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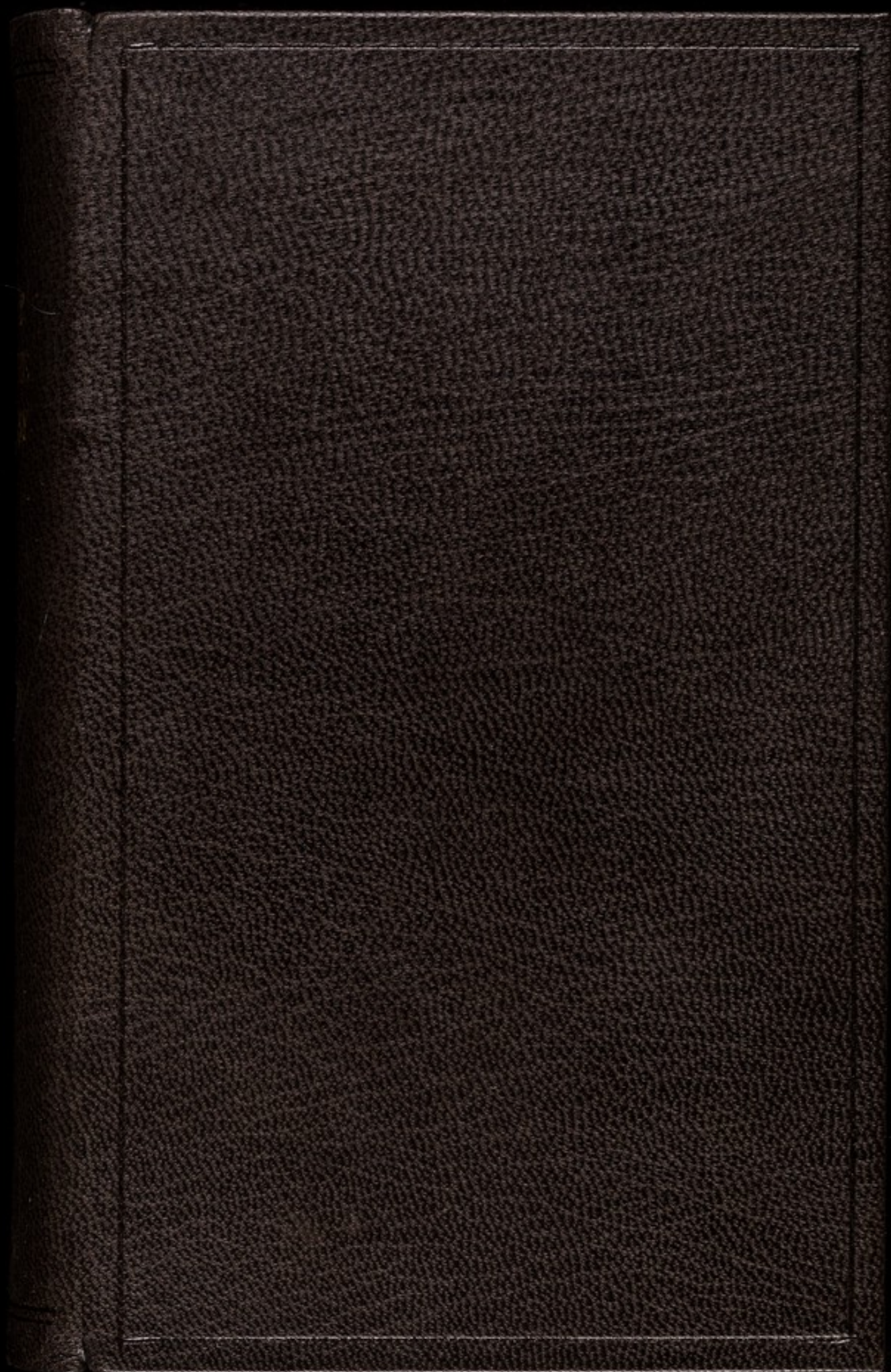
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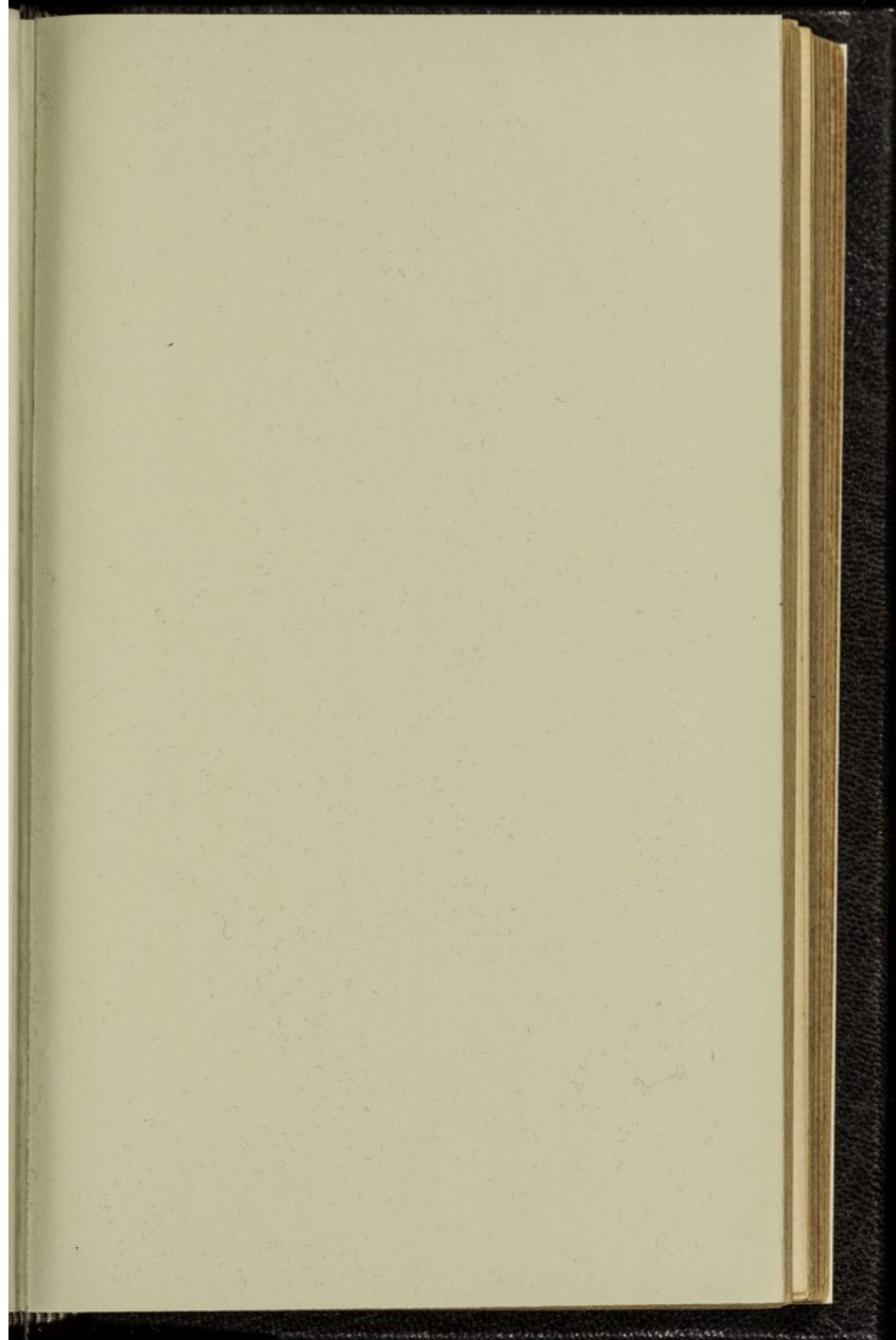
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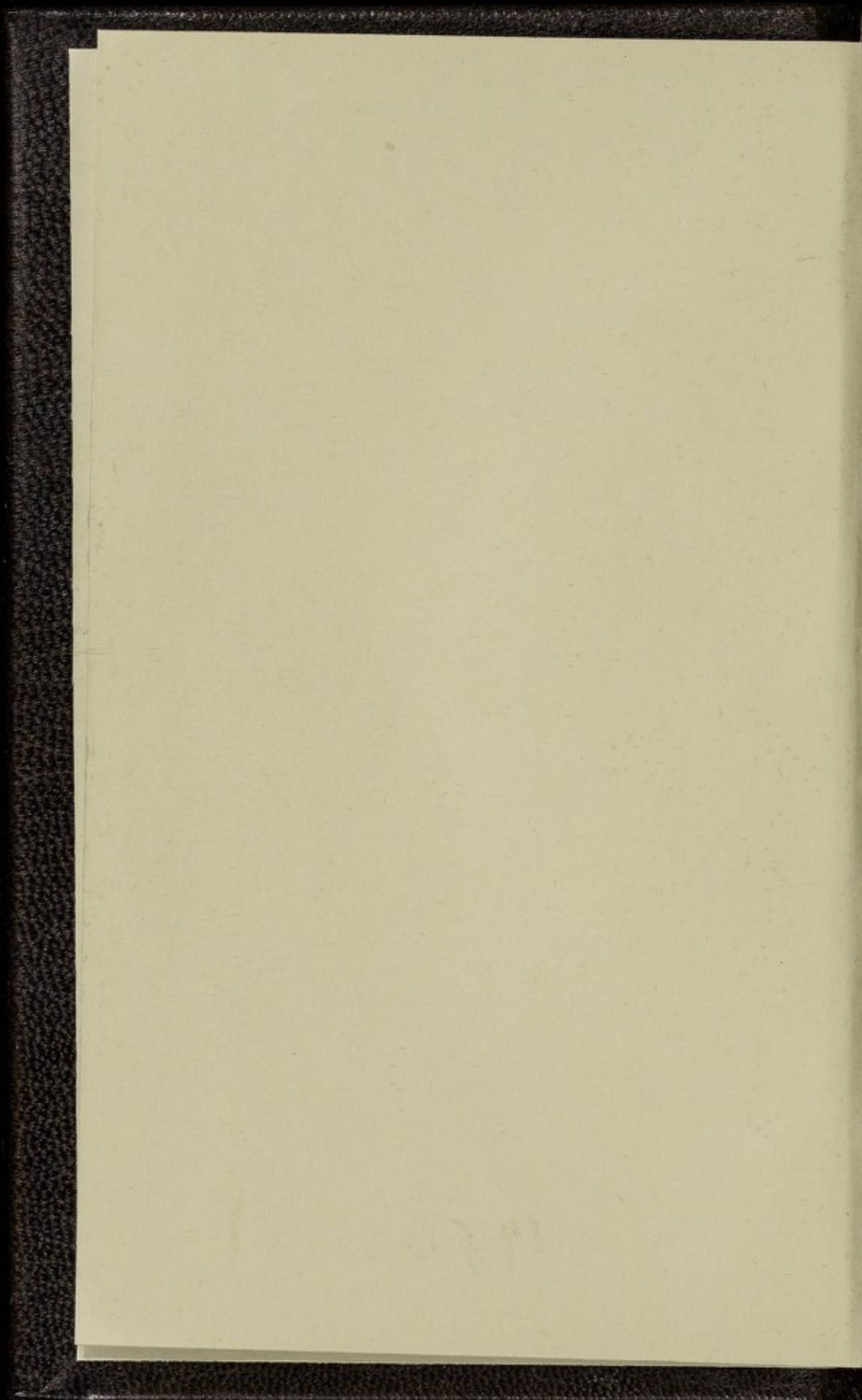


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AN
E S S A Y

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D R O P S Y
AND ITS
DIFFERENT SPECIES.

By DONALD MONRO, M. D.

The SECOND EDITION.

L O N D O N:

Printed for D. WILSON, and T. DURHAM, at
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MDCCLVI.

1756

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ALPHABETICALLY

ON THE

DR O P S Y

AND ITS

DIFFERENT SPECIES



TO

ALEXANDER MONRO, Esq;

PROFESSOR of ANATOMY in the
University of Edinburgh.

S I R,

PERMIT me to acknowledge, in this publick manner, that all a son can owe to the best of fathers, a pupil to his tutor, or a man to his friend, I owe to you; and give me leave to assure you, that, as I am every day sensible of the advantages I derive, not only from your early care,

A 2

but

DEDICATION.

but from your generosity and example, so it shall be my endeavour, by every return of gratitude in my power, to approve myself

Your dutiful

and affectionate son,

D. Monro.

P R E F A C E.

*T*HE following sheets are presented to the publick on a presumption that they may be serviceable. The author, at least, is not conscious of having maintained any opinion through prejudice, of asserting any fact without authority, or of having followed any other guide than reason and experience.

The first sketch of this essay was originally designed for a small circle of friends, who weekly submitted to each others examination their thoughts on

P R E F A C E.

the different diseases of the human body. As it happened to meet with their approbation, the author frequently revised it, and, from time to time, added such observations as occurred to him.

Some years after, when he was a candidate for a degree in the University of Edinburgh, and, according to their statutes, a Latin treatise was expected from him, he digested his scattered observations with greater accuracy, and made them publick in a form no other-ways differing from the present,

P R E F A C E.

sent, than that the language was Latin, and the plan more confined.

The first part of this essay contains the general doctrine concerning dropsies; in which the seat and nature of this disease, the symptoms observable, and the different causes, are considered; the circumstances from which the event may probably be foretold are pointed out, and the proper indications of cure are laid down, with the method of executing each.

In the second part, which treats of the different species
of

P R E F A C E.

of the disease, the same order is observed as in the former.

As the knowledge of the latter parts depends on what has preceded, the whole is divided into sections, to which numbers are prefixed; so that by referring to these, repetitions are avoided.

In this New Edition the author has endeavoured, by what assistance he could obtain from books, and the conversation and criticisms of his friends, to render this essay more compleat and useful.

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E R R A T A.

Page 3, line 6, for *cavaties* read *cavities*; p. 7, l. 17, for *hydadites* read *hydatides*; p. 25, l. 1, for *recepticles* read *receptacles*; p. 41, l. 1, for *forciable* read *forcible*; p. 123, l. 1, for *decative* read *desiccative*; p. 126, l. ult. for *II.* read *n.* p. 127. l. 26, for *againk* read *against*.



OF
DROPSIES.

I. **T**HE cavities of an animal body, however empty they may appear after death, are all of them during life filled either with fluids, or with solid substances, or with both; and their sides, which are composed either of bones, cartilages, membranes, or muscles, have a constant pressure to sustain from the bulk, weight, or rarefaction of their contents.

2. The cavities are of four different kinds. 1. Those in which the blood,
B and

and other liquors of the body circulate; such as the heart, arteries, veins, and other vessels.

2. Those which receive the liquors secreted from the common mass of blood, in order to convey them out of the body, or to deposit them in some larger cavity; such as the alimentary canal, the windpipe, the gall and urinary bladders, the uterus.

3. Those cavities which have liquors deposited in them by the exhalent arteries, and from which there is no other egress but by the absorbent veins; such are the cellular membranes, the ova in the ovarium.

4. Those that contain other organs; as the head, thorax, abdomen, scrotum, and capsulæ of the joints.

All of this last species have their internal substance constantly moistened with fine thin liquors thrown out from the orifices of numerous arteries, to be taken up again by the like extremities of veins.

3. The fluids contained in the first, and the greater part of the second species

OF DROPSIES. 3

cies of cavities, being composed of various heterogeneous particles endued with different properties, give rise to innumerable distempers. But a few of the second, and all the third and fourth kind of cavities, abound with thin watery liquors, which, when collected in more than the ordinary natural quantity, cause the disease called ὕδρωψ by the Greeks, and from thence named Dropsy (a) by the English; the phenomena,

(a) Dropsy is a corruption of the Greek word ὕδρωψ, derived from ὕδωρ, *water*.

From this word ὕδωρ, compounded with the name either of the diseased part, or of the quality of the extravasated liquor, or of the name of something which the tumified part was thought to resemble, were formed the Greek names of the different sorts of dropsies: Thus,

Hydrocephalus, ὕδροκεφαλος, or ὕδροκέφαλον, *Dropsy of the Head*, from ὕδωρ, and κεφαλὴ the *Head*.

Hydrophthalmia, ὕδροφθαλμία, *Dropsy of the Eye*, from ὕδωρ and οφθαλμός the *Eye*.

Hydroglossum, ὕδρογλωσσον, *Dropsy of the Tongue*, from ὕδωρ, and γλῶσσα the *Tongue*.

Hydrarthron, ὕδραρθρον, *Dropsy of a Joint*, from ὕδωρ, and αρθρον a *Joint*.

nomena, causes, and different kinds of which, with the prognosis and method of cure, is the subject of this Essay.

Hydromphalum, ὑδρομφalon, *Dropsey of the Navel*, from ὑδωρ, and ομφαλος *the Navel*.

Hydrocardia, ὑδροκαρδια, *Water in the Pericardium*, from ὑδωρ, and καρδια *the Heart*.

Hydrocele, ὑδροκηλη, *any sort of watery Tumor*, but by custom confined to signify only collections of water in the scrotum, from ὑδωρ, and κηλη *a Tumor*.

Hydrops Anasarca, ὑδρωψ ἀνασάρκα, *a Dropsey among the Flesh*, from ἀνα, *between or among*, and σαρξ *Flesh*.

Hydrops Leucophlegmatia, λευκοφλεγματια, from λευκον *white*, and φλεγμα *Phlegm*.

Hydrops Ascites, ἀσκίτης, *Dropsey of the Belly*, from ασκος, *a Bottle*, the belly, when distended with water, being thought to resemble a full bottle.

PART I.

Of the DROPSY in general.

SYMPTOMS.

4. **T**OO great a quantity of watery liquors collected in a cavity distends its sides, and enlarges its size, presses on the surrounding parts, disturbs their functions, and gives an uneasy sense of weight to the patient. L

5. These symptoms appear sooner or later, are milder or more severe, in proportion to—1. The greater or less force with which the sides of the cavity containing the water resist the distention.—2. The faster or slower repletion of the cavity by the extravasated liquor.—3. The degree of sensibility in the sides of the distended cavity.

6 OF THE DROPSY.

ty.—4. The usefulness, &c. of the neighbouring organs.

6. Limpid water will not of itself change the colour of the parts in which it is contained; and therefore dropfical parts which light can pervade, when viewed between the eye and a bright light, appear pellucid. But as the water of dropfies is not always pure (b), the want of pellucidity must not be taken for a certain sign that the disease is not a dropfy.

7. Water collected in a soft part yields to the touch and may be felt fluctuating; but when the sides of the cavity in which it is collected are of a thick and rigid texture, and are very full and greatly distended, or when the quantity of the contained water is

(b) I have often seen it of a greenish, a brown, or a bloody colour: sometimes also it resembles milk, of which see histories in *Bassii obs. med. dec. 2. obs. 7.*---*Hist. de l'acad. des sciences, 1700 and 1710.*

very

OF THE DROPSY. 7

very small, this undulatory motion of the fluid is scarce perceptible.

8. When the thinner parts of the water so collected are absorbed by the veins, the remainder grows thick, acquires a mucous or gelatinous consistence, and the disease then puts on a different appearance (c).

9. The organs macerated in this hydropick fluid become soft, lax, and weak. If the water turns acrid it corrodes the neighbouring parts, and some of its acrid particles being absorbed and mixed with the blood bring on fevers, convulsions, and other symptoms of acrid circulating fluids: hence

(c) Histories of Hydadites, gelatinous, steatomatous, and other tumours found in the ovarium. *Nuck. Adenograph. cap. 8. and Philosoph. transf. no. 466. sect. 4.*—Thick gelatinous matter among the muscles, with a large hydropick sac adhering to the womb. *Ephem. German, 1742, obs. 94.*—Jelly in the abdomen. *Barbette Prax. p. 169.*

8 OF THE DROPSY.

we see how dropsies may produce many other disorders (*d*).

10. Hydropical waters, by their pressure on the vessels near them, must obstruct more or less the course of the blood, particularly in the veins; and therefore, when this pressure affects any considerable vessels, the heart and lungs are in danger of being gorged with too much blood; especially when

(*d*) The surface of the heart and pericardium is often eroded by water contained in this last named cavity, of which see examples in *Acta Hafniens. vol. 1. obs. 89. Franc. Sylvii. Prax. med. lib. 1. cap. 26. sec. 26.*---The diaphragm has been perforated by the erosion of water contained in a cyst in the thorax. *Act Hafniens. vol. 2. obs. 16.*---The water of an ascites became so acrid and corrupted, that when it was let out after death, it produced symptoms equal to those proceeding from a pestilential vapour, the person who let it out fell into a putrid fever, and angry pustules arose from every part of his hands or fingers on which the least drop of the water had fallen. *Philosoph. transf. no. 454. sect. 4.*---In almost all ascitical bodies we find more or less of the intestines inflamed or corroded by the water.

the

OF THE DROPSY. 9

the motion of the fluids is accelerated by exercise, fever, stimulating food, or the like causes. Hence the dyspnea and frequent cough of many hydro-pick people (*e*), and the more than ordinary size of the heart observed in the dissection of such (*f*).

