
THE HUMAN BODY

By

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Illustrations by

W. C. SHEPARD AND DALE BERONIUS

AND FROM PHOTOGRAPHS

Fold your flapping wings,
Soaring legislature!
Stoop to little things—
Stoop to human nature!

Iolanthe.

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TO PETER THOMAS BOHAN, M.D.

Dear Pete:

You and I have watched together at many bed-sides, we have shown one another many pathologic specimens, ensconced temporarily, to the horror of our respective wives, in our respective bath-tubs, and we have sat over many a mug of grog far into many nights discussing battle, murder, and sudden death. In the hope that we may both long be preserved to indulge these relatively innocent pastimes, I dedicate to you this unworthy brochure.

I was asked to write it in order to make intelligible some of the intricacies of the human body for the adult and otherwise sophisticated reader. It does not, therefore, have quite the same point of view either as a school physiology, as one of those compendia of household diagnosis and treatment, or as any of those little volumes with some such title as *What a Girl of Eighty Ought to Know* or *What a Man of Fourteen Ought to Know*. It has no rules for the sudden acquisition of health. It is not designed to prolong anyone's life. There is too much of that sort of thing going on already. When you glance over your well-filled library you will, of course, see that I have had, on account of the limitations of my space, to omit many topics. You will probably think I have given others undue prominence. In short, I am afraid you will find that I have left out all those things which I ought to have put in, that I have put in all those things I ought to have left out, and that there is no health in it.

Yours affectionately,

THE AUTHOR

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CONTENTS

PART I

THE HUMAN BODY AS A UNIT

CHAPTER I.	A DEFINITION	3
CHAPTER II.	KNOWLEDGE OF THE HUMAN BODY AS A FACTOR IN CIVILIZATION	5
CHAPTER III.	HEIGHT, WEIGHT, PHYSIQUE, AND SPAN OF LIFE	17
CHAPTER IV.	HEREDITY AND ENVIRONMENT	29

PART II

THE HUMAN BODY AS AN ORGANISM FOR THE CONVERSION OF FOOD AND AIR INTO ENERGY AND INTO TISSUE

CHAPTER I.	THE BASIS OF STRUCTURE, CELLS, TISSUES, AND ORGANS	47
CHAPTER II.	THE FRAMEWORK OF THE BODY, THE BONES, THE JOINTS, AND THE MUSCLES	53
CHAPTER III.	THE DIGESTIVE SYSTEM	71
CHAPTER IV.	THE RESPIRATORY SYSTEM	105
CHAPTER V.	THE BLOOD AND LYMPHATIC SYSTEM	127
CHAPTER VI.	THE CIRCULATORY SYSTEM	135
CHAPTER VII.	NUTRITION	173
CHAPTER VIII.	THE EXCRETORY SYSTEM	193
CHAPTER IX.	CO-ORDINATION AND CONTROL	203
	1. THE VEGETATIVE NERVOUS SYSTEM	203
	2. THE ENDOCRINE GLANDS	207

CHAPTER X.	THE CENTRAL NERVOUS SYSTEM AND THE SIX SENSES	223
CHAPTER XI.	THE RELATIONS OF MIND TO BODY	251

PART III

THE HUMAN BODY AS AN ORGANISM FOR THE REPRODUCTION OF ITS OWN KIND

CHAPTER I.	GENERAL BIOLOGY OF REPRODUCTION AND SEX	269
CHAPTER II.	THE MALE AND FEMALE ORGANS OF REPRODUCTION	277
CHAPTER III.	PREGNANCY AND LABOUR	297
CHAPTER IV.	THE VENEREAL DISEASES	315

PART IV

THE HUMAN BODY AND DISEASE

CHAPTER I.	THE NATURE OF DISEASE PROCESSES	323
CHAPTER II.	REPAIR, HEALING, AND INFLAMMATION	332
CHAPTER III.	THE INFECTIOUS DISEASES AND IMMUNITY	340
CHAPTER IV.	HYPERSENSITIVENESS	353
CHAPTER V.	SECONDARY AND DEGENERATIVE TISSUE CHANGES	359
CHAPTER VI.	NEOPLASMS, TUMOURS, CANCER, ETC.	369
CHAPTER VII.	<i>DE SENECTUTE</i> AND DEATH	383
GLOSSARY		385
INDEX		391

