once begins to change and grow and finally becomes a baby salmon. If it had not been for the milt, this could not have happened.

These baby salmon grow, and then gradually not all, but very many, find their way down the brooks and rivers and out into the sea. In the great ocean they live their childhood lives as did their fathers and mothers. There they wander about and have their fishy adventures, and when the proper time has come they in turn seek the clear, fresh water in the mountain streams where the sand is smooth and the daylight bright.



## CHAPTER IV.

I am sure, Helen Elizabeth, that you know more about the habits of fishes than you did when we began our last talk. You now understand that the salmon come up the fresh water streams from the great Pacific Ocean, and that where the sand is smooth and the sunlight bright the mother salmon lays her eggs. Only if the father salmon comes along afterwards and discharges his milt over these eggs will they grow into little salmon. Of course all fishes do not travel as far as the salmon. Some spend their whole lives in the ocean; others never go down into the sea; some stay in the lakes and ponds. But all mother fishes lay their eggs where the father fish can pour his milt over them, else there would be no new little fishes and soon no fishes at all.

You are, I think, better acquainted with the birds than you were with fishes, and I know you want to hear their story too. How glad you have been to see them again after the cold winter. You have missed their bright colors and their clear songs. But, sure as the spring comes, the birds return from the warmer southland, where they have spent the winter, and now you hear their joyous singing each morning as they welcome the bright sun of the returning day. They are saying that it is good to be alive in such a world, where there are shady trees and beautiful flowers and fat, juicy earthworms.

But the birds are singing not always to you and me or to the bright sun. They are singing to each other and saying that it is not good to be alone in the world. They are saying that there must always be birds in the world to make people happy. So finally each male singer will find a female bird who agrees with him, and they will agree to build a nest and have some baby birds.

How can they do it? Ah, that is a great mystery that they don't understand. But they set about their busi-

ness and play and work together, these two, apart from the rest of the birds in the world, intent on making a nest. And the more they are together the more they love each other, and the more they love each other the more they become tender to one another. Finally they reach a point of tenderness at which they merely flutter about one another, and you will occasionally see a father bird on top of a mother bird, snuggling as close to the mother bird as he can. She seems very willing to have him do so. And this is the reason: As they are together there passes from his body to hers, through parts provided for this purpose, a fine stream, much like the stream of milt which the father salmon poured out over the salmon eggs, a stream bearing thousands of the same kind of little wriggling bodies, far too small for us to see with our eyes. But each of these wriggling bodies carries in it something of the father bird which enters the seeds or eggs in the body of the mother bird, to fertilize and make them alive, so they can, with proper care, later become baby birds.

Without that little portion of the father bird, no eggs could ever hatch. The father bird makes the eggs fertile. That means they can grow into baby birds and finally break through the shell. The hen can lay eggs, which for your purposes and mine, to make omelettes or soft-boiled eggs, are as good as any. But unless she lives with a rooster and receives from him the little wriggling bodies which make eggs fertile she can never lay an egg that will hatch into a chicken. An egg that will not hatch into a chicken is not worth anything at all to a mother hen. She might just as well have a stone or a door knob to sit on.

It is the same with the mother bird. While she or the father bird might either of them build a nest alone, and she could even lay an egg alone, neither of them could possibly produce a baby bird without the help of the other. Thus it is that they will find their greatest happiness in life living together and loving one another, and in raising and caring for their baby birds.

## CHAPTER V.

When you reach high school or college, Helen Elizabeth, you may begin to study Latin, the language which the old Romans used to speak and write. Perhaps some day you will come across the Latin words which were written many years ago and which mean, "Every life comes from an egg." You may be surprised to know that this is true for almost all living things. You understand or believe that the fish comes from an egg and that the bird does; and you can even understand what I mean when I say that the seed of a plant comes from an egg at the base of the pistil. But you may think that puppies and calves, colts and babies do not come from eggs, because you have never heard of such a thing and never saw the egg of a dog, cow, horse, or woman. There are such things, however, and all of these young animals come from eggs just as truly as do chickens and birds.

Now, why is it that, if animals come from eggs, you have never heard of or seen the eggs? The fact is that the eggs of the higher animals are too small to be seen. You are surprised, of course, that the egg of so large a creature as a horse or a cow, or even an elephant should be too small to be seen, while a little bird like a humming bird lays an egg as big as a pea. The reason is this: What we call the bird's egg really contains two different things. First there is the little egg itself, which is to grow and become the young bird. Secondly, there is food enough inside the shell to supply the little bird while it is growing to the age and size at which it will hatch. The stored-up food inside the shell is the part which is good to eat. Just as it is good food for the little unhatched bird, so it is good for you and me. The egg of the cow and other animals, on the other hand, does not contain food, so it can be very small—so small that only a microscope would enable you to see it.

These eggs are so small that, unlike the hen's egg, the fish eggs, and the rose's egg, they can not, even after they have been made fertile, live outside the animal's body. They can only be cared for properly within the bodies of their mothers. After a time, when they have grown into young animals, they are born into the world. Even then they are still pretty helpless and have to be cared for during long periods—puppies for weeks, babies for years. In fact, you, yourself, Helen Elizabeth, with your nine years, are not yet able to take full care of yourself and to make your own living. Your father and I still have the happiness of looking after you and having you for our child. And it is a wonderful blessing that parents do love to look after and care for their children. If the children are good and honest and truthful and brave, it gives the parents the greatest sort of happiness, much, much greater than any happiness that can come from money, pleasures, parties, fine clothes, shows, or any other thing.