C A U S E S.

11. Many and various are the causes of dropies, the principal of which are the following.

12. A weakness and laxity of the fibres: this is a frequent cause; for when the vessels do not act with sufficient force the fluids become of a watery consistence, and the orifices of the

(*e*) I cannot assert, as many writers have done, that dropies are always attended with dyspnea and cough; for daily experience shews us that several species and degrees of dropsy occasion neither of these symptoms.

(*f*) Many observations of the large size of the hearts of those who died of dropies may be read in *Bonet. sepulchret. anat. lib. 2 & 3.*

B 5 exhaling.

10 OF THE DROPSY.

exhaling arteries being too weak, allow a greater quantity of liquors than ordinary to pass thro' them, while the veins being weakened in at least an equal proportion, do not absorb so much as they were wont to do.

This weakness may be brought on by many different causes: for example, by any great evacuation, especially by bleeding (g); by a moist climate (h); by an unactive sedentary

(g) A subcutaneous dropsy occasioned by the menstrual discharge continuing too long. *Forest. lib. 19. obs. 35.*—By vomiting of blood. *Ibid. obs. 42.*—Two histories of the like disease from frequent and long bleeding at the nose. *Schenk. observ. lib. 3. de hydrope, obs. 9.*—A dropsy from pissing of blood. *Ibid. obs. 12.*—Two dropsies occasioned by too frequent letting of blood. *Miscellan. curios. acad. nat. curios. dec. 2. ann. 2. obs. 160.*—By loss of blood on opening vessels under the tongue. *Ibid. anno 10. obs. 34.*—One from a flooding after an abortion in the third month. *Hoffman, oper. tom. 3. cap. 14. de hydrope, obs. 3.*—An ascites after vomiting eighteen pounds of blood. *River. obs. commun. 15. p. 556.*—The same from a spitting of blood. *Lister, exercit. med. de hydrope, ægrot. 2.*

(h) People in Holland, and other fenny countries, are more subject to dropsies than those who live in a more pure dry air.

life

OF THE DROPSY. II

life (*i*) ; by too thin watery diet (*k*) ;
by diseases that cause a diminution of
the

(*i*) A hydrops pectoris from a sedentary studious life. *Bonet. sepulch. anat. lib. ii. sect. I. obs. 76.*---*Ramazzini de morb. artific.* shews, by a variety of examples, how much more frequent dropsies are among those whose employment requires a sedentary life, than among those who are obliged to be more active.

(*k*) A young woman, a nurse, having, in order to increase her milk, drunk immoderately, night and day, of beer, sometimes by itself, sometimes mixed with milk, contracted a monstrous ascites. *Willis, Pharm. ration. part 2. cap. 3. sect. 2.*---See such another case in *Miscel. curios. a. n. c. dec. 2. ann. 9. obs. 133.*---An ascites from frequent hæmorrhages, and too liberal a use of small liquors. *Philos. trans. num. 471. sect. 15.*---The following case I had from Dr. *Fothergill*: A person who had been ordered to drink barley-water plentifully, to remove a fever, drank about six quarts of this liquor daily, during a month, and acquired an obstinate and almost incurable anasarca.---*Schulzius* tells us a very pretty experiment relating to this subject: he bled a very strong dog till he almost fainted, and then forcing him to swallow a large quantity of water, he soon became hydropick. *De elastic. effect. in Haller. disput. anat. vol. iii. p. 670.*---Dr. *Hales*, by the help of a funnel fixed in the jugular-vein of a living dog, poured blood-warm water into it, with a force equal to
that

12 OF THE DROPSY.

the strength, either of the whole body (*l*), or of some particular part (*m*).

Whatever is the original cause of a

that of the heart, and as the water entered at one end of the cut vein, the blood run out at the other, which was gradually more and more diluted; and in half an hour the creature became dropfical, having both anasarca and ascites. *Hæmastat. exp.* 14.

(*l*) An anasarca after a quartan ague. *Hoffman, oper. tom. iii. p. 4. cap. 14. de hydropæ, obs. 2.*---We had a great many dropfical cases after dysenteries, agues, &c. in the hospital at Edinburgh in the year 1746, among the soldiers who came over from Holland and Flanders.---Another such case from a tedious disease followed by a diarrhea. *Forest. lib. xix. obs. 29.*---It is needless to quote more examples of this kind, for every one in practice sees such daily.

(*m*) A hydrocele from a bruise on the saddle, *Turner's Surgery, vol. i. p. 229.*---A dropfy of the belly from a blow on the right side. *Mead. mon. med. cap. 8.*---Of the foot from a luxation of the ancle. *River. cent. 3. obs. 75.*---We had some months ago, in St. George's hospital, a patient, Robert Damyerin, who was received into the house for an anasarca, which he attributed to a sprain of his wrist in lifting a burthen; immediately he said his wrist began to swell, and the swelling spread from thence all over his body.

dropfy,

OF THE DROPSY. 13

dropſy, it may be concluded, from ſec. 9 and 10, that more or leſs of the patient's body will be weakened by ſuch a collection of extravafated fluids, and that in proportion to the extent, continuance, and effects of the diſeaſe; and therefore the dropſy itſelf is acceſſary to the increaſe, or even to the bringing on of this cauſe which we have been now conſidering.

13. When the proper organs for the excretion of watery liquors do not allow them to paſs off, the ſuperfluous watery ſerum that remains in the body, often occasions dropſical ſwellings in the parts on which it is diſcharged (n):
and

(n) A ſubcutaneous dropſy from a ſuppreſſion of the menſes. *Foreſt. lib. 19. obſ. 34.*---Aſcites from a ſtoppage of the hæmorrhoids. *Ibid. obſ. 39.*---From an habitual plentiful ſweating in the hams ceaſing. *Act. phyſic. med. a. n. c. vol. 5. obſ. 2.*---From both kidneys being ſtuffed with mucus. *Bonet. ſepulch. anat. lib. 3. ſect. 21. obſ. 8.*---From the left kidney conſumed by an ulcer, and the right one totally obſtructed by a ſtone. *Bartholin. epiſt. cent. 4. epiſt. 17.*----

From

14 OF THE DROPSY.

and the retention of those liquors in the blood longer than the ordinary time, may contribute as well as the absorption of the effused liquors to the thirst which many hydropic people complain of.

Women being more subject than men to stoppage of the natural excretions, and being also of a weaker frame, are more frequently attacked by dropsies.

14. Whatever obstructs the circulation of the blood in the larger vessels, may produce a dropsy: for if the blood be stopped in the large vessels, the smaller ones are overfilled, and the thin or watery part of the blood is forced off into cavities through the lateral arterious branches; while the veins being also full and gorged with blood, the bibulous mouths of their capillaries absorb little or nothing. It

From a dysuria. *Lister. Exercit. med. de hydropse, ægrot. 15.*---From a sudden stoppage of urine. *Miscel. curios. a. n. c. dec. 3. ann. 5 & 6. obs. 185.*

OF THE DROPSY. 15

is in this way that the legs of people in the ascites, and of women with-child, become œdematous, and that numerous dropfies are produced by polypi (*o*) in the heart or large vessels, by schirri (*p*), imposthumes (*q*), tumors, and

(*o*) A dropfy of the breast and abdomen from a polypus in each ventricle of the heart. *Ephem. German. dec. 2. ann. 6. obs. 232.*—See many histories of ascites from the same cause. *Bonnet. Sepulch. lib. 3. sec. 21. obs. 3.*

(*p*) In *Bonetus's Sepulch. anat. lib. 3.* and most other medical observators, there are numerous histories of dropfies from schirri of the viscera. I have seen many examples myself of dropfies from a schirrous stomach, liver, spleen, pancreas, and ovaria. Two uncommon cases which I saw in the year 1752 I shall here relate: One — Mac Donald, a soldier, being seized with a quartan ague in Flanders, found a tumor in his left side below the ribs, and soon after all his belly swelled. He returned to Scotland and was taken into the infirmary at Edinburgh where he died. His body being opened a considerable quantity of water was found in his belly, and a schirrous spleen beset with two little bags which contained about six or seven ounces of water, the whole weighed one hundred and twenty-six ounces.

The other, a woman who died of an ascites, whose stomach was quite schirrous, being in some places near an inch thick; its plicæ

16 OF THE DROPSY.

and other causes of obstruction or compression (*r*).

15. Ob-

were all hard, schirrous, very prominent, and seemed convoluted in an extraordinary manner. The pancreas too was firm and hard.—Although the many observations since dissections of human bodies have been frequent, shew that the ancients erred in attributing dropfies entirely to the liver, or to it and the spleen, yet none of the other bowels so frequently give rise to, or are so often hurt by this disease; which every one must be convinced of, who has examined many hydropical bodies, or who will look into Bonetus, Schenkius, and the other collectors of practical observations. Moreover, the situation, texture, and uses of these viscera, prove that it must be so. The liver is so situated that the vena cava must be compressed whenever it swells and becomes hard; and the blood which passes through it has been deprived of its finer parts, and in their stead received particles from our food and drink which have undergone no preparation by the circulation, and therefore obstructions must frequently happen here.—The spleen discharges its blood into the liver, and consequently often suffers with it. The texture of both is so tender that they are easily hurt by soaking in acrid water, or by any other external cause.

(*q*) A dropfy of the breast, from an imposthume of the lungs. *Schenk. obs. lib. 2. de pect. hydropes, obs. 6.*—I have often found more or less
water

15. Obstructions in the small vessels which prevent the blood from passing

water in the thorax of people who died of the phthisis pulmonalis.

(r) In the year 1750 I dissected the body of a man who died of an universal dropsy, in the presence of Dr. John Rutherford professor of medicine in the university of Edinburgh: we could find no other cause of the disease than the ossification of the valvulæ mitrales in the left ventricle of the heart, by which the orifice of that ventricle was so straitened, that I could scarce force my little finger into it. The heart itself was very large. While the man was alive, all the soft parts of the neck were raised by every systole of the heart, in such a manner that the veins there seemed to have a pulsation.—An instance of the same kind may be seen in *Peyer. method. hist. anat. med. cap. 6.* quoted by *Kemper de valvul. natura in Haller disput. anat. vol. 2. p. 107.*—A dropsy of the breast with asthma, difficult breathing, faintings, a gradual failure of the pulse, and at last a total cessation of it for a day or two before death, from the semilunar valves of the heart being ossified, and stopping entirely the passage of the blood. *Ruyfch obs. 69.*—In the very large flaccid heart of one who died of a dropsy of the belly, thorax, and pericardium, the valves of the two great arteries were ossified, and there was a large polypus in the

18 OF THE DROPSY.

ing freely from the arteries into the veins may have the same effects: hence this disease is frequently occasioned by food too viscid and tenacious to be rightly concocted and assimilated to the other juices (*s*); by cold moist air (*t*); by violent long continued ex-

the left ventricle of the heart. *Miscel. cur. a. n. c. dec. 3. an. 9 & 10. obs. 89.*—An hydro-pick tumor, about the size of a hen's egg, a little below the navel, occasioned by three stones in the cellular membrane below the skin; the largest weighed a drachm, the second two scruples, and the least about half a drachm. *Primit. physic. med. Poloniæ, vol. 2. obs. 9.*---Lower tried a very pretty experiment to ascertain this cause of the dropsy: he made a ligature on the inferior vena cava of a dog, and in a few hours the animal expired: a great quantity of water was found in the belly, as if the creature had long laboured under an ascites. He found too, that tying the jugular veins made the head œdematous. *De corde, cap. 2. p. 128.*

(*s*) A dropsy of the breast and belly, from bad diet, and a sedentary life. *Hoffman, tom. 3. de hydrope, obs. 6.*

(*t*) An anasarcaous swelling of the head from cold. *Binninger, obs. cent. 1. obs. 94.*

ercise

ercise (*u*); by the too liberal use of fermented liquors (*w*), which stimulate and harden the vessels while they coagulate and render the liquors too gross; by old age, which renders the whole body rigid, contracts especially the small vessels, and thickens the fluids (*x*); and, lastly, by morbid particles retained in the blood, causing obstructions in different parts of the body (*y*).

(*u*) A dropsy of the breast, from too violent exercise. *Willis Pharm. ration. p. 2. sect. 1. cap. 13.*

(*w*) A dropsy of the breast, from cold and drinking spirits. *Hoffman, tom. 3. de hydrope, obs. 7.*—A dropsy with two relapses, from drinking spirits. *Lister. Exercit. med. de hydrope, ægrot. 16.*—A subcutaneous dropsy, from the same cause. *Ibid. ægrot. 1.*—The most judicious *Sydenham, de hydrope*, justly declares drunkards more subject to the dropsy than other men; “Bibacissimos quosque helluones sæpius hoc morbo, quàm cæteros mortales, conflictari.”

(*x*) It is a general remark, that old people are more subject to dropsies than young.

(*y*) Histories of dropsies after agues which were improperly stopped by the bark or other astringents, are to be seen in most modern writers of observations relating to this disease.

16. After

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16. After the discovery of the lymphaticks, about a century ago, many writers on the dropsy attributed this disease to the dilatation, or rupture, of these vessels; tho', so far as I know, there is not one history of the dissection of an hydropick body which could give the least foundation for this opinion (z). I do not, however, deny the possibility of dropsies depending on
a rup-

(z) It has been a received opinion, that most dropsies are owing either to a rupture or distention of the lymphatic vessels; but little regard has been had to observation in attributing them to either, as is evident to every one who considers this subject attentively.

1. For first, as to their rupture, none of the observators mention their having ever seen the orifice of broken lymphaticks which furnished the hydropick water; and we are sure dropsies can be without any rupture of these vessels; for *Lower de Corde*, cap. 2. p. 129. tells of his having dissected many sheep that died of collections of water in the thorax and abdomen, whose lymphatick veins were so full and turgid, that he could easily trace their course; which could not have been the case had any of them been burst.

2. The

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a rupture of those vessels, because I see one history of the thoracic duct's being perforated or burst, and thereby

2. The opinion of hydatides and many of the incysted dropsies being only distended lymphatics, seems to be void of all foundation: for there has been no case yet mentioned where they followed the known course of the lymphatics, nor any similar instance produced of any other vessel in the body being capable of so great distention. I have seen hydatides in the abdomen larger than a common orange, which is equal in size to the largest aneurism of the aorta where there was no rupture of the vessel, tho' the aorta is at least three hundred times bigger than the largest lymphatick, and its coats proportionably strong and able to bear the great distention. Join to this the instances of a number of hydatides being found floating in hydropick waters, *Houfton Philos. transf. num. 381. sect. 3. Ruysch. obser. anat. chirurg. obs. 65. Smelly's Cases, collection 8. p. 99. of larger vesicles containing lesser ones, and a number of those again contained in one large sac, Act. Petropol. tom. 1. p. 379.* the want of a due force to separate these supposed distended vessels from their attachments; and we shall readily be convinced that hydatides are not distended lymphatick vessels. I shall endeavour afterwards to account for their formation when I come to consider them more particularly.

causing

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causing a dropfy of the breast (*a*); and by comparing the white liquor in this dropfy, with the milky fluid that was found in some ascites's (*b*), one would be

(*a*) In the body of a man who died after a large quantity of chylous liquor had been let out of his thorax, an orifice was discovered about the third or fourth vertebra, from which the chylous matter flowed as from a fountain. When the lower part of the thoracick duct, where it rises out of the recepticle of the chyle, was blowed into, the air unexpectedly came out at the orifice abovementioned. This white liquor coagulated with salt of tartar, but not with spirit of vitriol. *Bassii observ. dec. 2. obs. 7.*

(*b*) A girl having made too great an effort to raise a burthen, became hydropick soon after. Being frequently tapped, there always issued from the puncture a chylous matter, in colour, taste, and consistence, not unlike milk with a little salt in it, which being set on the fire, rarified like milk, and rose up in the vessel. It coagulated with salt of tartar, but not with acids, as in the preceding instance. *Memoir. de l'acad. des sciences, 1700.* See such another case, *ibid. 1710.*

That I might judge whether this hydropick liquor was chyle, I made a ligature on the thoracick

be inclined to conclude, that the lacteal vessels, which resemble the lym-

phatick duct of a dog that had eat heartily an hour before. The receptacle of the chyle became immediately very turgid with this liquor, which tasted like whey with some salt in it, but coagulated as soon as it was exposed to the air, into a consistence like starch as it is prepared for putting on cloaths, so that we had not time to mix different liquors with it before it coagulated. To avoid this inconvenience, we got another dog, and tied his thoracick duct in the same manner, then separating part of the duct from the vertebræ, put the end of it successively into different liquors made near as warm as the animal heat, and into each of these we suffered a small portion of the chyle to flow. In water it coagulated almost as in the open air; in oil of tartar it became turbid and slimy; in spirit of hartshorn it afforded only a glutinous cloud; in spirit of vitriol, a white but tender curd; and it coagulated too in alcohol and oil of turpentine. These experiments I repeated several times, and in doing them we sometimes found, that either the receptacle itself, or some of the larger lacteals in the abdomen had burst; and upon examining we found, below the root of the mesentery, a great deal of extravasated chyle, which was firmly coagulated, and when we took it out of the body, it had the appearance of a piece of soft fat, but upon handling much, melted down into a watery liquor.

phaticks

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phaticks greatly, have been sometimes ruptured or opened.

17. The orifices or ducts leading from cavities that are continually moistened with fine watery liquors, being obstructed, a dropsy is produced in the cavity; hence the dropsy of the womb, &c. But it seems improper to apply the name of dropsy to those disorders which are occasioned by a preternatural retention of humours different from an aqueous serum, such as the urine (*c*), and bile (*d*),
in

(*c*) The belly distended with urine, from a bursted bladder. *Plater. prax. lib. 3. cap. 3.* cited by *Bonet. sepulch. anat. lib. 3. sec. 21. obs. 20.*—The pelvis of the kidney distended so as to contain 2 lb. of urine. *Haller. opuscul. Patholog. obs. 60.*

(*d*) Petit gives several instances where the gall-bladder was so much distended with bile, as to be mistaken for an incysted dropsy and abscess of the belly, and for such was opened, which either destroyed the patient, or left a fistulous sore that could not be cured; and he acknowledges, that he once was in danger of committing such a mistake; he had cut through the external teguments, and the tumor then beginning

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in their own proper receptacles, or when they are discharged from them into other cavities.

18. Hydropical collections may not only occasion other dropfies by their preffure (*e*), in the manner mentioned in fec. 14; but if a cyft containing morbid water happens either to burft (*f*) or be

ning to fubfide, made him immediately fufpect it to be the gall-bladder and to defift from the operation; foon after the patient paffed by ftool fome pints of bile, and was cured. He fays that fuch bilious tumors may be diftinguifhed by an uneasy painful tenfion about the hepatick region, followed by a jaundice with all its fymptoms, and by the fituation of the tumor itfelf; which fymptoms, he fays, generally appear, and when duly confidered, will lead us to guefs at the real diftemper. *Memoirs de l'acad. de chirurgie, vol. 1. p. 155.*

(*e*) Anafarca in the lower extremities, and hydrocele in the fcrotum, are often brought on by an afcites, and difappear whenever the water of the belly is drained off. The humoral afthma and collections of water in the thorax, often caufe a general fubcutaneous dropfy.

(*f*) A fac in the belly burfting by a fall caufed an afcites. *Act. Hafniens. vol. 5. obf. 12.*—
An afcites formed by the burfting of an incyfted
C dropfy

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be eroded (*g*), it may fill a cavity where it was not originally collected, and cause a dropsy there.

PROGNOSIS.

19. The prognostick to be made in this disease is taken, as in all other cases, from the part it affects, its cause, continuance, and symptoms; together with the age, strength, and constitution of the patient: all which cannot be particularly treated of at present (*b*).

INDI-

dropsy of the abdomen. *Medical essays, vol. 5. art. 64.*---A hydrops pectoris caused by the rupture of a cyst full of water there. *Hoffman de hydrope, obs. 7.*

(*g*) The watery matter of a large sac in the thorax made its way by erosion through the diaphragm into the abdomen, where were found about nine pounds of liquor; the sac in the thorax contained three. *Act. medic. Berilon. decur. 1. vol. 6. sec. 8.*

(*b*) These circumstances are so numerous, and there is such a variety of degrees and of combinations in each, that it would be intolerably

INDICATIONS OF CURE.

20. From the account now given of dropsies, the three following indications of cure are plainly pointed out to us.

1. To remove the cause of the disease. L

2. To evacuate the extravasated water from the cavities. L

ably tedious to recount all that might be supposed, even in the particular species of dropsies; at the same time the labour seems very unnecessary, for surely no one needs to be told that, *cæteris paribus*, a dropsy in the ventricles of the brain or pericardium, is more dangerous than an anasarca in the lower extremities; that a polypus in the heart or schirrus of the liver are worse to remove than an humoral asthma; that a disease of old standing is worse to cure than a recent one; that a young person recovers out of several diseases which would kill an old man; that a strong person, who has before enjoyed a good state of health, has a better chance for life than one whose constitution is wore out by long tedious diseases or debaucheries. These, and such like, however, are the particulars on which a prognosis is to be formed.