ILLUSTRATIONS

PART I

FIGURE I	8
Æsculapius dispatching a demon. (From a bas-relief.) This represents the primitive man's conception of disease — that it was due to the entrance into the body of a demon or a devil, or that it was due to the fact that the sick person had sinned, or had lost faith in a god. Treatment based on this primitive conception would naturally be either to exorcize the demon or to compel the patient to renounce his sin or to proclaim his faith.	
FIGURE II	14
Vesalius obtaining his first skeleton outside the walls of Louvain.	
FIGURE III	16
A Giant. Different from most giants, he is well proportioned. But he betrays the fact that he is an acromegalic giant by the size of his lower jaw and the size of his hands. Compare his hand with the hand of his average-sized companion. The giant is only one third again as tall as the average man, but his hands are at least twice the size.	
FIGURE IV.	17
Extremes in the size of the human body. The world's "largest woman" and "smallest man." (From a photograph.)	
FIGURE V	24
The carnivorous, or asthenic, type of body. (After a figure by Dr. Walter Mills. Drawn from a composite of many X-ray photographs.)	
FIGURE VI.	24
The herbivorous, or hypersthenic, type of body. (After a figure by Dr. Walter Mills. Drawn from a composite of many X-ray photographs.)	

PART II

FIGURE VII	49
A typical cell (at the left). Cell division by mitosis (at the right). A. Cell with nucleus, in prophase, chromosomes appearing in the nucleus, and centrosomes arising. B. Metaphase, chromosomes at equator of fully developed spindle. They are split lengthwise. C. Anaphase. The separation of the two groups of chromosomes.	

D. Telophase, massing of two groups of chromosomes and division of the cytoplasm.

E. Completion of division of the single cell. The two new cells with nuclei in resting phase.

FIGURE VIII 50

Examples of cells of the human body.

A. Epithelial, or gland, cells (one filled with secretion).

B. Smooth muscle-cells.

C. Connective tissue-cells.

D. Heart-muscle-cells.

FIGURE IX 50

Types of body-cells. Nerve-cell and voluntary-muscle-cell.

FIGURE X 54

Topographical view of the human body. This is inserted for the benefit of those who put their fingers on some part of the body and ask: "What is under there?" The drawing is somewhat complex, but will repay careful study. To the right are cross-section views at five different levels, the arrows indicating the levels from which the sections were taken.

Note the two divisions of the body cavity — chest and abdomen — made by the diaphragm. Note the position and shape of the spleen; it is represented nowhere else in this book. Note the lymph nodes in the neck, under the arm, and in the groin (designated inguinal — extreme lower left side of the diagram). Note in the cross-section how the lungs are separated from the chest wall by the pleura, just as the heart is enclosed in the pericardium, and the stomach, intestines, liver, and spleen are separated from the abdominal wall by the peritoneum. Note that the kidneys are outside the peritoneum. Look up the account of kidney stone, to see what significance this had for "the stone age of surgery."

FIGURE XI 56

The bones of the human body. Front view.

FIGURE XII 57

The bones of the human body. Back view.

FIGURE XIII 58

A bone cut lengthwise.

FIGURE XIV 59

A bone cut crosswise.

FIGURE XV 60

The muscles of the human body. Front view.

FIGURE XVI 61

The muscles of the human body. Back view.

FIGURE XVII 62

A typical joint. Cross-section of the hip-joint.