You, Helen Elizabeth, are a great happiness for father and me, because you have been a good girl, and we shall take the greatest care to look out for you until you are able to take good care of yourself.

## CHAPTER VI.

In our last talk, Helen Elizabeth, I told you that the eggs of all baby animals are very small, and that baby animals can be cared for properly for a long time only within the bodies of their mothers. Now you are wanting to know how the eggs get inside the mothers and what causes them to grow. For just as the chicken's egg begins inside of the chicken, the fish egg inside of the fish, the sweet-pea seed inside of the pea pod, so the eggs of all baby animals and of the human baby begin inside the mother.

There are, as you know, many different parts in your body. Just as the plant has its roots and stems and leaves and flowers, each for a special purpose, so the human body has many parts, each with its work to do. The heart is to pump the blood about the body; eyes are to see with; teeth are to eat with; lungs are to furnish fresh air or oxygen to purify the blood. And there are many other parts such as the stomach and brain and muscles and skin, all with their special work.

Now, within the lower part of the woman's body, far from injury and well protected, are two parts called ovaries, whose work is to produce eggs. These ovaries are in some ways her most precious possession. Without them she could not have grown into a woman. Without them she could never become the mother of charming babies. For out of the eggs which the ovaries produce, develops, under proper conditions, the new life of the little baby.

No egg, however, will develop into a baby until it is fertilized, until it is made to live by receiving into itself something from the father. You have been told how plants are fertilized when the pollen, which is the father part, is carried to the pistil of the flower by the bee, and travels down through it to the little growing seeds or eggs which are

produced by the mother part. You have heard of the father salmon that swims hundreds of miles in order to pour out his milt upon some salmon eggs left by the mother salmon. You have seen birds loving one another, and have been told that at times a little stream of life-giving fluid passes from one to the other as they do so. This fluid contains the little wriggling bodies which fertilize the eggs so that they will grow and produce baby fish and baby birds. The eggs of the salmon and the birds hatch outside of the mother's body.

Mammals are animals like cows and dogs and cats and human beings, which carry their young in their bodies, sheltered and nourished deep in the mother until they are born. For that reason it is necessary that a life-giving body, like the little wriggling things in the milt of the fish, be placed by the father in the body of the mother, where it will have a good chance to find the egg in the place provided for it. And, wonderful to tell, human fathers and mothers, and the fathers and mothers of other mammals are so made that this is possible. The father makes the egg within the body of the mother fertile. Then, in the safe nest which has been made there, the egg grows and develops until it is strong enough to live in the air. When the little animal comes out of the mother nest, we say it is born.

When a man and woman love one another very much, and each thinks the other the dearest and most wonderful thing in the world, they get married and live together. Then, if they have followed God's laws, they may some day make their home happy with loving children. And there is nothing, Helen Elizabeth, which makes a home happier than loving children. Your father and I know because we have you.

## CHAPTER VII.

I feel that I have told you, Helen Elizabeth, about as much as your years will allow you to understand. But when you are 12 or 13 years old I may get another book for you. Meanwhile, if you have any questions to ask about any of these things, bring them to me or to father, and do not take them to other children. Many children are not told about such things by their parents, and what other children think they know may not be true. For that reason we do not talk about these matters outside the home.

You will understand better now, I hope, why your father and I love you so very much. It is because we have given you so much of ourselves. You were born because we loved each other. And while father and mother fishes do not worry whether the little fishes live or not, we have cared for you very carefully until you are now getting to be a big girl. We shall continue to care for you, giving you food and clothes and a little room for your own, giving you all we can to make your life happy until you are ready to take care of yourself. It is our greatest happiness to do these things for you.

We want you to be happy—very, very happy—while you are in our care. But we also want you to realize that we have given up many things because of you. When you were very little, before you left the warm nest inside my body, I carried you about always with me for a long time, and then after you were born, it was not always easy to care for you. One time you were sick, and your father and I spent all the night trying to make you better. And there were other times. We were happy to do these things because we loved you so much. And you are happy and love us just as much as you can because we have done so much for you.

You have, I know, Helen Elizabeth, found the story about the continuation of life—whether of flowers, of fishes, of birds, or of human beings—an interesting and wonderful story. You even realize a little why I have called it a sacred story. As you grow up you will understand better. For in all your life you will never find a story more beautiful or more wonderful. Not all people realize this; not all people see the beauty and the wonder of it. But you have already come to know a little, and in the years to come may you realize more. That is your father's fondest hope—and mine.

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Other pamphlets regarding the reproduction of life, the hygiene of sex, and the diseases which result from wrong sex living may be obtained free of charge:

- Pamphlet A. For young men.
- Pamphlet B. For the general public.
- Pamphlet C. For boys.
- Pamphlet D. For parents.
- Pamphlet E. For girls and young women.
- Pamphlet F. For educators.

Write to your State Board of Health or to the United States Public Health Service, 16 Seventh Street SW., Washington, D. C.

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