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3. To prevent a relapse.

All that relates to the cure is comprehended in the two first indications, both of which must be pursued at the same time: but that the directions for performing this may be better understood, it is necessary to consider each of them separately.

INDICATION FIRST.

21. The first indication of cure is taken from sections 11—18, where the different causes of dropies are mentioned; and hence we must determine in what manner each of them is to be treated.

22. If the dropy derives its origin from the weakness and relaxation of the solids (§ 12.) the fibres must be strengthened, that is, the mutual attraction of the particles to each other, and the elastick and contractile force of the vessels must be augmented.

23. This

23. This strengthening or bracing of the solids is obtained by,

α. A nourishing easily digested food, and strict temperance in respect to liquids (*i*). "The food," says Celsus (*k*), "ought to be of a middle consistence, but rather of the dry

(*i*) A woman of thirty years of age was cured of an anasarca by abstaining almost entirely from drink for a year: and a countryman, a neighbour of her's, was cured in the same manner, in four months. *River. obs. commun. a Jacoz. obs. 21.*—There are other such cases in *Schenk. obs. lib. 3. obs. 3.*—*Miscel. a. n. c. cent. 6. obs. 33.*—*Æt. phys. med. a. n. c. vol. 1.*—See two instances of people cured of the ascites by the same means in *Mead. monit. med. cap. 8.*—And one in *Panarol. Roman. pentecost. 4. obs. 33.*—Mrs. Wilkinson, after having been tapped for an ascites, was cured by a rigorous abstinence from liquids, taking no medicines but Lower's bitter infusion, and sometimes a spoonful or two of a cordial julip. *Dr. Banyer in philos. trans. numb. 471. sec. 15.*

(*k*) "Cibus esse debet ex media quidem materia, sed tamen generis durioris. Potio non ultra danda quam ut vitam sustineat, optimaque est quæ urinam movet." *Celsus, lib. 3. cap. 21.*

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“ kind. No more drink ought to be
 “ given than is absolutely necessary
 “ for the support of life, and that is
 “ best which promotes urine.” Bread
 well leavened, toasted, or seasoned
 with aromatics, eggs, the firmer
 kinds of flesh, should make the prin-
 cipal part of it; for drink, the pati-
 ent ought to use good old wine, or
 beer in which bitters have been in-
 fused.

β. Friction and exercise. Rubbing
 the skin with a flesh-brush or coarse
 cloth, not only takes away the viscid
 matter that obstructs the ends of the
 cutaneous vessels, but drives forward
 the liquors in those vessels, and there-
 by increases the perspiration; at the
 same time it dissolves the sluggish hu-
 mours, promotes the circulation thro’
 the whole body, and presses all the
 particles of the solids more closely
 together (1). Travelling in a coach,
 or

(1) Friction with oil was formerly a com-
 mon remedy, but had been laid aside till of late
 that Dr. Oliver of Bath tried it with some pati-
 ents ;

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or on horseback, walking, running, and all such exercises, increase the motion of the blood, shake the pendulous bowels, rub one part on another, and press them together, and therefore are justly esteemed powerful strengtheners (*m*). Some caution how-

ents; and the Doctor has assured me, that he has seen three persons, who were judged to have laboured under a true ascites, cured by anointing the whole abdomen with olive oil, morning and evening, for three weeks or a month, as the patient's case required; they began to make water plentifully on the third and fourth day, and continued to do so till the abdomen was quite emptied. One of them had had several pints of water taken from her by tapping, but filled again before the use of the unction.—See in Forestus a fabulous like story, of a woman being cured of an ascites by rubbing her belly with the oleum ranarum, *lib. xix. schol. ad obs. 35.*

(*m*) A dropsy of the belly, cured by hard labour, without any medicines. *Marcell. Donat. hist. mirab. lib. 1. cap. 21.* quoted by *Schenkius, lib. 3. obs. hydropis insperat. event. liberat.*—John Blanch, a merchant at Paris, having made a journey to England in winter, felt the dropical swelling of his belly subside in a wonderful manner, the disease vanished, nor did he ever suffer a relapse. *Holler, lib. 1. de morb. intern. schol. ad. cap. 39. p. 279.*

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ever is to be observed in their use, for if they are more violent than the strength of the patient allows, they diminish the cohesion of the solid particles, and weaken the whole frame: when they fatigue the body, and depress the spirits, they are injurious.

γ. Gentle compression. For pressure prevents the distraction of the fibres, and an excess of relaxation; it assists the cohesion of the particles, and sometimes is of great service in the cure of a dropsy (n).

δ. Medicines which by their stimulus force the sensible organs into contractions, whether their stimulus depends on, 1. Their subtil acrid oil, of which kind are the warmer spices,

(n) A dropsy of the head cured by bandage alone. *River. obs. commun. a Formio, obs. 6.*—*Fabritius ab Aquapendente* says, he has cured subcutaneous dropsies of the head, by applying sponges wet with lime-water, and above that a tight bandage. *Operat. chirurg. de hydrocephal. p. 179.*

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as pepper, ginger, nutmeg, winter's bark, the common aromattick plants and seeds, mint, lavender, hyssop, the seeds of anise, carway, coriander, and the like;—2. Or their pungent, bitter, and astringent quality, such are flowers of camomile, the tops of the lesser centaury, of wormwood, of carduus, the cortex, gentian.—3. Or the strong smelling gums and rosins, asa-fœtida, benzoin, myrrh.—4. Or sharp salts, whether the volatile ones of hartshorn, of sal ammoniac (o), or the fixed alcalies, salt of wormwood, of broom, of tartar.—5. Or a mixture of acrid salt and oil, as in mustard seed, the leaves of cresses or scurvy-grass, the roots of pellitory, of horse-radish, of onions, of garlick.

All these things administered in proper doses, and in a proper manner, re-

(o) *Blancard* relates the history of a baron's daughter who was cured of an ascites by the volatile salts and the cortex Sambuci. *Prax. med. par. 3. cap. 22.*

C 5

store

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store and increase the oscillatory power of the fibres (*p*).

ε. Iron

(*p*) A woman, thirty years of age, labouring under a subcutaneous dropsy as well as ascites, was restored to health by the use of an infusion of tops of wormwood and juniper berries, which increased the quantity of her urine. *Heister in Haller. disput. anat. vol. vi. p. 713.*—Two hydropick people cured by the juice of wormwood. *Miscel. curios. a. n. c. dec. 1. ann. 3. obs. 322.*—A leucophlegmatia after abortion, cured by the use of bitter stomachics, and a few doses of purgatives. *Hoffman, vol. 3. cap. 14. de hydropse, obs. 3.*—A soldier was cured by a decoction of tansey. *Miscel. curios. dec. 2. ann. 2. obs. 112.*—In July 1743, Mr. Pinkstan, surgeon, in St. Alban's-street, was called to a gentleman of seventy-two years of age, who had formerly been captain of a man of war, and had lived freely in the former part of his life. In December 1742, he was seized with an universal anasarca, which continued increasing till the time Mr. Pinkstan was called in, when he found him swelled to a monstrous size. He scarified immediately one of his legs, and ordered him to take a purgative next morning. A good deal of water was discharged by the puncture; but next day the leg was much inflamed round the wound, which was soon relieved by warm fomentations and dressings of lini-

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ε. Iron having not only a mild styp-tick and coagulating power, but also exerting a gentle stimulus on the fibres of living animals (*q*), is generally allowed to be a powerful corroborant and serviceable in the dropsy, and most of its preparations retain the same qualities.

linimentum Arcæi and oil of turpentine. The physick purged him four times; after which he was ordered to take the following draught twice a day: *R. Aq. cinam. simp. sesquiunci. oxymel. scillit. sesquidrachm. spirit. lavendul. com. drach. i. sal. tartar. sesquidrach. syrup e cort. aurant. drac. 2. m.* which made him pass great quantities of water by urine, and carried off all his swellings in ten or twelve days; and the cure was completed by some strengthening bitters. His common drink was Rhenish wine and Spaw water. He continued well for two years, and was then taken ill of an ascites, of which he died.—See in *Mead's Mon. med. cap. viii.* the good effects of the lixivium of tartar and opium, in curing a patient with whom other remedies had failed.—Several cured by garlick. *Forest. lib. xix. obs. 27.*

(*q*) For experiments in proof of these qualities of iron, see *Dr. Wright's Dissertat. de Ferro. sect. iii. § 2, 3, 4.*

ζ. Me-

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ζ. Medicines endowed with an astringent virtue only, such as alum, oak, and pomegranate bark, increase, it is true, the firmness and rigidity of the fibres, even of dead animals, and may be of service in subcutaneous dropfies, externally applied; but when given internally, they do not enter far enough into the smaller series of vessels, and when mixed with our liquors, are apt to coagulate them and cause obstructions; though the gentle astringents, formerly mentioned (δ), have very good effects.

η. The cold bath, so serviceable in many other diseases proceeding from laxity of the fibres, is very often prejudicial to dropfical patients; its sudden strong stimulus straining too much the already overstretched vessels, which leaves them in a weaker condition than they were before, and consequently less capable of absorbing the extravasated liquors from the cavities;

Celsus

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Celsus (r) therefore justly observes,
“ That bathing, and all moisture, is
“ hurtful.”

24. If a dropsy proceeds from the blood's not being sufficiently freed from its superfluous watery parts by the usual excretory passages, (see sect. 13.) those passages must be opened. But of this hereafter when we come to treat of the second indication, and to describe the different methods by which this is to be done. At present it will be sufficient to mention one necessary caution, namely, that if the obstruction is sudden, and the patient strong and plethorick, bleeding must not be omitted; for daily experience teaches us, that, in this manner alone, vessels obstructed by fulness, or by too great a contractility of their sides, can be safely, speedily, and agreeably freed from these disorders.

25. The impediments to the free course of the blood in the large vessels

(r) “ *Balneum atque humor omnis alienus*
“ *est. Celsus, lib. iii. cap. 21.*—*Balneum ra-*
“ *rum res amat. Ibid.*

by

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by tumours, strictures, or other causes mentioned in sect. 14. are to be removed by the medicines appropriated to the cure of each, or sometimes by chirurgical operations. But in most of these cases very little assistance can be had from medicine; for what remedy are we acquainted with that can remove schirri, steatoms, imposthumes, polypi, or such other obstinate and dangerous obstructions, when seated in any of the three large cavities of the head, thorax, and abdomen? Relief in dropsies depending on such causes, can only be given by discovering and curing the original disease; the method of doing which must be learned from the rules peculiar to the cure of each of those disorders: to treat of which would lead me too far from my present subject, each disease requiring a separate treatment.

26. Obstructions in the small vessels, assigned in sect. 15. as the cause of dropsies, owing to too thick viscid humours,

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humours, or to the vessels being preternaturally straitned, are to be cured by resolving the gross humours, and enlarging the vessels.

27. The resolution of viscid fluids is done either by diluting, or attenuating them.

α . Dilution can only be performed by the mixture of thin watery liquors, and therefore is improper in the dropsy, because thereby we supply matter to increase the disease.

β . The humours are attenuated either by spontaneous separation or by dividing the larger globules into their component smaller ones, by suitable remedies.

γ . The spontaneous separation is made whenever the forces which condense our fluids are lessened, or cease entirely to act; these forces are either the motion of the fluids circulating in
the

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the vessels, and pushing forwards whatever is before them, or the contractile power of the vessels in which they are contained.

δ. If therefore the momentum of the circulating fluids is too great, which is often the case with young people, the patient must be blooded, although the symptoms of the dropsy manifestly appear (*s*), and nature has frequently directed it (*t*).

ε. The

(*s*) *Hoffman de hydrope, obs. 9.* tells a very pretty case of an hydropick patient, whose disease he thought depended on an infarction of the pulmonary vessels, and who was cured principally by repeated blood-lettings.—Sponius affirms, that a man in a dropsy, which had increased rather than diminished by the use of hydragogues and diureticks, was cured by twenty bleedings. *Aphorism. nov. sect. v. § 87.*

(*t*) A very strong man, about the age of thirty, was seized with an anasarca, his optick nerves were obstructed, and he gradually became blind; but having discharged from the nose about four pounds of blood, he was soon restored to health in every respect but that of his blindness,

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ε. The forcible or artificial attenuation of the fluids, is first to be attempted by giving such dry easily digested food as was proposed in sect. 23. and resolving drink; as, for example, Rhenish wine, with the steel waters of Tunbridge, Spaw, or Pyrmont.

ζ. The friction and exercise described sect. 23. β, effectually dissolve the cohesion of viscid fluids, and consequently are extremely proper for bringing about this attenuation.

η. The stimulating medicines mentioned in sect. 23. δ, have also a considerable attenuating virtue, and ren-

blindness, from which he was never totally freed. *G. Fab. Hildan. obs. cent. 1. obs. 50.*—A man who laboured under a dropsy and fever, was much relieved by an hæmorrhage from the nose, that happened twice or thrice every day for the space of three weeks; the swelling began to decrease, and the distemper was totally dispelled by the use of diaphoreticks and diureticks. *Miscel. curios. dec. 2. ann. 3. obs. 170.*
der.

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der our fluids fit for passing through the vessels.

θ. If the viscid obstructing matter is too tough to be melted down by the means hitherto advised, the heavy particles of quicksilver may be employed to break down the too strongly cohering liquors. But great caution is to be used in giving mercury, lest in its efforts to break down the viscid fluids, it tear and destroy the vessels containing them.

28. When the cause of the dropsy is a contraction of the vessels from rigidity, the cure is extremely difficult; for those things which relax the vessels, increase the disease. Such patients, however, are not entirely to be given up as incurable, since it is better to try a doubtful remedy than none.

α. Let the diet be mild, soft, and relaxing, though not too watery; this may be composed of well-baked bread, broths

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broths and jellies, and the boiled flesh of young animals, eggs, and such like.

b. If soft mild oils applied and rubbed upon the skin penetrate to the interior parts, as is commonly believed, they will be of great service in softening the fibres (*u*). L

c. Warm water and its steams is an excellent remedy against rigidity; but in the case we are now treating of, their assistance must be very cautiously used, lest they increase the aqueous collection, by supplying the blood with too much water. The waters, however, which are plentiful-

(*u*) In six ascitical patients, who had their bellies rubbed morning and evening with olive oil, for a fortnight or three weeks together, the skin of the abdomen was relaxed; after the two or three first frictions the patients found themselves easier, and thought they made water more freely; but these effects soon ceased, and they found no more relief from this remedy. Two of these cases I saw, the others I was told by gentlemen who attended the Patients. L

ly

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ly impregnated with penetrating and dissolving mineral particles of salt, sulphur, or iron, such as sea-water, the mineral waters of Aix-la-Chapelle, Bath, Spaw, Tunbridge, &c. may be made use of (w).

d. A

(w) “ But others, and not without reason,
 “ approve of the vapour of sea-water in order
 “ to provoke sweating. A bathing-tub (say
 “ they) must be filled with boiling sea-water,
 “ into which a square machine, secured with
 “ leathern straps, containing the patient, must
 “ be immersed; but it must be secured in such
 “ a manner by the leather, that no water can
 “ enter, and the sweating will be excited by
 “ the exhalation of the hot fluid. But the
 “ water must be kept hot by the frequent im-
 “ mersion of red-hot bars of iron.” *Cael. Au-*
relian. de morb. chron. lib. iii. cap. 8.—The
 countess of Keglewich having a dropsy in the
 womb, was freed from it after bathing eight days
 in the warm baths of Newhaus in Styria, hav-
 ing voided a great quantity of water and wind.
Miscel. curios. a. n. c. dec. 3. ann. 5 & 6. obs.
 162.—A taylor labouring under a dropsy of the
 belly, having gone into the baths at Wisbad,
 and drank a great quantity of these waters, he
 perceived the swelling begin to subside while he
 remained in the bath. When he came out of
 it,

d. A discharge of the dropfical water must be promoted, by urine, sweat, and stool; not indeed by swallowing quantities of watery liquors, or medicines that are very acrid or stimulating; for the first would increase the dropsy, the others augment the rigidity; but by those medicines of the different kinds that are not too watery, and of a milder nature.

29. If any receptacle or vessel, which naturally receives or transmits a watery liquor, is opened, and furnishes the matter of a dropsy, (sect. 16 and 17.) I scarce know what assistance art can give, unless there is such access to the opening, that digestives, escharoticks, or stypticks may be applied,

it, he was weak and faint, but being refreshed by cordials and food, he recovered every day after. *Ibid. dec. 1. ann. 2. obs. 218.*—See the cases of six patients cured by drinking of Bath waters, and bathing in them. *Pierce's Bath memoirs, part ii. chap. 4.*

or

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or a proper pressure can be kept on the part by means of compresses and bandages.

30. When a natural outlet from a cavity is shut up, (sect. 17.) it ought to be opened by methods adapted to remove the obstructing cause. Coagulated or thickened liquors are to be dissolved; too rigid contracted canals are to be relaxed; united sides of passages are to be separated; and so forth. The methods of executing which varying according to circumstances, cannot be considered till the particular cases are described.

31. A dropsy produced by the pressure of a preceding hydropical collection, sect. 18. can only be cured after removing the original disease.

32. If the water of an hydropick cyst has made its way into another cavity, sect. 18. it must be treated as directed in sect. 29. or as to be mentioned afterwards

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terwards when we consider incysted dropfies.

INDICATION SECOND.

33. To answer the second indication, the waters are to be discharged out of the hydropick cavities, either by natural or artificial openings.

34. The natural openings for hydropick water, are only (a few cases excepted) the extremities of the veins, whose power therefore must be so much increased, that they may absorb more liquors than the arteries pour out.

35. The absorption is increased by every thing which restores the strength and energy of the solids, of which some account has been given already in sect. 23.

36. However it is necessary to observe; 1. That this absorption can
scarce

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scarce ever take effect when the cavities are much distended by the inclosed water. Either the sides of these cavities must be relaxed, or some of the water must be let out, before the absorbent veins can act. 2. That the nearer the medicines designed to promote absorption are applied to the parts affected, their effect is greater and more certain.

37. If the superfluous hydropick water is absorbed and mixed with the blood, it ought to be expelled from the body as soon as possible, lest it should be again extravasated and thrown into some of the cavities. For this purpose the serous and aqueous excretions are to be increased.

38. These excretions are made from the stomach, intestines, urinary passages, the skin, or salivary organs.

39. Most of the medicines which promote these excretions exert a considerable

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considerable stimulus in their operation, whereby they also strongly promote the absorption of extravasated fluids from the cavities containing them; but as the lax unfeeling fibres of hydropick people are not easily roused into action, they require a stronger dose than is necessary in many other diseases.

40. Emeticks increase the oscillation of the solids, as well as the motion of the fluids contained in them. By which means, and the forcible compression of the bowels one against another, the viscid parts of the liquids are broke down, and the excretion of watery and slimy liquors from the mouth, throat, and stomach are augmented. The more violent emeticks commonly used, are the vinum benedictum, turbeth mineral, emetick tartar; the milder, ipecacuan, squills; and the gentlest are,

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are, white vitriol, bitter infusions, and such like (x).

Some caution however is necessary in administering emeticks, especially to patients who are subject to hæmorrhages, seeing the effort of vomiting may, by augmenting the velocity of the blood, open the vessels again.—To such likewise as are threatened with lethargy or apoplexy, lest the

(x) A young man labouring under a dropsy of the belly spontaneously vomited up a great quantity of water at two different times, and was cured without taking any medicines. *Marcel. Donat. mirab. hist. lib. iv. cap. 21.* cited by *Schenk. lib. iii. de hydrope, obs. 5.*—A nun after being tapped several times for a dropsy, was cured by the use of vomits, all other medicines having proved ineffectual. *Du Verney. Memoir. de l'acad. des sciences, 1703.*—Two years ago I saw in the hospital at Edinburgh a man cured by Dr. Rutherford of a dropsy, which proceeded from an asthmatick complaint, by the use of frequent vomits and a few purgatives.-- A dropfical patient went out some miles to sea in a boat, which made him sick and vomit, by which means and strong exercise he was cured. *Forrest. schol. ad obs. 32. lib. xix.*

matter

OF THE DROPSY. 51

matter obstructed in the vessels be thereby impacted into the small capillary arteries, where the force of the circulation, and the power of medicines, have little effect either to resolve or drive it forward into the veins, and there remain fixed for ever: and for the same reason they are dangerous to people under a dyspnea from thick viscid matter obstructing the lungs (y).
Eme-

(y) The good, but dangerous, effects of vomits in asthmas from thick viscid phlegm, I have known twice experienced in the same lady. The first vomit she took was in the paroxysm, which, after violent straining almost to suffocation, produced its effect. The fit went off, and did not return for some months. After its return she frequently entreated, but was not permitted, to try the same expedient, till some years after, when the fit was extremely obstinate and would give way to no other remedy, her physician was obliged to consent. She accordingly took the vomit; the same scene, but with infinitely more violence, was acted over again. Her face turned black, all her veins seemed ready to burst, her pulse and breath were gone, when fortunately changing her posture, in order to be bled, the vomit operated,

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Emeticks given in so small doses as not to provoke vomiting, and frequently repeated, often cause a plentiful discharge of watery liquor by stool, urine, or sweating.