FIGURE XVIII	64
<p>The bursæ in the heel of the foot. A bursa is a small serous sac, a sort of cushion. It may get inflamed and cause painful feet. Often when the feet are treated for flat-foot the inflammation of one of these bursæ is the cause of the pain.</p> <p>A. Bursæ under the tendon. B. Bursa under the tendon of Achilles. C. Bursa under the heel. D. Bursa under the middle of the foot. (From the <i>American Journal of Surgery</i>.)</p>	
FIGURE XIX	65
<p>The bursæ between the bones of the toes (a, a.). See description under Figure XVIII. (From the <i>American Journal of Surgery</i>.)</p>	
FIGURE XX	69
<p>Diagram of a section of the skin as seen under the microscope.</p>	
FIGURE XXI	72
<p>The digestive system.</p>	
FIGURE XXII	74
<p>Title page of the first scientific description of the physiology of digestion.</p>	
FIGURE XXIII	77
<p>Alexis St. Martin's wound. (From Beaumont's book.)</p>	
FIGURE XXIV	83
<p>Acute appendicitis. At the left, the inflamed appendix, with a collection of pus at one point about to break through the appendix wall. Below, a cross-section of the appendix, showing the contained pus about to eat its way through the wall.</p> <p>At the right, the general situation after perforation has occurred. The pus with its contained germs has infected the peritoneum in the region of the appendix. If stirred up, <i>especially by cathartics</i>, it will spread. Operation should be done before this stage is reached. But note how the large and small intestinal loops are forming a protection against the spread of the pus. Nature's protective device.</p>	
FIGURE XXV	85
<p>The peritoneal cavity with all the organs dissected away.</p>	
FIGURE XXVI	87
<p>A lobule of the liver, diagrammatic. The blood in the interlobular vein has come directly from the intestines. Note that it passes in thin-walled capillaries across the lobule so as to be in direct contact with the largest possible number of liver-cells: the capillaries empty into the central, or intra-lobular, vein which joins with other similar veins to form the hepatic veins; these empty into the inferior <i>vena cava</i>, which empties into the right side of the heart. By this arrangement the cells of the liver act upon</p>	

- the blood which comes directly from the intestines, abstracting sugar and other substances from it.
- FIGURE XXVII 91
An ulcer of the stomach (shown in the usual location, just at the pylorus, or exit of the stomach).
- FIGURE XXVIII 95
Gall-stones in the gall-bladder.
- FIGURE XXIX 96
Time-schedule of the passage of food through the intestines. Observations by the X-ray with an opaque meal (made opaque to the passage of the X-rays by barium, a non-absorbable chemical). In the first figure the outline of the stomach as seen in the X-ray may be observed; there is always an air-bubble at the top of the stomach. In six hours the meal has almost left the stomach; some of it is still in the small intestines (segmented); a part of the meal has reached the first part of the large intestine, the cæcum. *H. F.* — hepatic flexure of the colon. *S. F.* — splenic flexure of the colon.
- FIGURE XXX 98
The differential anatomy of the rectum. (After W. J. Mayo.)
- FIGURE XXXI 101
A landmark in the history of mankind. Title-page of the book which first described the action of Epsom salts.
- FIGURE XXXII 106
The lower respiratory system.
- FIGURE XXXIII 109
An air sac. The end point of a lung branch.
- FIGURE XXXIV 111
The upper respiratory system of a child.
Note the ring of lymphatic tissue (tonsils, adenoids and lingual tonsils) surrounding the back of the throat — all large and perfectly normal in a child.
- FIGURE XXXV 112
The upper respiratory system of an adult. As age advances, the tonsils and adenoids, unless infected, tend to atrophy. The frontal and sphenoidal sinuses drain into the nose. Note the thin layer of bone between the nose and the brain cavity. Meningitis can occur from nasal infections. Note in the posterior pharynx, where the adenoids are in the child, the opening of the Eustachian tube, which leads to the middle ear.
- FIGURE XXXVI 114
Pus in the chest cavity following pneumonia (empyema) and burrowing its way to a bronchus, so that it was coughed up. The emaciation, fever, and expectoration simulated tuberculosis.