41. Purgatives generally quicken the pulse before they operate; they increase the secretion of thin liquors into the intestines, and discharge their contents; while at the same time, by dissolving the crasis of the blood, they render the whole mass more watery, and weaken the patient.—The strong catharticks, such as elaterium, gamboge, scammony, jalap, the juice of the common flower de luce or iris, and such like, are called hydragogues, from their causing a great discharge of watery liquors.—Other purgatives, such as senna, rhubarb, syrup of buck-

rated, and, as before, carried off the fit: but so great was the danger, that the gentleman who attended her determined never to try this remedy again with her.

thorn,

OF THE DROPSY. 53

thorn, &c. are milder and weaker;— and there is a third kind, commonly called eccoproticks, that are very mild; of this sort are crystals of tartar, prunes, and tamarinds, which do little more than discharge fæces, and therefore are of little service to hydropick people.

Among the catharticks one may reckon mercury and its preparations, which of themselves are purgative, and when joined to other catharticks, augment their effects; such are quick-silver extinguished in soap or honey, *mercurius dulcis*, calomel (z).

It

(z) In the beginning of the year 1750 Dr. Rutherford cured a patient (A. Bruce) in the infirmary at Edinburgh of an universal dropsy, by giving him strong hydragogue purges almost every day for some time, and then by the use of strengthening bitters, bark and steel, and proper exercise, the patient was restored to perfect health.—A gentleman was taken so ill of an ascites, after a jaundice and vomiting of blood, that he had thoughts of being tapped, when Dr. Lister ordered him the following purgative; *R. decoct. epithymi. unc. iv. syrup. e spin. cervin.*

D 3

unc.

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It ought to be remarked that, if the hydropick water is not evacuated, nor the symptoms alleviated by the frequent use of strong purgatives, the mischief must of course be increased; for “when the strength is wasted, violent purging is hurtful, since the more moisture is carried off from the body, the greater quantity of it

unc. iii. elater. gr. v. m. Which made him pass by stool above three gallons of water; and by taking two more doses of this medicine, at proper intervals, he got well, and never had a return. *Lifter. Exercit. med. de hydrope, ægrot. 4.*—A peasant being seized with a dropsy after an ague, was cured by three doses of the following hydragogue purge; *R. succ. irid. nostrat. unc. iii. mannæ unc. i. fs.* which made him evacuate a great quantity of water both by stool and urine. *River. obs. cent. 4. obs. 82.*—See other cases of the effects of the iris, in *Misc. cur. a. n. c. dec. 2. ann. 8. obs. 63.*—*Act. med. Berol. dec. 1. vol. x. sect. 4.*—*Med. essays, vol. v. art. 8.*—Sydenham cured a woman of an ascites by the use of the syrup of buckthorn alone. *De hydrope.*—It is needless to multiply examples of this kind; there are few writers on the dropsy who do not relate such.

“ will,

OF THE DROPSY. 55

“ will, in a short time, be again admitted into the cavities,” as Dr. Mead has very justly observed (*a*).

42. If the extravasated water can be carried off by the urinary passages, the discharge is made with little loss of strength; but it is to be regretted that the operation of the medicines intended to promote this excretion is very uncertain; the urine of hydropick people often continuing to be made in small quantities, and very thick and deep coloured, notwithstanding the use of the most esteemed diureticks.

α. The medicines found to increase the discharge of urine, are plentiful draughts of thin attenuating liquors; but as they likewise relax the solids, and increase the disease by furnishing a supply of watery matter, the use of

(*a*) “ Et ubi fractæ vires, nocet vehemens
“ per alvum purgatio; quo enim plus humoris
“ e corpore ejicitur, eo major ipsius copia brevi
“ in cavitates refluit. *Mead. mon. med. cap. 8.*

56 OF THE DROPSY.

them in the dropsy, is for the most part deservedly forbid; yet sometimes, tho' rarely, they have produced good effects (*b*).

β. The neutral salts, such as nitre, vitriolated tartar, sal diureticus; the acids, such as juice of lemons, tartar, vinegar, spirit of vitriol, and such like substances, not only promote the excretion of urine, but tend also to make the circulation of the blood slower, and diminish the heat of the body, and therefore

(*b*) A monk who had taken various diuretics for a dropsy, without any benefit, having drunk a decoction of saffraſas twice a day, passed urine plentifully, and was cured. *Misc. a. n. c.* 1715, cent. 3 & 4. *obs.* 28.—A nun passed urine plentifully after eating largely of water cucumbers, and drinking a great quantity of water, which cured her of a dropsy. *Misc. cur. a. n. c.* cent. 5 & 6. *obs.* 96.—A girl, who had the dropsy to such a violent degree that she seemed ready to burst, drank great quantities of thin watery liquors, contrary to the advice of those about her, but fortunately a diarrhea ensued, which cured her. *Panarol. Roman. Pentecost.* 2. *obs.* 24.

are

OF THE DROPSY. 57

are not so proper diureticks in a dropsy as those medicines which both promote this excretion and increase the force and energy of the vessels. When the refrigerants are made use of, some stimulating medicine ought to be mixed with them (c).

γ. The

(c) A man about fifty was suddenly seized with a dysuria, violent pain and vomiting, his belly swelling to an immense size: he was blooded, purged, had several clysters, took mercurius dulcis, whilst cataplasms and other remedies were applied externally; but all to no purpose. A catheter was introduced into his bladder, but there was no urine in it. The man at last seemed a-dying, putrid ulcers beginning to appear, and a troublesome hiccough seizing him, when Dr. Lister prescribed the following medicine; *R. succ. limon. recent. unc. vi. succ. cochlear. hortens. unc. iv. succ. plantag. hepat. aa unc. ii. syr. violar. unc. ii. m. cap. unc. iv. 3tia. q. h.* By the use of this medicine he made a great quantity of water, was much relieved, and by the assistance of a few purgatives recovered. *Lister exercit. de hydrope, ægrot. 15.*—A strong young man became hydropick after a quartan ague, he had difficult breathing, and made but a small quantity of urine with a lateritious sediment. I ordered him a bitter infusion, with

D 5

some

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γ. The stimulant medicines mentioned in sect. 23 δ, especially the saline kinds, often prove powerful and beneficial diureticks (*d*).

δ. The

some pills of nitre, crystals of tartar, balsam of Tolu, and soap; by the help of these he made urine plentifully, his hydropick swellings abated, and by the use of some strengthening bitters, and proper exercise he recovered his health.

(*d*) An unmarried lady, about thirty years of age, after taking many purgatives and other medicines for a jaundice, dropsy, and nephritis, was cured by the lixivial and other salts, which made her pass an almost incredible number of stones. *Misc. cur. a. n. c. dec. 1. ann. 3. obs. 174.*—The good effects of these salts in the dropsy are also to be seen *Ibid. cent. 9 & 10. obs. 55.*—A woman of seventy cured of a dropsy, by taking a few drops of rectified spirit of salt mixed with salt of wormwood, and some of the acrid diureticks. *Ibid. dec. 2. ann. 7. obs. 57.*—An hydropick man cured by eating onions. *Ibid. cent. 5 & 6. obs. 40.*—A lady, fifty years of age, labouring under an ascites, for which she had been thrice tapped, and taken many purgatives and diureticks without any effect, took every morning and evening a spoonful of unbruised mustard seed, and drank after
it

δ. The same effects are often produced by the use of the natural balsams;

it half a pint of a decoction made of the tops of green broom. In three days she was sensibly relieved; the medicine purged her sometimes two or three days, and made her pass at least between two and three quarts of urine every day. She persisted in the use of these medicines, and was cured without a relapse. *Mead. mon. medic. cap. viii.*—A woman between forty and fifty years of age, never married, a valetudinarian for twenty years before, and subject to immoderate fluxes of the menses, was affected with an universal anasarca, for which she took many medicines of different kinds without receiving any benefit. She swelled to a prodigious size, and seemed almost a-dying when she was advised to take the broom ashes. She began the use of it the 8th of December, 1753, and continued it for some months. She soon found herself much relieved, made water freely, and in considerable quantity; her swellings began to decrease, and were all gone by the month of May, when she left off taking her medicine, and has had no return of her dropfical complaints since. She at first took only a drachm a day, divided into three doses, but gradually increased the quantity to half an ounce, and used no other medicine while she continued this. This account

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fams; for example, turpentine, the copaivy, Tolu, or Peruvian balsams; as also by the use of some animal sub-

L count I had from Mr. Bayne, apothecary in Cork-street.—A peasant having laboured long under an ascites, and taken many remedies without receiving any benefit, was at last advised to eat garlick; by the use of which he made great quantities of urine, and was in a little time cured of his dropsy. *Burnet. medic. thesaur. lib. viii. sect. 12. subsect. 1.* He also adds, that he has seen several cured by this remedy. See histories such as this in *Forest. lib. xix. obs. 27.*—Antony Maria being very ill of an anasarca and ascites, after taking many medicines, Dr. Poter ordered him some of the sulphur metallorum with the elixir of vitriol; it soon gave him relief, and within twelve days his belly and other swelled parts were much decreased, having evacuated a great deal of water both by the mouth and the urinary passages, and in a little time was cured. *Hoffman. Oper. supplement. p. 1. cent. 1. obs. 2.* Poter gives great praises to this medicine, the sulphur metallorum, and mentions a great number of hydropick cases he cured by it. See *ibid. cent. 1. obs. 97. cent. 2. obs. 12, 75. cent. 3. obs. 36, 37, 97.* But it seems not to be well known what his sulphur metallorum was, whether sulphur of antimony, or sulphur impregnated with other mineral particles.

stances,

OF THE DROPSY. 61

stances, such as wood-lice, and cantharides in small quantities (e).

ε. Mer-

(e) A scruple of spirit of turpentine with tincture of bezoar and red coral, and forty or fifty drops of spirit of sea salt, brought away urine from a man in a dropsy and quartan ague, to the amount of twice or thrice the quantity of what he drank, and cured him. *Miscel. curios. dec. 2. ann. 3. obs. 110.*—Turpentine with spirit of salt, some simple waters, and syrup had the like effect. *Ibid. dec. 3. ann. 4. obs. 74.*—To a country woman labouring under an ascites Dr. Ruffel ordered the following pills; *R. Milleped. ppt. drachm. ii. sapon. venet. unc. ss. gum. ammon. drach. ii. bals. sulphur. cum. oleo terebint. q. s. ut fiant pil. no. 80.* She took six or eight of these pills every day, and after them a draught of the following wine; *R. sal. absinth. drach. i. sacchar. alb. drach. iii. ol. stillat. nucis moschat. gutt. vi. vin. albi lib. i. m. ut fiat vinum medicatum.* On taking these medicines she voided sixteen stones of an irregular shape, about the size of common marbles that boys play with; soon after she was seized with such a continual flux of urine, that the waters flowed from her involuntarily in so great quantities as to pass through the bed and chamber floor. The patient was then restored by proper cordials and bandages, the dropsy being almost in a moment of time absorbed and drained off by the kidneys.

Ruffel

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✓ ε. Mercury may be justly ranked among the diureticks; for when given single, or mixed with other medicines, it sometimes efficaciously promotes the excretion of urine (*f*).

ζ. When the passage of urine is obstructed by sand or stones, repeated

Ruffel on the use of sea-water, sect. 2.—Hippocrates recommends the bodies of three cantharides without the heads, wings, or feet, bruised in water, as a good medicine in the dropsy. *De victu acutorum, sect. 66.*

(*f*) For a poor woman about fifty years of age, whose belly swelled in consequence of a scanty secretion of urine, I prescribed, after she had taken a hydragogue purge, two ounces of an infusion of juniper berries and gentian in ale, adding a little spiritus Mindereri, to be taken morning and evening, and eight grains of the mercurial pill of the Edinburgh dispensatory, at bed-time. The use of these medicines brought on a copious discharge of urine, and in a fortnight's time she recovered her health.—My father ordered two or three doses of mercurius dulcis to a man who had an universal anasarca and ascites, which, in one night, produced such a copious discharge of urine, as to remove his complaints entirely.

doses

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doses of the mineral acids properly diluted, lime-water, and other remedies for calculous disorders, are to be given.

η. The catharticks recommended in sect. 41, not only empty the intestines, and cause a flow of liquors to them, but also often increase the quantity of urine, and when they are given either at the same time or alternately with diureticks are observed to increase their operation.

Diureticks may also be assisted by relaxing injections thrown into the great guts, and by keeping the loyns warm while the rest of the body is cool.

If the remedies mentioned in this 42d sect. do not increase the aqueous secretions, they will be prejudicial; for by dissolving the blood they add to the disease; and this excretion of urine is of such consequence in dropsies,

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fies, that it may be said, in general, there is little expectation of making a cure while more liquors are drunk than are passed off; and Celsus (*g*) observed long ago, that when the urine is in greater quantity than the drink, the physician may hope for success.

43. The skin of dropfical people is generally dry, the perspirable liquor being poured into the hydropick cavities; if therefore the excretion by the skin be increased, a less quantity of fluid is conveyed into the cavities to increase the disease, and the blood is freed from a redundancy of water. To obtain this, the method prescribed by Celsus is certainly very rational (*b*):
 “Sweat, says he, is to be promoted,

(*g*) “Si plus humoris excernitur quam affluitur, ita demum secundæ valetudinis spes est.
 “*Cels. lib. iii. cap. 21.*

(*b*) “Evocandus est sudor non per exercitationem tantum, sed etiam in arena calida, vel
 “laconico vel clibano, similibusque aliis; maxime enim sunt utiles naturales & siccæ sudationes.” *Celsus, lib. iii. cap. 21.*

“not

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“ not only by exercise, but likewise
“ in warm sand (*i*), a bagnio or stove
“ (*k*), and other such like contri-
“ vances; for natural and dry sweat-
“ ing is very useful.”

The diaphoresis may be increased
several other ways.

(*i*) Dampier in his voyages relates that, find-
ing himself ill of a dropsy in the island of Cali-
fornia, he covered himself all over with sand,
warmed by the heat of the sun, for an hour;
then he was carried to bed and well covered
with cloaths, where he fell into a profuse sweat,
after which he recovered daily.

(*k*) A patient afflicted with an hydrops pecto-
ris and ascites, was cured by sweating plentifully
in a stove prepared with spirit of wine, living
on a sudorifick diet of guiac and sarsaparilla for
twenty days, and taking a hydragogue purge
every fourth day. *River. obs. cent. 4. obs. 71.*
—It is probably the warm steam in the grotto
delli Serpi near Rome, that cures dropsies and
many other diseases; although the effect is attri-
buted to the licking and suction of serpents.
See the history of the cure of a dropsy by this
cave, *Miscel. curios. a. n. c. dec. 3. ann. 4. obs.*
20.

a. Fric-

66 OF THE DROPSY.

a. Friction as well as exercise directed in § 23 β . is universally known to do it.

b. So also do the stimulants recommended in sect. 23 δ ; especially those which are composed of a subtile oil and volatile salt (*l*).

c. The natural balsams mentioned in sect. 42 δ . act nearly in the same way.

d. Mercury, and several of its preparations, frequently open the pores of the skin and promote a plentiful

(*l*) John Tackler, afflicted with a dropsy, by the use of spirit of sal ammoniac sweated profusely and discharged a great quantity of urine; the swelling having subsided, the remains thereof were carried off in a few days by a dose or two of a hydragogue purge. *Binninger, cent. 1. obs. 76.*—The decoction of the rad. vincetoxicum (swallow-wort) is strongly recommended as a sudorifick in the dropsy. *Miscel. cur. a. n. c. dec. 2. ann. 7. obs. 38.*

dia-

OF THE DROPSY. 67

diaphoresis; especially if proper care be taken to direct their operation this way.

e. Antimony, and its preparations, readily affect the skin and increase the cutaneous excretions.

f. And opium, either by itself or differently prepared with other medicines, produces the same effects (*m*).

g. These

(*m*) A woman gave to her husband labouring under a dropsy fifteen or twenty grains of laudanum; he broke out into a profuse sweat, passed a great quantity of urine, and was cured. *Hist. de l'acad. des sciences*, 1703 — A gentleman who was much troubled with nocturnal pains from an ill cured lues venerea, for which he would take nothing but a little laudanum to ease his pain, at length fell into an universal dropsy; and being averse to medicines he sent for Dr. Willis, to know if he might take laudanum in this distemper, so as to keep him easy: the doctor consented to it, after giving him proper cautions, and went away, not expecting he would live many days. The patient immediately took a large dose of laudanum, which he continued to increase every day till he came to a quantity almost

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g. These two last named medicines, the antimony and opium, have often

almost incredible. In a month's time all his dropfical swellings were gone, his nocturnal pains left him, he had a good appetite, and was able to walk abroad. The opium sweated him plentifully every night, and made him pass a large quantity of urine. *Willis Pharm. ration. p. I. sect. 7. cap. I.*

The following case I had from Dr. Knight. A middle aged man, after a quartan ague, was taken with an ascites, and being swelled all over was received into the Westminster infirmary. A number of purgatives and other medicines were given him, which did not at all relieve him; and there seemed to be little hopes of his recovery. Dr. Knight ordered him a dose of Dover's opiate powder, which sweated him plentifully and relieved him greatly; he continued the use of this medicine for two months with the same success, his swelling all the while diminishing considerably; but at the end of this period the powder had no more effect, and his disease seemed to be at stand. The doctor then ordered him to take a purgative alternately with the powder; which course relieved him also but little till he was bandaged pretty tightly all over: the medicines then began to have a good effect; and by continuing this course, and drawing the bandages

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often a better effect when mixed, than when either of them is taken separately, especially the antimonial wine and tincture of opium (n).

bandages tighter as the water was evacuated, a compleat cure was made in a short time. The doctor saw the man four or five months afterwards in good health, and believes he has had no relapse.

(n) The antimonial wine mixed with tincture of opium is now a medicine much used in St. George's hospital: I have seen it often given as a sudorifick, which intention it answered effectually, and did great service in rheumatick cases.---To a woman about forty, afflicted with a dropsy of the incysted kind for several years, which had distended her belly to an enormous size, and seemed to proceed from a schirrous ovarium, I ordered thirty or forty drops of laudanum in an ounce of pepper-mint water, first with half a drachm of the lixivium of tartar, and about two months afterwards, when the medicine seemed not to produce its usual effect, with fifty drops of the antimonial wine: she took this medicine as oft as she found her belly begin to grow larger, and was always relieved by it, the perspiration and discharge of urine being greatly increased.

b. That

b. That these diaphoretick or sudorifick medicines may have a proper effect their operation must be assisted, not only by excluding the cold air, but also by keeping the surface of the body warm with thicker garments, and a greater quantity of bed cloaths than usual, as well as with warm drink, and fomenting the skin with steams of hot water, or rather with the vapour of burning spirits of wine; or by rubbing the body with warm flannel well impregnated with aromatick fumes, when an increased perspiration without sweat is intended.

44. Although a salivation raised by mercury greatly weakens the patient, and dissolves the humours into an aqueous mass, yet it is said to have cured a dropsy (*o*): when therefore this distemper

(*o*) A man between twenty-five and thirty years of age was attacked with an ascites and anasarca, and finding no relief from any other means

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temper has baffled other remedies, salivation may be tried.

45. In dropfies every discharge of watery fluids is not to be esteemed beneficial; for if these are only separated from the blood without any diminution of the hydropick swelling, which alone is the sure sign that the desired absorption has been made, the patient's strength is exhausted and his blood dissolved; so that the cure of the disease is so far from being advanced by such excretions, that, on the contrary, the case must be rendered worse.

means used for his recovery was cured by being tapped and salivated; recourse was had to the salivation because neither the puncture, nor any medicines which had been given him, removed the subcutaneous swellings. *Du Verney, Memoir. de l'acad des sciences, 1703.*—A man labouring under a dropsy was cured by an accidental salivation, raised by mercury mixed with purging pills, which continued fourteen days. *Miscel. curios. dec. 2. ann. 4. obs. 36.*—An hydropick woman was greatly assisted in her cure by a salivation. *Act. phys. med. a. n. c. vol. v. obs. 3.*

46. In

46. In the few cases where there are other natural passages than those now treated of to be opened, it is plain that the methods of cure must be varied according to each particular case; which shall be considered in the second part of this essay.

47. The like variety of management being required in different dropsies where artificial outlets for the water are to be made, I must not at present enter into any detail concerning them.

48. When hydroprick water is let out either by the natural or artificial passages, especially if it be done suddenly, the pressure of the water on the sides of the cavity in which it was contained, and on the neighbouring organs, is taken off; wherefore the liquors from the heart finding less resistance here to their flow than in other parts, will overstretch all these vessels
where

OF THE DROPSY. 73

where the pressure is diminished, and produce inflammation or gangrene in the smaller vessels (*p*), and the effusion of liquors where they have any apertures (*q*). At the same time the other organs of the body being deprived of their due proportion of liquors will become unfit for performing aright their functions; and hence a difficulty in breathing, weakness and faintness, loss of appetite, bad digestion, and such other symptoms, are the common consequences of a sudden evacuation of hydropick waters from large cavities.

(*p*) Histories of inflammations or gangrenes coming soon on the bowels, after performing the paracentesis incautiously, may be read in *Miscel. cur. a. n. c. dec. 2. ann. 6. obs. 152.*—*Bonet. sepulch. anat. lib. iii. sect. 21.*

(*q*) More water is collected in the abdomen in one week after tapping than six before it.—Hydatides opened often discharge as much in a day or two, as was formerly collected in them during months or years.—The water which was clear and limpid at a first tapping, is frequently bloody at a second.

E

49. These

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49. These bad consequences of taking away hypopick waters are to be prevented, 1. By letting out the water slowly, and in small quantities at a time, that the pressure may be taken off very gradually.—2. By making as great a pressure on the part from which the water is discharged as was occasioned by the fluid while it remained within the body.—3. By applying some of the strengthening medicines taken notice of in sect. 23.

INDICATION III.

50. Tho' the two first indications may have been successfully pursued, so as to have drained off all the extravasated water, yet the third indication (sect. 20. 3.) is not to be forgot; for there are few diseases into which patients are so liable to relapse as the dropsy. Whoever therefore has once had a dropsy must be particularly on his guard against a return of it.

51. Per-

OF THE DROPSY. 75

51. Persons in this condition ought to persist long in the use of corroborants and such other medicines as lessen the disease, gradually forbearing evacuations, and increasing the doses of the strengthening remedies, till the natural tone of all the organs is restored; then the cold bath, which was said to be improper while the dropsy continued, may be successfully employed for bracing the solids sufficiently.

It will be readily understood that in the dropsy from rigidity, (sect. 28.) where a peculiar method was proposed, there is an exception to the rule above mentioned.

52. Besides the general method now proposed special regard is to be had,
1. To the original cause of the dropsy; the increase or return of which is to be guarded against.—2. To the part more immediately affected; for the sides of the cavity ought to be compressed,

E 2

sup-

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supported, and strengthened, till their fibres and vessels have recovered their proper strength and tone.

53. If the morbid cavity can be destroyed or filled up, without danger or very great inconvenience to the patient, it is adviseable to do it, as in many cases there is no other method of preventing a fresh collection of water.

54. A particular recital of those symptoms that frequently attend dropsies, or might be brought on by them, but are not necessary consequences or constant concomitants of this disease, are purposely omitted, as they would lead us into too large a field of inquiry foreign to the present subject.

55. In the preceding part of this essay it was hinted that the general account of this disease was not sufficient to direct us to the cure of its
different

OF THE DROPSY. 77

different species, we shall therefore now proceed to a more particular description, which will be the more clearly comprehended, if the general doctrine already proposed, be kept in view.

E 3 PART

PART II.

Of the different Kinds of DROPSIES.

56. **T**HE waters of dropfies are contained either in cavities which have a free communication with others, or in such as have no direct or natural outlet. Hence the division into diffused and incysted dropfies.

CHAP. I.

Of the DIFFUSED DROPSY.

The Seat of the Disease.

57. The principal, if not the only, seat of the diffused dropsy is that cellular

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lular membranous substance which is to be found every where under the skin, about the muscles, blood-vessels, nerves, bowels, and which, in short, seems to serve as a general connecting medium to all the parts of the body.

58. This cellular substance consists of extremely small, pellucid, ductile and elastick membranes; and tho' we cannot demonstrate either vessels or nerves proper to its lamellæ, nevertheless innumerable large vessels, both arterial and venous, as well as smaller exhaling and absorbing tubes, with abundance of nerves, are dispersed through every part of it. Between these membranes are spaces of an irregular figure, and of very different sizes, opening into each other, and commonly called cells; into these the arteries are constantly pouring liquors, which are again reassumed into the blood by the extremities of veins.

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59. However the appearance of the cellular membrane is different, in different parts of the body. In some it is of a loose texture, being composed of larger vesicular membranes and cells; in others these membranes or lamellæ are firm, thin and short.—The cells sometimes contain a gross, at other times a very fine oil; sometimes a viscid, at other times a thin watery liquor (*r*).

S Y M P T O M S.

60. The description of a dropsy already given in sect. 4----10. answers to the diffused ones, allowing for the appearances arising from the nature of the cellular membranes in which the water is contained: thus,

(*r*) Whoever would know more concerning this cellular substance may read Schobinger's dissertation on this subject, published at Göttingen 1748, in which he will find a particular account of it, and the doctrine of the ingenious Dr. Haller respecting its texture and uses.

a. The

a. The very small quantity of water contained in each cell can scarce fluctuate so much under the finger as to impress it with the sense of an undulatory motion; but by pressure the water may be squeezed into the neighbouring cells: by this means a small hollow or pit is made, which is slowly and gradually filled up again when the pressure is removed.

b. The water by its weight descends through these cells towards the lower parts, which therefore are generally more swelled and distended than those above.

c. The symptoms of this disease, in most of the deep seated internal organs, not being observable either by the eye or the finger, we can only judge such parts to be affected by the constitution of the patient, and the injuries which the different functions may have sustained.

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CAUSE and PROGNOSTICK.

61. The causes of the diffused dropsy are enumerated in sect. 11.---18. and the prognostick is to be made according to the circumstances hinted in sect. 19.

C U R E.

62. Nor is any circumstance to be changed in the indications of cure related in sect. 20. But in the therapeutick part it may be worth while to observe, that the absorption from the cellular membrane is more easily performed than from any of the cysts, because its veins are larger and more numerous, and the sides of its cells have generally less pressure on them than the cysts have; hence, *cæteris paribus*, the diffused dropsy yields sooner to medicines than the incysted.

Its

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Its different SPECIES.

A N A S A R C A.

63. The most frequent and manifest kind of the diffused dropsy is the subcutaneous, called by the Latins *Intercus*, and by the Greeks *Ανασαρκα*, or *Λευκοφλεγματια* (s).

64. When this disease depends on the causes mentioned in sect. 12---15. the feet begin first to swell, especially in the evening, after exercise, and when the patient has stood or sat long; which swelling rises frequently to the

(s) Aretæus makes a difference between the leucophlegmatia and anasarca, but we use the words anasarca and leucophlegmatia indifferently, for they seem to be but different stages of the same disease. He says, that when the body is swelled with a thick white puit, the disease ought to be named phlegmatia, but when the flesh is dissolved into a bloody thin watery humour it ought then to be called anasarca. *Lib. ii. cap. 1.*

thighs.

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thighs.—By lying in bed the swelling becomes less, or even almost imperceptible.—The reason of these appearances may be easily understood when one considers, what was before hinted at, that as the cells in which this watery fluid is deposited, communicate with each other, so of course this fluid descends by its own weight to the inferior parts. To this if we add, that in an erect posture the high column of blood contained in the aorta, and inferior vena cava, presses upon the vessels of the lower parts, and makes the return of the blood from thence to the heart more difficult; and that under such circumstances as commonly produce the anasarca the venous system is greatly relaxed; and that, by these means, the power failing which should promote the ascent of the blood from the lower parts, it moves with more difficulty, and the thinner parts are by this additional delay forced into the smaller ramifications which empty their contents into
the

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the cellular substance. But when a person is laid horizontally the height of the column of blood in the returning veins is shortened; the blood flows with less difficulty, and the pressure being removed, the power of absorption is restored, whilst a less quantity of moisture is forced through the exhaling vessels.

65. In the progress of this disease the swelling rises to the hips, loins, and belly, extends itself to the thorax, and at length to the hands and face; so that the whole body is affected by it, the most depending parts being always the most enlarged.

66. An obstacle of any kind being once made to the return of the blood by the veins from any part of the body, that part soon becomes anasarcaous, or, as it is most commonly termed, œdematous; and the dropfical swelling extends itself gradually in proportion to the obstructing cause, tho' all
the

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the organs of the body are in a natural sound state; thus an anasarcaous swelling may be brought on the limbs by compressing the inferior vena cava or the iliac veins; or on the arms or head by compressing the superior cava. A schirrus in the arm-pit often causes the arm to appear extremely oedematous.

67. Watery tumors may be produced wherever there is a preternatural laxity of the solids, or when the circulation of the blood is obstructed in the capillary arteries: such tumors therefore are often the consequences of palsy (*t*), bruises, sprains, erysipelas, of the poison of the viper, bites of insects, &c.

68. The head and scrotum are the only two parts of the body on which, when distended with the subcutaneous

(*t*) See a dropsy from palsy, *Hoffman supplement. cent. I. obs. 97.*

dropsy,

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dropsy, authors have been pleased to bestow particular names. To the former they have given the name of hydrocephalus, and to the latter hydrocele. But in speaking of these two sorts of dropsies it is always right to add the epithets of subcutaneous or external, to distinguish them from the other kinds of dropsy to which the head and scrotum are subject, and of which there will be occasion to treat, in the following part of this essay.

69. As the water of a subcutaneous dropsy stretches the skin, presses on the blood vessels, nerves, muscles, &c. and relaxes all the parts it touches; the heat of the body, the contractile power of the muscles, and the tone of the vessels, are all thereby considerably diminished, and the skin becomes so insensible, that it has been sometimes burnt without the knowledge

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ledge of the patient (*u*), whose own weight at last becomes a burthen greater than he can support.—The vessels under the skin being by this pressure so straitned as to be incapable of transmitting their liquors to the heart, discharge them into improper places; hence are frequently produced the red spots and blotches observed on the skins of hydropick people.—The diffused water too, by pressing universally on the vessels, increases the resistances to the force of the heart, which of consequence becomes unequal to its task of propelling the blood thro'

(*u*) A labouring man who seemed to be almost drowned by water under the skin, having his thighs as thick as an ordinary man's body, being very cold in the winter lay down by the fire to warm himself, and, by accident, putting his foot against the hot coals, tho' he felt no pain, was so much burned that the water was totally evacuated in three days time thro' the aperture made by this accident; and he was so much reduced in size that his skin hung loose about him: but he recovered his health by what at first seemed to be a kind of misfortune. *Boerhaav. comment. in sect. 416. institut. med.*

the

OF THE DROPSY. 89

the body; and therefore the blood is collected mostly in the large vessels about the heart and in the lungs, where it causes anxiety, short and difficult breathing, especially when, from a little motion or exercise, the small portion which finds a passage thro' the other parts of the body, is forced to return to the heart somewhat more quickly than ordinary. — Sometimes the water distends and dilates the pores of the skin so much, that thro' them it makes its way out of the body (*w*). But if it passes thro' the vessels of the skin only, and not thro' the cuticle, it raises blisters, which being broke the waters run out plentifully (*x*).—When the circulation is wholly stopped in any part, by the pressure of the water, a mortification insues. Or, when the extravasated

(*w*) and (*x*) I have seen several instances of both; there are remarkable examples of the former in *Miscel. cur. a. n. c. dec. 2. ann. 9. obs. 136.*—*Ibid. an. 3. obs. 136.* and of the latter *ibid. dec. 2. ann. 10. obs. 34.*

liquors

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liquors become acrid or putrid they erode the fibres to which they are contiguous; and if any part of this acrimonious fluid be taken up by the absorbent vessels and mixed with the circulating fluids, it causes thirst, heat, fevers, and their numerous consequences.

70. A general anasarca never is without a collection of water in the cellular membranes surrounding the viscera; this must occasion some disorder in their functions, from whence various other symptoms arise, which shall be enumerated when we come to consider the different sorts of internal diffused dropsies.

71. As every kind of dropfy has something peculiar to itself, and probably yields more to some particular class of medicines than to others, in treating of the management of each, those medicines shall be more expressly considered whose effect may be generally

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rally depended on, in the species of dropsy then treated of, whilst the others are only casually mentioned.

72. *a.* Those corroborants or strengtheners that increase absorption when externally applied do more service in the subcutaneous dropsy than in any other kind, because they can be applied almost to the seat of the disease; and therefore friction, the stimulant fumes (*y*), aromatics (*z*), and

(*y*) R. Pulv. benzoin. q. s. vel R. thur. mastich. succin. ana p. ae. misce: fiat pulvis; paulatim carbonibus incensis, intra caminum injiciatur, et fumus excipiatur panno laneo, donec bene caleseat pannus, cuti mane et vespere affricandus.

(*z*) R. Pulv. subt. summit. absinth. unc. iv. cret alb. unc. viii. misce. Pulvere hocce aspergatur pannus, quo circumligandae sunt partes hydropicae, h. s. --- vel R. pulv. subtil. cinnamom. sesquidrach. nucis moschat. drach. ii. camphorae scrup. ii. misce. Admisceatur hicce pulvis cum gossipio, inferendo inter duplicatum linteum, ex quo conficiantur tibialia, vel manicae, funiculis adstringendae.

spirituous

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spirituous medicines (*a*), ought to be assiduously employed.

b. Bandages are extremely proper and beneficial in assisting the tone of the parts, and for preventing the influx of fluids into the cellular substance, and expelling water from them, as was before explained.

c. Diaphoreticks and sudorificks act chiefly on the vessels of the skin, and frequently produce very good effects; whether heat alone, or stimulants (*b*), or antimonial preparations

(*a*) R. Spirit. vini camphorat. unc. iv. spirit. salin. aromat. drach. i. misce. Affricetur, q. s. parti tumidae bis de die.

(*b*) R. Spirit. corn. cerv. semiunc. cujus aeger sudationi accinctus hauriat gutt. lxxx. in quovis liquore vinoso tepido, et gutt. xx. omni postea quadrante horae.—vel R. julep. e camphor. lib. sem. tinct. serpent. unc. i. misce. Propinanda est primo uncia una, et postea unc. sem. omni semihora ad tres vel quatuor vices.—vel R. Spirit. minder. unc. viii. sal. vol. c. c. gr. xl. syrup Tolutan. unc. ii. misce: hauriat unc.

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ons (c), or mercurials (d), or opium (e), or other medicines are employed for this purpose (f).

73. Either

unc. ii. statim cum in lectum se receperit, et unciam unam omni dein semihora.

(c) R. Vin. antimon. semiunc. capiat gutt. xl. in feri lactis vinos. unc. ii. et reit. dosis omni hora si ferat ventriculus.—vel R. Kerm. mineral. gr. ii. theriac. andromach. drach. i. misce pro dosi.—vel R. antimon. calcinat. ad albedinem cum aequali copia rasur. corn. cerv. gr. xxx. cap. pro dosi.—vel R. Vin. antimon. gutt. xl. tinct. thebaic. gutt. xxx. cap. dos. hujusmodi 8va quaque hora, ex quovis liquore tepido.

(d) R. Turpeth. mineral. gr. i. diascord. semidrach. ol. stil. menth. gutt. iii. misce pro dosi.—vel R. mercur. dulc. gr. iv. camphor. gr. vi. opii gr. ii. misce & cap. sudori accinctus.

(e) R. Pulv. castor. gr. xv. sal. succin. gr. v. sal. vol. c. c. gr. vi. opii crud. gr. ii. syrup. e cortice aurant. q. s. fiat bolus h. s. devorandus.—vel R. Tartar. vitriol. sal. nitri, ana scrup. iv. funde in crucibulo, pulveriz. et adde pulv. rad. ipecacuan. opii ana scrup. i. ol. stil. menthae gutt. ii. misce. Dosis est a scrup. i. ad gr. xl. This is *Dover's* powder formerly mentioned p. 68.

(f) Hot bricks applied to the feet sweated them, and cured oedematous legs remaining after

ter

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73. Either at the same time or alternately with these remedies the corroborants, diureticks, and purgatives recommended in the first part of this essay ought to be prescribed (*g*).

74. Although the remedies hitherto proposed may have been duly administered, yet the anasarca may increase, and the extravasated water remain in the cellular substance un-

ter an ague. *Miscel. cur. a. n. c. dec. 2. an. 8. obs. 141.*—The fumes of gentian, juniper berries, and vinegar, cured a dropsy. *Ibid. dec. 3. an. 9 & 10. obs. 24.*—An hydropick child was cured by sweating. *Ibid. obs. 197.*

(*g*) In the month of June, 1754, Robert Damyerin, a strong young man, was taken into St. George's hospital for an anasarca by Dr. Dawson, who ordered him dry diet, a purge of jalap and nitre twice a week, and to take in the intermediate days the squill pills and saline draughts. By the use of these medicines his swellings were all carried off in about five weeks: he made water freely and sweated often: and afterwards, by the help of some strengthening medicines, the cure was completed.

less

less drained off by some artificial opening.

α . When the cuticle is raised by a vesicatory, large quantities of water are sometimes poured out thro' the skin (*b*); but if its surface is too much exposed it is liable to gangrene; so that other expedients ought to be preferred to this method.

β . The antients burnt the skin with a hot iron, and some moderns use the potential cautery in place of it. But eschars formed by both methods will not allow the water to pass off; so that we must either wait for the slow separation of the eschar, while in the

(*b*) We find the case of a patient cured by vesicatories, applied to many different parts of the body, in *River. obs. commun. a Joco. obs. 21*.—In the year 1747 I saw a young man labouring under an anasarca, from whom all the water was drained off by blisters applied to his legs, but his legs mortifying he died.---See such another case told by *Gul. Frab. Hildan. cent. 1. obs. 49*.

mean

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mean time the disease is gaining ground, or the eschar must be cut thro' or removed, and therefore the previous burning was useless.

γ. In Galen's time punctures were more used by physicians than burning (*i*), the former in general allowing the water to run out more plentifully (*k*).

(*i*) Ἐπὶ δὲ τῶν ὑδρωπικῶν αἱ παρακεντήσεις ὀνομαζομεναι, καλῶν τῶν καύσεων ἐν ἑσσι τοῖς ιατροῖς εἰσιν. *Galen. comment. in aphor. 27. sect. vi.*

(*k*) There is the history of a man of seventy years of age, who by the assistance of the puncture with the needle lived several months, in *Willis de anasarca, pharm. ration. part. 2.* One of the servants of the Portugueze envoy to the British court would have died in a short time of a dropsy, had not the waters plentifully and constantly ouzed out at an orifice casually made just by his great toe, where he had formerly a deep rooted corn. *English translat. of Boerhaave's aphorisms, note to sect. 1242.*

δ. Most

δ. Most of the moderns follow Celsus's method (*l*), and make deep incisions into the hydropick swellings to give vent to the water (*m*).

ε. The

(*l*) " Incidendum quoque super talum, quatuor fere digitis, ex parte interiore est: quo per aliquot dies frequens humor feratur: atque ipsos tumores incidere altis plagis oportet; concutiendumque corpus est multa gestatione, atque ubi inductae vulneribus cicatrices sunt, adjiciendum exercitationibus & cibis, donec corpus ad pristinum statum revertatur."

Cels. lib. iii. cap. 21.

(*m*) A middle aged man labouring under an anasarca from hard drinking, had incisions made on the inside of his thigh, which discharged a vast quantity of water, and took three doses of a strong hydragogue purge of the juice of the common iris, at the distance of three days between each, while only a pint of liquor was allowed him a day; by which method most of the hydropick swellings subsided. He then was ordered, by way of a strengthener, some wormwood water in which a little rhubarb had been infused. The incisions were kept open, and the patient abstaining from drinking for some months was quite cured. *Lister. exercit. med.*

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e. The Egyptians are said (*n*) to have made setons in the skin, leaving the

de hydrope, ægrot. I.—In the month of April 1754, Elizabeth Davies was taken into St. George's hospital by Dr. Dawson for an universal dropsy; she told me she had been formerly hydropick, and was cured by purging. The doctor at first ordered her some doses of jalap and nitre two or three times a week, and in the intermediate days to take the squill pills; which medicines had little effect. In the beginning of May her legs were scarified, and she was ordered dry diet and the bitter scorbutick ale, and to continue the use of the squill pills. In a little time most of the extravasated water was evacuated by the scarifications. By continuing this regimen, and taking now and then a purge, and once a vomit, all her dropical swellings were gone by the month of July, when she was ordered the steel electuary and cold bath. Being to all appearance cured of her dropsy she was going to be dismissed the hospital, when she was suddenly seized with a fever and died the third day. Upon opening her body no visible cause could be found to which either her dropsy or fever could be attributed.—A lady labouring under both an anasarca and ascites had a small incision made in each leg, thro' which about a gallon of water was discharged every day for ten

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the cord in the wound to prevent its healing, and thro' this drain the water flowed night and day. Others put pease or some such bodies in the incisions to keep them open; but a gangrene is to be feared from these extraneous bodies, as the circulation in such weak vessels is easily stopt by pressure or irritation.