ILLUSTRATIONS

xv

FIGURE XXXVII	118
Tuberculosis of the lungs. The usual situation in the apex, or top, of the lung is represented. Various stages of the disease are seen — enlarged lymph glands, tubercles without tissue breakdown, and finally cavity formation.	
FIGURE XXXVIII	123
The birth of percussion.	
FIGURE XXXIX	125
The birth of the stethoscope.	
FIGURE XL	128
Types of blood-cells. A, B. Red cells seen sidewise (a), and flat (b). C. An endothelial cell. D. A leucocyte (polymorphonuclear neutrophile — the most numerous type of white cell). E, F. Large and small lymphocytes. G. An eosinophile leucocyte.	
FIGURE XLI	129
A blood clot.	
FIGURE XLII	134
The heart and blood-vessel system. The diagram shows the cycle from right heart, through the lungs, to the left heart, then through the system back to the right heart. Note that all the blood from the digestive system goes through the portal veins; i. e., through the liver.	
FIGURE XLIII	138
The relation of the heart to the lungs, the main blood-vessels, the diaphragm, the pericardium, and the thymus gland. The dissection is made from a twelve-year-old boy. In the adult the same relation exists except that the thymus gland normally atrophies and no longer exists.	
FIGURE XLIV	142
Diastole and systole in the left heart. Note the positions of the two valves in both cases. Diastole to the left, systole to the right.	
FIGURE XLV	144
Diagram of the neuromuscular bundle of His in the heart.	
FIGURE XLVI	151
Title page of the first description of foxglove, or digitalis, the heart tonic.	
FIGURE XLVII	160
A blood-pressure measurement. Note that the arm-band of the machine is wrapped around the upper arm. The arm-band is a hollow, flat rubber bag fortified by cloth. From this hollow rubber bag there are two outlets: one goes to the manometer, or measuring dial, one to a bulb held in the right hand of the observer. The observer's left hand is upon the artery at the wrist. By pressing the bulb with the fingers of his right hand the observer can compress the artery above the elbow until no pulsation is felt in the artery at the wrist; then, by releasing the pressure with the thumb	

of his right hand, he can reduce the pressure in the arm-band at will. When he first feels the pulse at the wrist, the pressure in the artery is just sufficient to get through the arm-band. This will be recorded in the manometer, or mercury dial. This pressure is the blood-pressure.

FIGURE XLVIII	181
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Diagram of carbohydrate nutrition. Start in the lower left-hand corner. Here the starch after being swallowed is converted to glucose in the intestines, absorbed and carried by the blood-stream to the liver, where it is converted into glycogen and stored as such. When a muscle contracts, it needs fuel, and the glycogen is carried by a blood-vessel from the liver to the muscle, converted again into glucose, mixed with oxygen, which comes from the lungs, and is "fired" by insulin, which comes from the islets of Langerhans in the pancreas, producing energy. The only difference between this normal process and the diabetic's is that the diabetic has no insulin. Therefore in the diabetic the glucose accumulates in the blood and passes off as sugar in the urine.

FIGURE XLIX	185
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Child with severe diabetes. Before taking insulin.

FIGURE L	185
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Same child as in Figure XLVIII after taking insulin for three months.

FIGURE LI	190
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Gout. (Cartoon by James Gillray.)

FIGURE LII	192
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The urinary system — ureters and bladder. The adrenal bodies are shown on top of the kidneys.

FIGURE LIII	194
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The finer anatomy of the kidney. To the right, a single tubule. Note that the blood from a branch of the renal artery breaks up into a mesh ball of small blood-vessels which enter a pocket of kidney-cells, the whole being called a glomerulus. Here the kidney-cells extract from the blood the water and salts which go to make up the urine. The urine so formed flows down the uriniferous tubule and collecting tubule, until they join with other tubules of the same kind, emptying finally into a calyx of the kidney pelvis.

At one place the transition from artery to vein, with capillaries in between is shown.

At the left is shown a general view of a cut section of the kidney; the arrangement of the renal artery branch is seen; the small tufts which go to make up glomeruli look like small branches from the twig of a tree, or grapes sprouting from a stem. The many collecting tubules are indicated emptying into the calices.