75. Some

ten days together; her legs were fomented often with warm fomentations; she drank twice a day a cupful of a bitter infusion, and at night a diuretick draught made with oxymel of squills, cinnamon water, and spirit of lavender; and as her strength returned she took some purgatives. By this treatment she was restored to health, and lived five years afterwards without a relapse. *Mead. mon. med. cap. viii.*—Mr. Cowper is said to have cured a great many by making an incision between the toes. *English translat. of Boerhaav. aphor. note to sect. 1242.*

(n) “ Veteres Ægyptii homines hydropicos
 “ pharmacis quidem non vexabant; introduce-
 “ bant autem per cutem acus fila trahentes, re-
 “ linquebant in vulnere fila, ne coalesceret, ita
 “ aqua continuo fluxu, diu noctuque effluebat
 “ omnis.” *Boerhaav. comment. in instit. med. sect. 416. edit. ab Haller.*—Where Boerhaave

75. Some cautions ought to be observed in making these incisions.

a. They ought always to be in the lower and most depending swelled part, that the water may have a free exit.

b. Large vessels, nerves, tendons, and such other organs are not to be hurt, if it can be avoided, in performing any of these operations.

c. The discharge of water must be regulated according to the strength of the patient, lest in attempting to cure we destroy him (*o*); and therefore he is

met with this account of the Egyptians I cannot find; but one may see this operation described, and cases of the ascites where it was unsuccessfully put in practice, related by Decker. *Exercit. practic. p. 289.*

(*o*) “*Ægrum igitur quovis modo sustinere
“ oportet, ne curatio mortem acceleret; id
“ quod mihi videre contigit, semel quidem mea
“ ipsius*

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is by all means to be supported, and if the evacuation be too large, it must be moderated by proper plaisters and bandages.

d. Hippocrates long ago observed, that the sores of hydropick people were not easily cured (*p*); and therefore advises that they should be anointed with a warm medicine (*q*); and lest the skin near to such sores, being perpetually wet with the warm sharp humours flowing from them, inflame, become painful, and in danger of producing a gangrene, it ought

“ ipsius non satis caute ægroti robur æstimantis,
“ atque iterum chirurgi temerarii culpa.” *Mead.*
mon. med. cap. viii.

(*p*) Τοῖσιν ὑδρωπικοῖσι τὰ γινόμενα ἑλκῆα ἐν τῷ σώματι ὁ ῥηιδίως ὑγιαίνεται. *Hippoc. aphor. sect. vi. 8.*

(*q*) Εξάγειν δὲ ἐν μέρει ἐκάστω τῆς σωματος ἢ πυρίνῃ χρῆσασθαι, ἢ αἰεὶ τὸ ἐξοιγόμενον χρίειν δερμαντηρίῳ φαρμάκῳ. *Hippoc. de locis in homine, sect. 36.*

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to be protected by some defensive ointment (*r*).

e. If the fores of a dropical patient gangrene, they must be treated with medicines proper for this last named disease (*s*).

Of the SCROTAL ANASARCA.

76. The external hydrocele or scrotal anasarca, which is often accompanied with a very large watery swelling of the subcutaneous cellular membranes of the penis, increases sometimes to a monstrous size, on account of the great quantity of loose cellular

(*r*) R. Unguent. alb. unc. i. liquecat leni calore, & ab igne remoto, adde balsam. oppodeltoch. drach. i. misce.—vel R. ung. e lapide calaminari sesquiunc. balsam. peruvian. drach. iii. camphor. in spirit. vini solut. drach. ii. misce
s. a. exsiccatæ cuti applicetur linimentum super linteam extensum, vel manu cuti affricetur.

(*s*) See the good effects of the peruvian bark in such a case. *Med. essays*, vol. iv. art. 10. obs. 2.

mem-

OF THE DROPSY. 103

membranes in the scrotum; but this disease has little else than the name peculiar to it (*t*), except that when an attempt is made to cure it by incisions,

(*t*) A gentleman by a fall bruised one of his testicles, which remained larger than the other without giving him any trouble for about twenty years, when he found his scrotum begin to swell; it continued to increase till it was as large as a child's head, and so firm that it was difficult to know what was contained within. It withstood both external and internal medicines, till a puncture was made into it with a lancet, and a small quantity of water was discharged; we could then easily feel a fluctuation of liquor; and tho' but a small quantity of the water was let out, by applying to the scrotum a powder of chalk and wormwood, and giving a few purgatives, the rest of the swelling was dissolved, and a cure completed.---A soldier in the campaign 1745, came to Dr. Grainger with a scrotal anasarca, which was occasioned by a blow on the scrotum the day before. He was immediately bled, and a discussion of the tumor attempted with fomentations, by which the inflammation was removed, but the swelling still remained. The doctor ordered a blister to be applied to the whole scrotum, which discharging plentifully, in a few days happily effected a cure. *Douglas's treatise on hydrocele, chap. i. p. 18.*

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they ought to be made on each side of the raphe, otherwise the water will not be evacuated from the lower part of the scrotum, on the side where there are no incisions; because, tho' there is always a free communication among the cellular membranes of the scrotum some way below the penis, yet, in several bodies there is not such a communication at its lower part (*u*).

If this disease is the consequence of an ascites, or an anasarca, its radical cure must be the removal of these its causes; soon after which it commonly goes off of itself, or with very little assistance, which is no other than has been prescribed for the general anasarca.

There is indeed a bastard kind of it, that, to wit, which is caused by urine

(*u*) See the description of the structure of the scrotum in *medical essays*, vol. v. art. 20. sect. 30.

escaping

escaping thro' the substance of the urethra, and diffusing itself among the cellular membranes of the scrotum, where it soon turns acrid, and irritates or erodes the cells containing it (*w*).

α. In this case numerous incisions are to be made into the scrotum, for giving a free passage to the urine, which might otherwise create wide extended sinous ulcers and fistulæ.

β. Whatever obstacle there is, to the passage of the urine thro' the urethra, it ought to be removed.

γ. The urine is always to be let out of the bladder thro' a catheter introduced into it, till the preternatural opening in the urethra is closed up.

(*w*) See examples of this in *Miscel. cur. a. n. c. dec. 3. an. 3. obs. 68.* and in *Medical essays, vol. v. art. 22.*

δ. If these two last methods cannot be executed, an incision ought to be made in the urethra, between the part which is blocked up and the bladder, that the urine may flow out of the wound, and not be dispersed thro' the cellular substance of the scrotum and neighbouring parts.

EXTERNAL HYDROCEPHALUS.

77. The external hydrocephalus has nothing further peculiar to it, than that the water cannot easily descend from the integuments of the cranium to the inferior parts, by reason of their close connection to the ears, muscles, and their aponeurosis (x).

78. In the cure great benefit arises from pressure by bandages, which

(x) *Hieron. Fabric. ab Aquapend.* says he has seen the skin of the head not only separated by water from the pericranium, but also raised by it into a large tumor. *Operat. chirurg. de hydrocephal.*

could

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could be of little or no service in the external hydrocele; the medicines are in other respects the same as were prescribed for the universal anasarca (y).

INTERNAL DIFFUSED DROPSIES.

79. Water in the cellular membranes of the more internal organs is collected in the spermatick chord, in the mesentery; in the cellular substance of the stomach, intestines, mediastinum, lungs, and other viscera of the abdomen and thorax; each of

(y) See in *Burnet's medicinæ thesaurus*, from *Amatus Lusitanus*, a case of a boy who was cured of a hydrocephalus by anointing the parts with an ointment made of camomile, wormwood, and butter. *Lib. viii. sect. 11.*---One Abraham Cles, by riding in cold weather, had his head distended with a watery swelling to a monstrous size. He was cured by frictions, warm fomentations, and a bolus, which both purged and vomited him. *Binninger. obs. cent. 1. obs. 94.*---An old man was cured of a hydrocephalus by an issue made with the actual cautery. *Piso. obs. part. 1. sect. 2.*

which.

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which we shall now consider in the order they are named.

DIFFUSED DROPSY of the SPERMATICK CHORD.

80. When there is a diffused drop-
sy of the spermatick chord, a soft
deep seated oblong tumor is there to
be felt, which is thickest and most
yielding to the finger at the lower part
near the testicle while the patient sits
or stands; but when he lies horizon-
tally the swelling becomes less, and
is more of a cylindrical figure.—When
the scrotum is raised up to the belly
the tumor almost disappears, but soon
returns when the person is in an erect
posture.

81. The causes of this hydrocele
are, 1. A descent of a fluid from the
cellular membranes behind the peri-
toneum.----2. Weakness of the sper-
matick chord.----3. A compression or
straitning of the spermatick vein.

82. There

82. There is nothing particular in the cure of this disease, except that the scrotum must be supported with a suspensory bandage; and that we must be very cautious in making incisions for fear of wounding the spermatick vessels.

DROPSY of the MESENTERY.

83. The mesentery and cellular parts of the stomach, intestines, and other abdominal viscera, are always hydropical in the universal anasarca, and often in the ascites.--If therefore the passage of the blood thro' the vena portarum and its branches is obstructed or retarded by any cause, if the alimentary canal or mesentery is lax and weak, or the blood dissolved and watery, and a greater quantity of its finer parts directed to these organs than is discharged by their outlets, it is then collected in too great a quantity in the cellular substance, increases
the

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the bulk and diminishes the strength of the bowels; at the same time the exhaling arteries being relaxed and weakened, allow a greater quantity of liquors to pass thro' them than is absorbed by the weak veins; and on all these accounts the appetite declines, the food is imperfectly digested, and the patient is attacked with a diarrhea, lientery, or other consequent disorders.

84. It is very difficult to discover this species of diffused dropfy; for when it depends on an anasarca or ascites these diseases conceal it; and when alone it resembles other distempers of the belly so much that it may be mistaken for them. But if the causes just now mentioned have been observed, and afterwards a soft, equal, gradual, increasing tumor of the abdomen appears, one may suspect it to depend on this disorder.

85. From

85. From the histories of people who had first a general anasarca, and then are said to have become ascitical, and were cured by the water running all out at an artificial issue (z), I think it evident, that in those cases the swelling of the belly depended at first on a collection of water in the cellular membranes of the viscera, and that the ascites depended on this cause; for when the water of the cellular membranes was evacuated, that which remained in the cavity of the abdomen was soon taken up by the absorbent veins. Unless an ascites depends on such an anasarcaous dropsy, the water of the abdomen will scarce ever

(z) *Mead* relates an example of an ascites cured by an external drain; but as the patient used diureticks and purgatives, the cure could not be attributed solely to the drain. *Monit. med. cap. 8.*---The water in the belly of an ascitical person is said to have all run off thro' the pores of the skin and cuticle of the hypochondria. *Miscel. cur. a. n. c. dec. 2. an. 1. obs. 79.*

be.

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be evacuated by any scarifications of the skin, or other external issues (a).

Is not Hippocrates's axiom (b) of a leucophlegmatia being cured by a supervening diarrhea, more applicable to this species of dropsy than to any other?

86. Diaphoreticks and diureticks are serviceable here as well as in other dropsies; but better effects may be expected from corroborants and purgatives, which act almost upon the seat of the disease itself, than where they cannot be so nearly applied to

(a) A man who had both an anasarca and ascites was freed of the anasarca by making incisions into the scrotum, but the ascites did not diminish. *Misc. cur. a. n. c. dec. 2. ann. 10. obs. 34.*--It is a general remark, that scarifications and issues do no good in the ascites, unless it be complicated with anasarcaous swellings.

(b) Ἦν ὑπο λευκοῦ φλέγματος ἐχομένῳ διαρροία ἐπιγενηται ἰσχυρὴ λύει τὴν νόσον. *Hippoc. aphor. 29. sect. 7.*

the

OF THE DROPSY. 113.

the morbid part; and abstinence from drink, which is beneficial to all hydropick patients, is altogether necessary when the alimentary canal is overcharged with water.

DROPSY of the MEDIASTINUM.

87. Water in the mediastinum causes an uneasy sensation of weight in the middle of the breast, but which strictly speaking does not deserve the name of pain. This weight commonly changes place according to the situation of the body; it is felt near to the diaphragm in the erect posture; it is towards the spine when the patient lies on his back; it oppresses the forepart of the breast when he is prone; it reclines to the side on which he rests.—As the œsophagus, trachea, and pericardium are placed in the middle of the cellular substance, in which the water is contained, the action of these

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these organs must be affected by this disease (c).

88. This species of the dropsy can scarce be distinguished from several other diseases of the breast, except by the weight changing place as above described; but as it always attends the universal anasarca it increases the symptoms thereof, and both have the same common remedies.

(c) *Mead* says he has seen water collected in the mediastinum. *Monit. med. cap. viii.*—A woman, upon catching cold, was seized suddenly with a dyspnea, weight, and pain of the breast, and a cough, by which she spit up a phlegm tinged with blood: these symptoms were at first relieved by bleeding and other remedies, but on the twenty-first day after she died suddenly. Her body was opened, and the mediastinum found full of a bloody coloured serum, which by its pressure on the trachea and lungs seemed to be the cause of the patient's death: the lungs were stuffed with a matter like pus, and the left ovary was about the size of a small egg and of a blackish colour. *River. obs. cent. i. obs. 60.*

89. If

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89. If this disease be known, and does not yield to strengthening medicines and the evacuations proposed in the former part of this treatise, there is no other way of draining off the water than by opening the sternum with a trepan, which is too dangerous an operation to be undertaken in a disease of whose existence we can have so little certainty.

DROPSY of the LUNGS.

90. When the lungs are distended with air one would think their whole cellular substance had plain openings into the bronchi or branches of the trachea, and therefore that all the fluid which once entered the cells would be readily thrown up by coughing; but in the kind of asthma commonly called humoral, one would almost believe that the passages from the cells into the bronchi were some how or other shut up, for the patients have
for

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for a considerable time a laborious suffocating breathing, without bringing up any thing, and then cough up large quantities of slimy water: may not this therefore be esteemed a species of the diffused dropsy? But however this be, it is certain that the humoral asthma is often the occasion of the anasarca (*d*), and is cured by the remedies that remove this disorder, of which some account has already been given.

(*d*) I have seen one or two such cases; and there is a very remarkable one inserted in the *Medical essays*, vol. iii. art. 25. of a gentleman rendered anasarcaus by an infarction of the lungs, whose pulse was no where to be felt till after the operation of some purgatives, which proved his cure in three several attacks, after which he lived many years in good health.

PART

PART II.

CHAP. II.

Of the INCYSTED DROPSY.

91. **T**HE hydropick cyfts or bags either contain water alone or with it some other bodies; the former may be called simple cyfts, and the name of compound may be applied to the latter.

92. The simple cyfts either—I. retain nearly their natural structure; or —2. they are so much changed by the disease that, at first view, they would seem to owe their existence to it.

NATURAL SIMPLE CYSTS.

93. There are only two examples of simple hydropical cyfts which retain

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tain their natural structure, (to wit) the womb and its tubes. The distention indeed of the urinary and gall bladders by their proper liquors resembles it greatly; but as they contain liquors very different from serum or lymph, the disease ought not to be ranked with the dropsy.

DROPSY of the UTERUS.

94. The dropsy of the uterus may be occasioned by any thing that obstructs the passage from it, and causes it to fill gradually with the thin watery liquors which naturally distil into its cavity (*e*); or hydatides may be formed

(*e*) A woman for sometime voided every month from the uterus as much citron coloured water as filled six or eight basons, after which her menses flowed regularly. *Fernel. in patholog. lib. vi. cap. xv.*—*Vesalius* tells us he found 138 lib. of water in the womb of a woman; its os internum was wonderfully hardened, and the right ovarium was composed of nine or ten bags as large as goose or ostrich-eggs. *Anat. lib. v. cap.*

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formed in it, either in its own cellular substance, or in remains of placenta (*f*). The progress of this disease

cap. 9.---*Mauriceau* says that pregnancy is often complicated with a kind of dropsy of the womb; and gives several instances of women who voided 1, 2, 3, 4, or more pints of water at different stages of their pregnancy, without miscarriage, and having afterwards carried their children to the ordinary time, discharged in labour the usual quantity of waters. The first water voided he imagines to have been a kind of hydrops uteri; see his *Traité des malad. des femmes grosses*, lib. i. chap. 21. and his observations 7, 19, 60, 113, 186, 219, 361, 611, 688.

A lady imagining herself eight months gone with child, voided a great quantity of water, and was cured. *Accouchmens de la Motte*, obs. 16.---A woman died of a dropsy; when her body was opened, her womb was found full of water, and so large that a boy of ten years of age could easily have been contained in it. The orifice was quite shut up by a round glandular tumor, which seemed divided by zones almost like an orange. *Bonet. sepulch. anat. lib. iii. sect. 21. obs. 55.*

(*f*) Two bags full of water were taken out of a woman's womb, the orifice of which had degenerated into an impervious solid ligament,

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ease is very like to that of pregnancy, so that if the patient is a young woman

ment, and on its sides were a number of fleshy knobs. *Miscel. cur. a. n. c. dec. 2. ann. 5. obs. 50 & 67.*---A woman voided a great number of hydatides from her womb. *Philos. transf. num. 460. sect. II.*---A woman who believed herself six months gone with child, voided a sort of mole that weighed 2 lb. composed of many hundreds of small hydatides, which were fastned together by an infinite number of small filaments, and had for a base a sort of confused fleshy substance; after which she recovered in a short time, and soon became pregnant. *Fran. Mauriceau. obs. sur la grosseſſe, obs. 377.*---A woman about twenty-seven years of age, who imagined herself seven months gone with child, was seized with a flooding, and called Mr. Crawford, who upon introducing his hand into the vagina felt something which he took for clotted blood and brought it away. Upon examining it, he found it to be a large bundle of hydatides connected one with another by an infinite number of small filaments. The bladders contained a clear lymph, and were of different sizes, some as large as one's thumb, and others as small as a pin's head. The woman's pains continuing she evacuated as many more hydatides as filled a quart basin, after which she recovered gradually. *Dr. Smellie's cases, collect.*

viii.

cluster of grapes

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man it may at first be mistaken for it, and the truth not certainly known till the term of gestation is elapsed, the motion of the air in the intestines often resembling the stirrings of a child.

95. The finger or catheter introduced into the os uteri without much violence or lacerating the parts, puts an end to the disease very speedily by letting out the water. But if a passage for it cannot be made in this way, the constricted parts are to be relaxed by warm baths and fomentations (g), previous to the attempt of introducing such instruments. — Vomits may be given to try if the obstructed orifice

viii. p. 99.---See in *Ruyssch thes.* x. num. 63, 64, & 65. the account of placentae composed of hydatides;---and of one whose half was only degenerated into hydatides. *ibid.* obs. 33.---Histories of bundles of hydatides evacuated, which had membranes attached to them like to those of the secundines. *Stalpart vander Wiel.* obs. cent. i. obs. 70.

(g) We already mentioned the case of the Countess of Kewlewich, who was cured of a dropsy of the uterus by warm baths. *Miscel. curios. dec.* 3. ann. 5 & 6. obs. 162.

G

can

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can be forced open by the shock which the uterus sustains during their operation (*b*); and they will probably have more effect if the patient vomit in a warm bath. If these methods prove ineffectual, and the patient's life appears to be in danger from the quantity or acrimony of the water, the fluctuation of which is plainly felt at the under part of the womb, a trocar must be pushed into its cavity; the water being evacuated through the cannula thereof, a new attempt of introducing a finger or a catheter into the os uteri is to be made; if it succeed, a sponge-tent, with a pretty long thread tied to it must be put in, to keep the orifice open, and to permit the water to drain away. In the mean time the obstruction is to be removed by a suitable diet, by attenuating resolvent me-

(*b*) A woman cured of a dropsy of the womb by bruising her belly in a fall. *Miscel. cur. a. n. c. dec. 3. ann. 5 & 6. obs. 57.*---A lady cured of a dropsy of the womb or fallopian tube by a cough, for which some aperient medicines had been given. *Zodaic. med. Gall. ann. 2. Feb. obs. 12.*

dicines

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dicines (*i*), and by strengthening, or de-
cative (*k*) or relaxing (*l*) topical appli-
cations, as the case requires.

If the obstruction depends upon a tu-
mor that will not resolve, it ought, if
possible, to be taken away by manual
operation.

DROPSY of the FALLOPIAN TUBES.

96. Water is sometimes collected in
the fallopian tubes (*m*) by the same
causes

(*i*) R. Pil. mercur. gr. vi. divid. in pil. ii.
dosis hujusmodi mane & vesperi sumenda.—R.
Sapon. venet. gum ammoniac. ana drach. i. rad.
scillæ exsiccat. scrupul. i. syrup ex allio q. s. ut
fiant pil. xxx. cap. v. bis die.—R. Pil. gummos.
scrup. i. sal. mart. gr. ii. misce & divid. in pil.
v. repetatur. dosis mane & vesperi.

(*k*) R. Aq. calc. simp. lib. ii. gelat. amyl.
unc. ii. m. injiciat. lib. ss. in uterum ter die.
—vel R. Balsam. Peruv. drach. ii. vitell. ovi
unius, misce optime & adde lact. vaccin. recent.
lib. i. ad eundem usum.—vel R. Vitriol. alb.
gr. viii. solv. in aq. fontan. unc. viii. & adde
mell. rosar. unc. ii. injiciatur in uterum.

(*l*) R. Decoct. commun. pro clyster. unc. x.
tepidè in uterum injiciendas ter vel quater die.
—vel R. Ol. olivar. unc. viii. tepidè injiciendas
sæpius.

G 2

(*m*) One

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causes as in the uterus. In small quantities it occasions little inconvenience; but when the collection grows large, it brings on a number of bad symptoms, by its pressure on the neighbouring organs. Before this happens it feels like a deep-seated tumor, the nature of which cannot well be determined; but when it becomes so large as to distend the abdomen, a fluctuation of liquors is felt in a full-distended deep-seated sac. It is almost impossible to determine the precise seat

(*m*) One Catherine Bonevalia being in a bad state of health from a suppression of the menses, her belly began to swell, and increased so much as to make her life quite miserable for nine years that she lived. When she died her body was opened. The omentum was found quite putrid, the liver pale, the spleen small, no water in the cavity of the abdomen, but about 9 lib. of water and pus, mixed with hydatides, in each of the tubes of the womb; there was some hydatides below the outer coat of the uterus, but no liquor in its cavity. *Tulp. obs. lib. iv. obs. 45.*—See another case of a dropsy of the tubes, in *Bonet. sepulch. anat. lib. iii. sect. 21. obs. 39. p. 491.*—The right fallopian tube contained twelve pounds of water. *Zodiac med. gall. an. I. epist. vi. obs. 9.*

of

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of the disease till after death; for the ovarium being very subject to swellings, it may naturally be mistaken for a tumefaction of some of its vesicles.

The cure may be expected chiefly from the methods to be proposed under β and γ of sect 101. Could we determine the seat of the disease we might attempt to open the orifice of the tube into the womb by warm baths and emeticks, as mentioned in sect. 95: for in case the obstruction depended upon stricture or viscid matter in the tube, we might be so lucky as to succeed.

PRETERNATURAL SIMPLE CYSTS.

97. The simple cysts that seem to be formed by watery collections, were, in their sound state, all of them sacs of the cellular substance described in sect. 58 and 59. For when the passages from one, two, or more of them into the neighbouring cells are stopped, their sides being distended the

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membranes of the several surrounding cells are brought and pressed together, so as to form a firm membranous sac; the more such a sac is distended, the more membranes are compacted together; and the longer they continue in this state the greater thickness and firmness do they acquire. This is the reason why the cysts of such sorts of tumors are generally thick in proportion to their size and continuance (n).

98. The

(n) What is here said concerning the formation of the hydatides or vesicles full of water, will, I believe, be granted in relation to the thick firm ones placed under the skin; but different opinions have been formed about those that are often seen upon the bowels, or found floating in liquors within them.

Some have imagined these bodies to be distended lymphatick vessels; but I have already shewn the mistake of this opinion in sect. 16, note 2.

Ruyfch's opinion of blood-vessels degenerating into hydatides, is what I can form no idea of; altho' I can easily see, how hydatides, when once formed, should by their pressure on the neighbouring vessels prevent liquors from passing through them, and how, if this pressure continue long, that their sides may grow together, and the vessels become impervious. See *Ruyfch. advers. anat. dec. 2. p. 24. and thes. I. a. 2. 11, 12.*

Others

98. The vessels of these cysts being constantly distended by the inclosed liquor

Others have imagined, that the coats of these hydatides were formed by particles of viscid extravasated liquors attracting one another, and forming themselves into pellicles round the hydropick waters. It cannot be denied that such viscid liquors are capable of being formed into membranes; but the difficulty is to conceive how such a pellicle should form itself without any attachment to the neighbouring parts.

Others have been of opinion, that all those vesicles or sacs are formed in the cellular membranes in the same manner as we have accounted for them in sect. 97. and either remain fixed to the part where they originally grew, or are afterwards separated from their attachments. The immense distensibility of the cellular membrane, the easy separation of its parts, its evident formation into sacs in all incysted tumors, and its membranes not having ramifying vessels proper to them, leave no doubt but that this is the case with those hydatides that are found attached to any of the viscera, or any other part of the body. Nor is the objection of their pellicles melting down into a liquor, conclusive againk this hypothesis; for we see the cellular membranes every day melted down in suppurations; and, if Haller's and Kraaw's account of these membranes, being originally a glewy matter, be true, we shall be the less surpris'd at seeing them melt down in milder liquors.

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liquor have, according to the general rule mentioned in sect. 36 I. very little power

This melting down of the cellular membranes, makes it very easy to account for those hydatides that are found floating in liquors; for if hydatides are once formed any where in the body, a consequent suppuration may detach them by dissolving the neighbouring cellular membranes; nay acrid, corroding, macerating waters may easily produce the same effect; and in almost all the observations concerning loose hydatides, we find that either there has been a suppuration, or the hydropick waters have been very acrid. Indeed, in some accounts of hydatides in the uterus, we do not find it said either that the waters were acrid, or that there was any suppuration; but might not these hydatides have been originally the cells of a placenta, which after being separated hath lain in the womb, and fallen to pieces by long maceration in the waters. The observations given by Ruysch of placentæ composed of such hydatides, and those of Mauriceau shewing that a hydrops uteri is often complicated with pregnancy, make this conjecture not improbable.

It has been thought difficult on this theory to give a reason why these hydatides seem sometimes quite inorganic, and to have no vessels at all, while at other times vessels are seen distributed regularly through their coats: but I think
the

power of absorption, and what they do imbibe consists only of the thinnest parts of the fluids, on which account what remains becomes sometimes of a thicker and more viscid consistence.

99. Most of the hydropick cysts near the surface of the body are called hydatides; such as are formed near the tendons are commonly named ganglions; those placed on the trachea have the name of bronchoceles (o); and those that are near to the

the consideration of the structure of the cellular membrane, together, with the manner in which we have alledged these hydatides to be formed, account clearly for these appearances. For when only a few membranes are distended, where no vessels, so large as to be discerned by the eye, run in their interstices, there no vessels can be seen; but where a number of membranes, that have considerable vessels running between them, are pressed together, there an organic structure must plainly appear.

(o) The watery bronchocele does not occur so often in this country as in some others; it is said to be a very common disease among the

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the glans penis are known by the name of crystallines; but none of them have any thing peculiar except their situation. Nor does the nature of the internal hydatides differ from that of the external, tho' they have different names applied to them, according to the organs in or upon which they are situated.

But as, on account of the various situation of hydatides, there are different remarks to be made concerning the symptoms and method of treating many of them, it is necessary to consider each sort separately.

100. Hydatides are what surgeons call circumscribed tumors, i. e. their extent can be exactly determined; they yield to pressure, but when it is removed they return to their former

Swiss, and other inhabitants of the Alps. *English translation of Boerhaave's aphor. note to sect.*
1221.

shape;

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shape; the fingers moved alternately on them feel a fluctuation of their liquor, but when they are deep-seated this is generally very indistinct and obscure; they seldom are hurtful, except by the pressure they make on the neighbouring organs, which are thereby hindered in the regular performance of their functions. The fluid within them having no communication with the external air, is not apt to become so acrid as to destroy the bag in which it is contained, and being in itself inert and watery, the little of it that is absorbed communicates no bad quality to the mass of blood.

101. Hydatides are scarce ever removed by any internal medicines, or by mild external applications: they have been sometimes discoloured by strong pressure or friction, by the frequent fall of water from a considerable height upon them, or by episticks

of Lectures

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sticks (*p*) applied to the teguments covering them; but the most certain cure is by some of the following chyrurgical operations.

α. By extirpating the cyst. In this operation surgeons commonly put themselves to much unnecessary trouble by endeavouring to preserve the bag entire; for there is less to cut and more room for doing it, when after laying bare the external surface of the tumor, the cyst is opened and the water let out. After taking the cyst away in this manner, the wound is to be cured in the common method (*q*).

(*p*) R. Acet. fort. calefact. $\mathfrak{c}$. s. eo madefacta spongia tumori imponatur.---R. semin. sinap. triti micæ panis ana p. æ. acet. opt. q. s. ut fiat sinapismus hydatidi applicandus.---R. emplastr. commun. cum gummi drach ii. emplastr. vesicat. drach. ii. liquecant simul leni igne, extend. ad alutam & tumori applica.

(*q*) Boerhaave saw a bronchocele which reached from the os hyoides to the acromion of the scapula, cured by extirpation. *Van Sweiten. comment. in aphor. sect. 792.*

℞. If

β. If the extirpation of the cyst seems dangerous, because of its situation in the neighbourhood of large arteries, veins, nerves, tendons, &c. the external part only of the cyst may be cut away, or it may be opened by a large incision; and the growth of flesh from its external part be procured, either by numerous incisions made on it, or by escharotick, eroding, stimulating applications, which, by exciting inflammation, increase suppuration, and thereby promote the growth of flesh to fill up the cavity (r).

γ. If

(r) The sac of a hydatide in the spermatick chord being laid open, a large quantity of water was evacuated, and the wound dressed with dry lint; some days after, as the scrotum and bottom of the wound felt callous, red precipitate was put into the sac, and caustick was applied to the external wound, till all the hardness was carried off, and a good suppuration came on, when granulating flesh arising the wound soon healed, and the patient recovered, and has been since,

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γ. If neither of the above-mentioned operations can be performed, or the patient will not submit to them, a puncture may be made in the sac with a lancet or trochar, in order to let out the liquor contained in it; but if the small orifice heals, a return of the tumor may be soon expected by a new supply of water: for preventing which it is adviseable, 1. To preserve the orifice open, that the water may run out as fast as it collects, and by this means the sac will be at liberty to contract itself, so as at last to leave no cavity at all, or a very

since, for several years, without the least symptom of an hydrocele. *Medical essays, vol. v. art. 22.*---Another hydrocele of the same kind was cured by exciting an inflammation by means of a pipe introduced into the sac at an orifice made with a lancet. *Ibid.*---*Schenkius* cured a long watery tumor that hung down from a girl's throat by laying it open. *Obs. lib. iii. de hydroce, obs. v.*---A bronchocele was cured by running a red-hot iron into it. *Zodiac. med. Gall. ann. 2. Febr. obs. ii.*

small

small one (*s*).—2. To inject some astringent liquor that may contract the orifices of the exhalant arteries.—3. To introduce some hard (*t*) or stimulating sub-

(*s*) An incysted dropfy of the abdomen was cured by making an incision into it, and keeping the orifice open for almost two years, in which time a tumor which gave rise to the disease was melted down, and the cyst quite filled up. *Memoir. de l'acad. de chirurgie, vol. ii. p. 442.*---Two watery tumors of the face cured by keeping the orifice of each open. *Medic. essays, vol. v. art. 30. hist. 2 & 3.*

(*t*) See several examples of hydroceles cured by raising inflammation, in *Medical essays, vol. v. art. 22.*---The following case I saw myself: A young gentleman having the sac of an hydrocele, where the water was collected between the tunica vaginalis and testicle, laid open by incision, the wound seemed to heal very favourably, and was quite cicatrised in a fortnight's time, except a little hole through which the gentleman observed that some water continued to ouze out, and putting a probe into it, he found that there was likely to be a new collection of water formed; upon which, without consulting any body, he put a small tent made of a twisted wax thread into this orifice, to prevent its shutting up entirely, and went immediately to bed; having slept

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substance into the cyst, whereby an inflammation may be raised, a suppuration ensue, and the growth of flesh be promoted, either to fill up the cavity, or to make its sides grow together.

δ. Some writers have proposed to put a seton through the sac, that the water may run off continually thro' the orifices (*u*); but the event of this method is very uncertain.

ε. Another method recommended in former days was to burst the cyst with the stroke of a mallet: but this

slept some hours he awaked with a very sharp pain and inflammation in the testicle, which brought on a smart fever that required very plentiful bleeding before it could be removed. This, however, was succeeded by a mild suppuration, and a complete cure was made, the cavity soon filling up and healing firmly.

(*u*) We mentioned formerly two examples where this method was unsuccessfully put in practice to draw off the water in the ascites, from *Decker's Exercit. praët. circa purgantia*, p. 289.
cannot

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cannot be done except when the hydatide is supported by a firm bone; and at any rate such an operation bruises the parts too much, and must be often unsuccessful, for which reasons it is now laid aside (*w*).

If by any of these operations the pressure made on the surrounding parts by hydatides be suddenly taken away, and any of the bad consequences mentioned in sect. 48. are likely to ensue, we must endeavour to prevent them by the methods proposed in sect. 49.

Of the HYDROGLOSSUM.

102. A watery tumor under the tongue may be called Hydrogloss-

(*w*) A hydrocele cured by a blow on the scrotum against the saddle. *Med. essays, vol. v. art. 22.*---We already mentioned a dropsy of the womb being cured by a bruise from a fall. *Miscel. curios. a. n. c. dec. 3. an. 5 & 6. obs. 57.*

sum :

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sum (x): whether this sort of tumor be owing to a distention of the duct of the inferior maxillary gland; or be a sac formed in the cellular substance by the spittle escaping from an opening of that duct, or some of its small branches; or an hydatide from any other cause, I cannot determine from the histories of this disease that have occurred to me; none of them who have seen it having dissected any person who died with it upon them.

103. The stretching of the parts under the tongue makes such patients very uneasy, causes a more than ordinary flow of spittle into the mouth, and renders deglutition difficult. The softness and sensible fluctuation shew a liquor to be contained, and the want of previous inflammation prevents its being mistaken for a collection of pus.

(x) See such tumors described under the names of βαρπαχος, rana, ranula, and ranunculus, in *Albucasis*, *Rhasis*, *Dodoneus*, and others.

104. If

104. If the tumor is small the diffuſion of it may be attempted by purgatives and the application of ſtimulant and aſtringent medicines (y).

105. If this method does not ſucceed, or the tumor is large, it muſt be opened to let out the watery or viſcid liquor (z), in doing which care muſt

(y) R. Cort. granat. herb. hyſſop. ſal. marin. ana drach. ii. miſce, fiat pulvis tumori applicandus—vel R. Flor. balauſt. alumin. gall. ana unc. ſs. coque ex aq. fontan. lib. i. ſs. ad lib. i. colatura pro lotionē uſurpetur. *Forreſtus* ſays he has cured ſeveral with ſuch medicines, *lib.* 14. *obſ.* 29.

(z) Van Swieten was called to ſee a woman in Rotterdam, who, about nine weeks before, had accidentally bit her tongue; a tumor began ſoon after to appear below it, between its root and the dentes incifoſes, and increaſed to ſuch a bulk as almoſt to fill her mouth and prevent deglutition. Both external and internal medicines had been tried without giving any relief. He immediately cauſed the tumor to be opened, which diſcharged a great quantity of a pellucid tough liquor, and ordered her to keep an aſtringent

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must be taken not to wound the vessels situated below the tongue.—After the aperture is made a finger should be pressed along the course of the sub-maxillary duct, to thrust out any substance which may have stopped the spittle in it; and the fac is afterwards to be washed with mild detergents and astringents (*a*), taking care to keep the orifice of the incision open, by putting a probe, or some such substance, frequently into it.

gent fomentation in her mouth for some days, which completed a cure in a short time. *Comment. in sect. 796. vol. ii. p. 641.*—My father met with two such cases; and Mr. Monro, surgeon to Lord Hume's regiment, met lately with one of the same kind; all which they cured much in the same way, but could not determine either the seat or the cause of the disease.

(*a*) R. spirit. vini Gallici unc. i. aq. calcis unc. iv. mel. rosar. sesquiunc. misce: vel R. alumin. scrup. i. solv. in aq. rosar. unc. iii. syr. tolut. unc. i. misce.

HYDRO-

HYDROCELE in the SPERMATICK
CHORD.

106. An hydatide in the spermatick chord, whether it be formed in the common way of other hydatides (*b*), or its sac be part of the peritoneum remaining after a hernia has been reduced, the sides of the upper part of which have grown together (*c*), is known by the marks mentioned above in sect. 100. and may be distinguished from the collection of water between the coats of the testicle, by the testicles being still felt at the lower part of it; whereas, in the latter hydrocele, the testicle floating in the surrounding water cannot be distinctly perceived.

(*b*) See such cases in *Garengeot Operat. de chirurg. obs.* 28.---*Saviard. obs.* 22.---*Le Dran, obs.* 75.

(*c*) Such cases may be seen in *Bidloo anat. tab.* 32. *fig.* 3 & 4.---*Le Dran obs. reflex. sur l'obs.* 58.

107. This

107. This hydrocele is to be cured by the method proposed in sect. 101. β . the incision being made on the outside of the scrotum, as the part where large vessels are most certainly avoided, the water most readily evacuated, and the dressings easiest applied (*d*).

HYDROPICK CYSTS between the containing parts of the ABDOMEN.

108. The incysted dropsy between the tendons of the oblique and transverse muscles of the abdomen, or between these and the peritoneum (*e*),

(*d*) See histories of such cures in *Medical essays*, vol. v. art. 22.

(*e*) Authors speak of collections of water between the coats of the peritoneum; but it is a single membrane, and therefore no water can be collected in its substance. The reason why authors talk in this way is, that the firm cellular membrane on its outside is commonly, tho' improperly, called its outer coat, and it is in this cellular membrane that such collections of water are formed.

has

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has the appearance common to hydatides (*f*), and the cure of it is to be attempted

(*f*) The wife of one Flinchius, a painter, becoming irregular in her menstrual discharge, her belly began to swell, and increased to an immense size, and continued so for seven years without any other inconvenience to the woman than what was occasioned by the weight of the water. When she died and her body was opened there was found 110 lb. of water between the folds of the peritoneum, which were each of them as thick as one's little finger. Upon opening the cavity of the abdomen the intestines were found in a sound condition, but the left kidney seemed bigger than ordinary, and the fallopian tubes were swelled and unperforated. *Tulpii observ. lib. 4. obs. 44.*--- See histories of cysts on the outside of the peritoneum in *Philos. trans. num. 106 and 207*--- in *Mem. de l'acad. des sciences 1707*, and in other collections.---A great quantity of water mixed with hydatides was found between the peritoneum and transverse muscles; about 7 or 8 lb. of thick viscid liquor between the duplicatures of the peritoneum; and there was water also in the cavity of the abdomen; for, says he, this is an example where all the three different sorts of ascites were complicated. *Mead. monit. med. cap. viii.*---Dr. Camper, professor of anatomy at Franequhar, told me he once found

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attempted by the methods described in sect. 101. and then the medicines recommended afterwards in the common ascites, to be given; but the methods proposed under β and γ , of sect. 101. are most to be depended upon. —If only a small puncture is made, or a pipe is introduced, by which the gross contents of a cyst cannot pass, the orifice ought to be enlarged.

INCYSTED DROPSIES of the BELLY.

109. Hydropick tumors that project into the cavity of the abdomen,

found a great quantity of water collected in the tendinous sheaths of the recti muscles of the abdomen, which was divided into so many cavities by the tendinous intersections of those muscles.---In a woman, who died when six months gone with child, and who had complained of great anxiety about her precordia, and difficulty of breathing, the peritoneum covering the lower part of the diaphragm was distended into a sac of a surprising largeness, in which were more than 200 loose hydatides of different sizes, swimming in a stinking purulent liquor. *Act. phys. med. a. n. c. vol. viii. obs. iii.*

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whether formed by the peritoneum thrust inwards, or by sacs attached to or in the substance of any of the pendulous viscera (*g*), have the name of the

(*g*) *Sennertus* quotes a case from *Cordæus*, where hydatides, full of a citron-coloured water, were found in every cavity of the body; not only in the abdomen and thorax, but in the uterus, bladder, kidneys, pericardium, liver, spleen, &c. In short, says he, if the hydatides had been numbered, there would have been above eight hundred. *Lib. iii. p. 6. cap. iii. sect. 2.*—*Ruyfch* opened the body of an elderly maid whose belly was much swelled, and found it full of hydatides of different sizes, some as big as one's fist, and others no larger than an hazel nut; these hydatides were filled with a viscid glutinous substance. *Obs. anat. chirurg. obs. 46.*—He found a large bag filled with hydatides placed above the stomach, in the body of a woman who died of asthmatic complaints: while she lived she had a very difficult respiration, a constant fever, and often a pain of the stomach. *Ibid. obs. 27.*—*Blancard* gives the history of the dissection of a woman whose stomach was greatly distended and had numerous hydatides in its internal membrane, with a cyst full of water depending from the inner surface of the pylorus. *Prax. med. p. 3. cap. vii.*—An old woman about sixty was
H
taken

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the hydrops ascites clausus, or incyst-
ed dropfy of the belly, which to the
touch

taken with a violent pain in her belly, which began to swell, and increased gradually for two years. When she died, and her body was opened: The heart was of a great size, and had a large polypus in one of its ventricles; the lungs adhered every where to the pleura; in the abdomen was found a large cyst which filled its whole cavity, and contained about 17 lb. of a yellowish serum: this sac seemed to divide the omentum in two; it had ligaments and blood-vessels, and its lower part adhered to the sphincter of the bladder. *Ephemer. German. 1742, obs. 94.*—An ignorant surgeon intending to perform the operation of the empyema, for a supposed collection of matter in the thorax, perforated into the cavity of the abdomen in the right hypochondrium; a number of hydatides came out at the wound, and the woman died soon after. When Ruysch and he opened the body, there was nothing preternatural to be observed in the thorax, but upon looking into the abdomen, the liver was every where grown to the peritoneum, and its whole substance composed of hydatides; they found also the perforation which the surgeon had made when he intended to have made an opening into the thorax. *Ruysch. obs. anat. chirurg. obs. 65.*—In the great lobe of the liver Littre found a large cavity, in which there was a
number

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touch has the feel common to hydatides, and is easily distinguished from

number of oval bodies that contained a viscous pellucid liquor. *Hist. de l'acad. des sciences*, 1704.—Morand found in the body of one of the invalids at Paris two bags full of hydatides, which filled almost the whole pelvis; one was about eight inches long and as many broad, and adhered to the bottom of the bladder of urine; the other was less, and adhered to its neck. *Memoir. de l'acad. des sciences*, 1722.—A woman, aged forty-four, sometime after she was married imagined herself with child: her belly swelled gradually: after some months her breasts grew full, and she could squeeze a whitish liquor from them, which confirmed her in the opinion of her being pregnant. After nine months were elapsed, having no signs of labour, she found she had been mistaken, and began to take medicines; but to no purpose, for she languished two years more and died. Upon opening her belly to see what her disease was, Mr. Turner found about two gallons of water inclosed in a transparent membrane adhering to the womb, which upon examination proved to be its outer coat. *Philosoph. transf. num.* 207.—See in the *Ephemer. German.* a case where a sac adhering to the womb contained 112 German measures of water. *Ann.* 1742. *obs.* 94.—Another had 88 measures. *Misc. cur. a. n. c. ann.* 8. *obs.* 23.