FIGURE LIV	199
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"The Lovesick Maiden," by Gerard Dou (Buckingham Palace Galleries). The handsome young physician is examining, for purposes of diag-

nosis, the maiden's urine, contained in the crystal flask. She appears as much interested in him as in the diagnosis.

- FIGURE LV 202
A stone-case, and the stone removed from the owner. See text for Mr. Pepys's tribulations with his stone-case.
- FIGURE LVI 204
Diagram of the vegetative nervous system. (After Meyer and Gottlieb.)
- FIGURE LVII 208
Distribution of the ductless glands.
- FIGURE LVIII 212
Acromegaly. Due to increased function of the pituitary gland. Note the enlarged lower jaw and large hands. Compare with Figure III.
- FIGURE LIX 214
Obesity of two types — on the left, pituitary obesity; on the right, thyroid obesity. Note that the obesity due to the lack of pituitary secretion is concentrated largely about the waist, while the obesity due to lack of thyroid secretion is generally distributed. The hands and face of the pituitary case are gaunt, while those of the thyroid case share the obesity of the rest of the body.
- FIGURE LX 215
Examples of pre-adolescent pituitary insufficiency. Fat children; juvenile obesity.
- FIGURE LXI 216
A bearded lady. Adrenal cortex disease. (Case of Dr. William Englebach, of St. Louis, Missouri.)
- FIGURE LXII 217
The goitre regions of the United States.
The figures show the goitre rate per thousand in drafted men (Table XXXIII. *Defects Found in Drafted Men*, War Department, 1920), and iodine in parts per billion of water of representative rivers (from McClen-don and Williams, *Journal of the American Medical Association*, March 3, 1923).
Note that as the amount of iodine in the water increases, the amount of goitre incident in the population decreases.
- FIGURE LXIII 218
A Goitre. This form of goitre — colloid goitre — does not cause as serious symptoms as the exophthalmic form. The danger is from its size. These colloid goitres may, however, become toxic. This patient was cured by a surgical removal of the goitre, and is still alive and well years after the operation.
- FIGURE LXIV 218
Same patient as Figure LXIII, after surgical removal of the goitre.

FIGURE LXV	219
Examples of cretins (at left) beside normal children of the same age. Cretinism, or lack of thyroid secretion, in a child.	
FIGURE LXVI	220
A case of myxœdema, or lack of thyroid secretion, in an adult. Before taking treatment.	
FIGURE LXVII	220
Same case as in Figure LXVI, after taking thyroid extract. (Case of Dr. William Englebach, of St. Louis, Missouri.)	
FIGURE LXVIII	221
An exophthalmic goitre. In this form of goitre various symptoms — protrusion of the eyeballs, rapid pulse, trembling, and loss of weight — accompany the thyroid enlargement. Note in this photograph the enlargement of the thyroid at the base of the neck, and the protrusion of the eyeballs. The expression on the face of these patients has been called "frozen terror."	
FIGURE LXIX	226
General view of the central nervous system.	
FIGURE LXX	227
Motor-nerve-cell, showing its connexion with a voluntary-muscle-cell. Notice the arborization of the tentacles of the nerve-cell which are not attached to the muscle-cell. The nerve-cell is through this network ready to receive an impulse from many sources.	
FIGURE LXXI	229
The course of a sensory fibre from the skin to the brain. The sensory columns decussate (pass over to the opposite side) in the same manner as the motor fibres, but the representation would have been too complicated to show in this diagram.	
FIGURE LXXII	231
The course of a motor fibre from brain to muscle. Note that the motor tract decussates, — i. e., passes from one side of the brain to the muscles of the opposite side of the body. The motor cell is shown originating in the left side of the brain, but it emerges from the right side of the spinal cord to a muscle on the right side of the body.	
FIGURE LXXIII	233
The reflex arc in the spinal cord. The simplest reflex, it is the conversion of sensation (from the skin) into motion (in a muscle placed near by). Follow the arc carefully from the skin (at the right-hand side of the picture) to the muscle, reading the description of the reflex arc in the text (page 232).	
FIGURE LXXIV	238
Localization of functions in the brain.	

ILLUSTRATIONS

xix

FIGURE LXXV	243
Migraine. (Cartoon by Daumier.)	
FIGURE LXXVI	246
The human eye. In cross-section.	
FIGURE LXXVII	249
The human ear. A diagrammatic view. Note the Eustachian tube connecting with the throat. Note the close associations between the organ of equilibrium, the semicircular canals, and the ear. Note that a special branch of the auditory nerve goes to the semicircular canals.	
FIGURE LXXVIII	269
Reproduction, or regeneration of new individuals, after dividing the the sea-worm <i>Planaria maculata</i> . (After Curtis.) The normal worm shown at the left. In the centre, two new individuals formed after worm is cut in half. At the right, new parts forming after longitudinal division. Regenerated areas shaded.	
FIGURE LXXIX	279
The male organs of reproduction.	
FIGURE LXXX.	281
The female organs of reproduction.	
FIGURE LXXXI	282
The female organs of reproduction shown in situ.	
FIGURE LXXXII	284
The mechanism of menstruation and ovulation.	
FIGURE LXXXIII	289
The first successful abdominal operation. The first ovariectomy, performed by Dr. Ephraim McDowell at Danville, Kentucky, in 1809. No anæsthetic and no antiseptics were used. The photograph is from an old painting made after the event. Dr. McDowell is represented at the extreme right.	
FIGURE LXXXIV	291
One of the first operations under ether. From a daguerreotype. Dr. John Warren stands far down in front at the left side of the table. W. T. G. Morton stands at the patient's head. The room is the ether room of the Massachusetts General Hospital in Boston, and an attempt has evidently been made to reconstruct the scene of the first administration of ether, publicly done for a major surgical operation.	
FIGURE LXXXV	295
The original ether inhaler designed and used by W. T. G. Morton.	
FIGURE LXXXVI	299
Pregnancy in an early stage. Note that the foetus is enclosed in a liquid medium, the amniotic fluid, which is held inside the uterus. Note the	

umbilical cord, which is composed of blood-vessels connecting the child to the mother by way of the placenta. The mother's blood brings oxygen and food to the child and carries away the child's waste products.

- FIGURE LXXXVII 302
Pregnancy in a late stage, just as labour begins. Note the amniotic sac acting by hydraulic pressure to open the mouth (cervix) of the uterus.
- FIGURE LXXXVIII 311
The original Chamberlen forceps. Discovered in a chest at Woodham, Mortimer Hall, Essex, in 1813.
- FIGURE LXXXIX 317
Congenital syphilis. Before treatment.
- FIGURE XC 317
Congenital syphilis, same infant as shown in Figure LXXXIX. After treatment. One week after a dose of neosalvarsan in the vein.
- FIGURE XCI 329
Representations of intestinal obstruction from Baillie's *Morbid Anatomy*.
- FIGURE XCII 334
Section of a healing wound, or cut, in the skin. Various stages in the process are shown. Note that in the centre the two cut surfaces have been filled in by fibrous, or scar, tissue, the fibrous cells being formed by division of previously existing fibrous cells in the edges of the cut. Note that from the dilated blood-vessels have poured an army of blood-cells (round cells), which do the work of cleaning up debris, engulfing bacteria, and some of them perhaps changing into a form of fibrous connective cells. Note that the epithelium of the skin has grown over the surface of the wound, the skin-cells which did this springing from previously existing skin-cells at the cut edges.
All of this complicated process of wound healing has been accomplished by the adjustment, and multiplication of cells present in the tissues at the time the wound was made.
- FIGURE XCIII 347
Title page of Benjamin Waterhouse's account of his experiments with vaccination, the first made in America.
- FIGURE XCIV 348
Representation of a vaccination pustule from Jenner's original account of vaccination.
- FIGURE XCV 350
A contemporary cartoon, used as an argument against vaccination 1802. The artist believed that cow's heads and horns would grow out of some part of the body of those vaccinated.