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the common ascites, by the water remaining nearly in the same place; whereas in the latter it changes to whatever part of the abdomen is lowest.

When the peritoneum is the part distended, the tumor is always immoveable, whereas the hydropick cysts that proceed from the pendulous viscera fall downwards a little at first when the patient changes his posture, but afterwards they either grow so large, or adhere so to the peritoneum, as no longer to shift their place.--Sacs in the substance of the liver or spleen are not easily distinguished: numerous small hydatides dispersed thro' the abdomen are very difficultly discovered, being scarce to be distinguished from steatoms or such other tumors, as the fluctuation of liquors in them is wholly imperceptible thro' the teguments and muscles.

110. Under this head of the *ascites clausus* may be comprehended the hydatides in the ovarium, which are particularly described by authors, but have nothing peculiar to them; nor is it worth while to enter into a dispute whether they are formed in the vesicles commonly called ova, or whether they are only distended cells of the cellular substance in which the ova are lodged (*b*).

111. The

(*b*) Dr. Samson gives us the dissection of a woman who died of a dropsy of the left ovarium; there was no extravasated water in the cavity of the abdomen, but it was filled with a number of vesicles of different sizes full of a viscous serum, some so large as to be able to contain 20 lb. of this liquor, others about the size of a child's head, others as big as an orange, and others not larger than walnuts; upon examining these vesicles he found them to be no other than the ovula of the left ovarium distended to that monstrous size; he says, if you can imagine about forty bladders of different sizes tied together like a reeve of onions,

III. The cure of the different sorts of the incysted ascites is nearly the same

you have an idea of this ovarium; the whole vesicles contained about 112 lb. of serum. *Philos. transf. num. 140.*---In a woman who died of the dropsy the left ovarium was swelled to a prodigious size, so as to weigh thirty-seven pounds; it was divided into a great many cysts odly complicated together: some contained a clear water, others a gelatinous liquor, others a fluid like cream, others like tallow. In some parts it had a glandular, in others a fleshy appearance. The omentum too was thickened and divided into cysts that contained different sorts of fluids something in the same manner. The weight of these substances pressing on the small guts had brought on a gangrene, of which the patient died in two days. *Ridley, obs. med. pract. & physiol. obs. 33.*---See dissections of hydropick ovaria in *Nuck Adenograph. cap. 8.*---*Philos. transf. num. 466.*---*Bonet Sepulch. anat. lib. iii. cap. 21.*---In the body of a woman who died of a dropsy, the right ovarium was near a foot long, as much broad, and six inches thick; it was composed of a great many small bags of different sizes, containing a glairy matter like mucilage or honey, and there was one large bag which contained near fifty-two pounds of water, which appeared to be only the external covering

same as that mentioned in sect. 101(i).
But we ought to observe, that while
the

vering of the ovarium, or else one of the hydatides distended. The fallopian tube was lengthened and enlarged in its diameter. All the other viscera were found, except the gall-bladder which had two concretions in it. *Medical essays, vol. v. art. 73.*

(i) Margaret Millar, after child-birth, was seized with a violent pain in her left side, and her belly began to swell; after thirteen years the tumor was grown to such a monstrous size that it engrossed the whole left side, and seemed to point. The great uneasiness it gave the patient, joined with her resolution and importunities, made Dr. Houston resolve to lay the tumor open; having therefore made an incision into it about an inch long, and nothing coming away, he enlarged the wound two or three inches more, and then at first only a little glutinous substance came out of the orifice, till putting a strong fir splinter, with some lint wrapt round the end of it, into the wound, he brought away upwards of two yards of a gelatinous substance about ten inches broad; this was followed by nine full quarts of such matter as is observed in steatomatous and atheromatous tumors, in which there was a number of hydatides of various sizes, some of them larger than an orange. After he had evacuated all the liquor he sewed

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the sacs remain moveable they scarce admit of any chirurgical operation; unless we were to open the abdomen and to extirpate them, which is both too dangerous and too severe an operation for the little inconvenience they put the patient to at that time.

INCYSTED DROPSIES of the BREAST.

112. Watery tumors in the cavity of the breast, whether formed by the

up the wound, and by the assistance of proper dressings and internal streng hening medicines the woman recovered her health in a few weeks. From the whole history of the case the doctor thinks it pretty evident that it was the ovarium which was affected. *Philos. trans. num. 381. sect. 3.*---Mr. Morand says he once had a patient with the dropsy of the ovarium, from whom he often drew thirty-six English pints of water at a time; the operation incommoding her so little that she used to go into the country the day after it. He proposes here by way of question, whether the extirpation of the ovarium, when it is dropfical from hard or scirrrous tumours, might not be safely attempted; as we see every day brutes survive the extirpation of their ovaria. *Memoir. de l'acad. de chirurgie, vol. ii. p. 458.*

pleura

pleura thrust inwards (*k*), or by hydatides attached to any of the viscera (*l*), or in their substance (*m*), may be called incysted dropsies of the breast.

113. Such

(*k*) Upon opening the body of one who died of the dropfy, a large collection of green coloured water was found between the pleura, and the intercostal muscles, and ribs; the water had distended the pleura into such a large cyst that it filled almost the whole cavity of the breast. The pericardium too was full of water. *Haller. opuscul. patholog. obs. 12.*

(*l*) *Rolfinkius* says he has seen hydatides in the membranes of the hearts of people who had been subject to palpitations. *Bonet. sepulch. anat. lib. ii. sect. 8. obs. 6.*

(*m*) One of the invalids at Paris was taken with a slow fever and such a difficulty of breathing that he was obliged to sleep in an erect posture, his hands and feet swelled, and he made but a small quantity of urine, which had a laceritious sediment. No noise of fluctuating liquors could be heard when he breathed. After lingering for three years he died; and when his body was opened no water was found in the cavity of the breast, but a cyst full of water in each side of the lungs; the largest was about six inches long and four broad, and the other about five long and three broad; there was likewise

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113. Such cysts have no pathognomick symptoms by which they may be distinguished from other tumors and diseases of the chest; for the laborious breathing, and anasarcaous swellings brought on by their compressing the lungs and blood vessels, may be occasioned by a variety of other disorders.

114. If such tumors are any how discovered, then

a. Where the water is collected between the pleura and intercostal mus-

an hydatide about three inches long on the surface of the liver. *Memoir. de l'acad. des sciences, 1732, par Mr. Maloet.* --A Burgundian gentleman laboured for several years under an orthopnea and hectick fever, of which he died. When his body was opened there was water collected in one side of the thorax, and the lungs were filled with hydatides which contained a rough pellucid liquor much resembling the white of an egg. *Bonet. sepulch. anat. lib. ii. sect. 1. obs. 36.* --- See such another case *ibid. sect. 2. obs. 38.*

cles

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cles and ribs, an aperture ought to be made between the ribs where the cyst is situated, and the water let out at different times if it is in large quantity, and then to be treated as directed under sect. 101. γ . 1st or 2d.

b. When hydatides are lodged in the mediastinum, there is no other remedy than that mentioned, but not recommended, in sect. 89.

c. Concerning vesicles formed in the substance of the lungs it may be remarked, that laughing, coughing, sneezing, or vomiting may burst them; in which case the water flowing out of them, may be voided into the bronchi and be coughed up, or may run into the cavity of the thorax, from which it may be discharged by making an aperture into the cavity of the thorax in the method to be proposed when we come to treat of the dropsy of the breast. —If a large cyst is suddenly burst into the bronchi, the patient may be suffocated before he can cough up all the water.

BASTARD

BASTARD HYDROPTHALMIA.

115. Water collected in a sac formed at the fore-part of the eye, for example, in its tunica adnata (*n*), or cornea (*o*), must hinder the free motion of the eye-lids, and may intercept the entry of light into the eye: but when a collection of water is placed between the orbit and the eye, it thrusts the eye forwards, and either weakens the sight, or deprives the person of it altogether.

116. The two former are so manifest that every one must know them at first sight; and the latter is easily distinguished from the true hydrophthalmia, in which the globe of the

(*n*) See an example of this in *Misc. cur. a. n. c. dec. 3. ann. 3. obs. 3.*

(*o*) Boerhaave gives a case of such hydatides on the cornea, which he cured by puncture. *Prælect. in instit. med. edit. ab Haller. comment. in sect. 307. instit.*

eye

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eye is distended with water; but the marks of an hydatid must be attended to, in order to judge that it is not some other kind of incysted tumor.

117. The hydatides of the adnata and cornea are generally cured by a puncture or incision made into them, and by bracing the parts afterwards with some of the gentle astringent or strengthening medicines (*p*).

118. The cyst is to be treated as directed in sect. 101; regard being always had to the tender and necessary

(*p*) R. Pulv. sacchar. saturn. sal. ammon. ana gr. vi. aq. rosar. simp. unc. xii. m. fiat collyrium.—vel R. Pulv. tut. ppt. drach. i. vitriol alb. gr. vii. sp. vin. Gallic. drach. ii. aq. rosar. unc. ii. syrup sacchar. unc. fs. m. pro collyrio.—vel R. camphor. scrup. i. solv. in tantillo ol. oliv. & adde unguent. tutiæ drach ii. fiat linimentum palpebris affricandum.—vel R. Flor. rosar. rub. drach. vi. coque ex vin. rubr. Gallic. unc. x. ad. unc. vi. colaturæ adde acet. opt. spt. vin. Gallic. ana drach. ii. m. utetur pro fotu.

organ

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organ the eye, near to which it is situated.

COMPOUND NATURAL SACS.

119. The natural compound cysts in which dropsies happen are—The capsular ligaments of the joints within which are the mucilaginous glands, fat, &c.---The cavity in which the testicle is lodged.---The abdomen containing the chylopoietic and other viscera.---The thorax, in which the lungs and other organs are situated.---The pericardium serving as a case to the heart and the large vessels near it.--The eye.--The skull, containing the brain and its coverings.---The ventricles of the brain.---And the vertebræ.

120. Tho' anatomists demonstrate that many of the organs said to be contained in these cavities are placed on the outside of the membranes that compose them, yet I may be here allowed to use the common way of speaking

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speaking in respect to these subjects, and may therefore consider these organs as if they were contained within the several cavities.

121. These natural cysts are not immediately, upon the beginning of a collection of water, so much stretched by it, as those cysts are which owe, in a manner, their existence to the disease; for which reason the fluctuation of the liquor contained in the compound sac is more perceptible, when the part is moved or alternately pressed by the fingers, than it generally is in the simple cysts. The tension and weight of the liquor which falls always to the lower part, is more sensibly felt, where it has room to move from one part of the sac to another, as in the compound sacs; than where it remains in the same place, as in the hydatides. Since the water in the compound sacs can be tossed hither and thither, and has different organs immersed in it, it sooner becomes
acrid,

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acid, and thereby causes erosion of the parts it is contiguous to; and if it enters the blood produces fever, thirst, and other symptoms. The less stretching and pressure there is on the cyst, the stronger power of absorption do its vessels possess, according to the general remark in sect. 36.

DROPSY of the JOINTS.

122. A dropsy of any joint, especially of the knee (*q*), has the common symptoms described in sect. 4---10. and seldom yields to any internal medicines, whether corroborants, diu-

(*q*) My father in his lectures observes, that he never saw this disease except in the knee, where he has often found it; and that he has four times cured it with strong vinegar warmed and applied to the part by paper wet in it.— And Dr. Simson says he has seen swellings of this joint, when taken care of at their first beginning, cured by a purge and the fall of cold water, and at other times by the fall of warm. *Med. essays, vol. iv. art. 20.*

reticks,

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reticks, diaphoreticks, or even the strongest catharticks be employed: more service is to be expected from topical remedies, such as sweating the part with the flame of burning spirits; or the warm sulphureous waters of Bath, Buxton, Aix, or Carlsbad, falling from a height upon it; or the warm applications proposed in sect. 101; or issues opened in its neighbourhood.

But if it resist all these methods, and the symptoms are violent, the capsular ligament is to be punctured with a lancet in the part that is thinnest and most free from aponeuroses, vessels, or nerves, which is on the inside of the knee: for the discharge of the water in this way sometimes makes a cure (*r*); but too often the operation
is

(*r*) We have a case related in the *Acta physico-medica*, in which an incision some inches long was made into the joint of the knee, on the inside of the rotula, and three pints of water
ter

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is followed by inflammation, fever, and their consequences (s); and the matter

ter let out; after which, by the assistance of proper dressings and strengthening fomentations, the patient was cured, and had the use of this joint so well that he could walk easily. *Act. physic. med. a. n. c. vol. viii. obs. 27.*--A countryman found great uneasiness for some months from a moveable hard substance in his knee, which he always felt upon walking; it generally made its appearance under the rotula and on the inside; the parts about it were swelled, tho' to no great height. Dr. Simson was consulted, who laying hold of it with his finger and thumb, cut into the joint, and brought away this body, which was about the bigness of a kidney-bean, and with it about four ounces of a thick pellucid liquor. The patient using his leg that day such an inflammation and pain arose that it was twelve months before it could be altogether removed; but at last, by syringing water upon the part, and laying a caustick near the knee, the patient was quite cured, and walks without any impediment. *Med. essays, vol. iv. art. 20.*

(s) A patient, in whom the fluctuation of water within the capsular ligament was evident, had a puncture made with a lancet into the joint on its inside; near a pound of water was let out by this orifice, which was dressed with a little lint

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matter growing acrid, amputation becomes the only remedy.

DROPSY between the TUNICA VAGINALIS and TESTIS.

123. Water, collected between the vaginal and proper coat of the testicle, hinders the testicle from being felt, by which circumstance this kind of internal hydrocele is distinguished from the others.

124. When this disease is recent, especially in young patients, it is some-

lint and a bit of plaister, the whole joint being covered with aromatics and stimulants: he took likewise some hydragogue purgatives. Nevertheless the water was again collected in a few weeks, when another surgeon made a large incision into the cavity of the joint on the outside of the knee; the consequences of which were sharp pains attended with a smart fever and high inflammation, which ended in suppuration and an excessive discharge; this obliged him to take off the limb above the knee, in order to save the patient's life, which was in imminent danger from a wasting hectic.

times

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times cured by the aromatick fumes, and such like, formulæ of which were set down in notes to sect. 72. *a.* Other discutient penetrating medicines (*t*) have also a like good effect. During their use the scrotum must be always well suspended by a proper bandage, and repeated doses of purgatives should be given.

125. If these do not succeed a puncture may be made into the hydropick sac with a lancet to evacuate the water. Surgeons commonly do this with a trocar; but it is not so good an instrument as the lancet, especially when the quantity of hydropick water is small; for there is a greater risk of wounding the testicle with a trocar, than with the lan-

(*t*) R. Rad. bryon. alb. unc. ii. fol. cicut. vulg. recent. manip. ii. misce, et coque in q. s. aq. font. ut fiat s. a. cataplasin. cui adde gum ammon. in acet. fort. solut. semunc. ol. palmæ drach. iii.

cet

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cet (*u*). As the water may be expected soon to collect again, this method is called the imperfect or palliative.

126. After tapping, the methods proposed in sect. 101. γ . either of injecting strengthening liquors (*w*) or of
exciting

(*u*) See in *Med. essays*, vol. v. art. 22. a case where a violent inflammation and suppuration of the testicle was probably caused by the point of a trochar hurting the testicle.

(*w*) Mr. Monro, surgeon to Lord Hume's regiment, taking the hint from the method proposed by my father of curing the hydrocele by raising a small degree of inflammation, attempted to make a radical cure in the following manner: having let out the water of a large hydrocele that had been often tapped, he injected a little spirit of wine into the scrotum, which raised so violent an inflammation as to bring the patient into great danger; but by bleeding the patient pretty freely, he was at length relieved. He recovered, and has never since had a return of the hydrocele. This violent inflammation, which the ardent spirits brought on in this patient, induced him to try a milder remedy in the next case that offered; when having let out the water he injected some claret into the scrotum, by which means only a slight degree of inflammation was raised; but it succeeded

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exciting inflammation by the introduction of extraneous bodies (*x*) may be put in practice in order to prevent a return.

127. To make a radical cure it is necessary to slit open the cyst by a large incision, taking particular care that the testicle do not start out at the orifice, but be retained within the scrotum (*y*). If an hæmorrhage ensues,

ceeded to his wish by completing a cure: since which time he has made several radical cures by this remedy alone.---Mr. Sharp had the same violent degree of inflammation follow the injection of spirit of wine. *Operat. chap. ix. case 4.*

(*x*) In *Med. essays*, vol. v. art. 22. a proposal is made of exciting inflammation, after tapping for water surrounding the testicle, by letting the cannula remain sometime within the vaginal coat to rub on the testicle.

(*y*) I once after this operation saw a testicle remain out of the cavity of the scrotum till it was covered with flesh, and then with a new skin. *Hildanus* gives a case of an ascites where the scrotum swelled prodigiously, and then gangrened and sloughed off, so that the testicles were

OF THE DROPSY. 167

fues, the proper means for stopping it are to be employed (z): afterwards the cyst is to be so much irritated as to excite an inflammation, without which a cure cannot be made; as the

were left quite bare and exposed; all the hydropick water was evacuated this way, granulated flesh arose from the testicles, and a callous over that, which served by way of a scrotum: the patient was quite cured of his dropsy, and afterwards had several children. *Obs. cent. I. obs. 48.*

(z) Mr. Jameson having made a small perforation with a dissecting scalpel into the scrotum of a person, in order to evacuate the water of an hydrocele, about twelve ounces of pure blood ran out of the orifice after the water was evacuated, without any pain or uneasiness. Next day the patient perceived a great weight and fulness of that testicle: an incision was then made into the tunica vaginalis, and a great quantity of thick coagulated blood was discharged; the wound was properly dressed, and the cure went on without any other accident; for in three weeks time the tunica vaginalis grew so firmly to the testicle, that the patient has never had a return of his hydrocele. *Medical essays, vol. ii. art. 14.*---See two other cases of hæmorrhages after this operation in *Mr. Sharp's Operat. chap. ix.*

fac

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fac otherwise continues to furnish a constant supply of water, which produces a fistula, or else the orifice shuts up, and the hydrocele is soon formed again. The irritation must, however, be made very cautiously; for it is often followed by violent inflammation and fever (*a*). When pus is discharged from the cavity there are hopes of a cure, for then granulated flesh arises from the cyst to fill it up, or to make its sides grow together.

128. Of late it has been proposed to perform the radical cure, by cutting away the greater part of the tunica

(*a*) See cases of cures of hydroceles performed by raising inflammation in notes to sect. 101. and in *Medical essays*, vol. v. art. 22. and the additions at the end of that volume.---The first three patients on whom Mr. Sharp performed the operation of laying open the vaginal coat of the testicle in the hydrocele, were in great danger from the fever and inflammation which came on after it. *Operat. chap. ix.*

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vaginalis, and then to treat it as a common wound (*b*).

ASCITES.

(*b*) Since the last edition of this essay Mr. Douglass has published a Treatise on the hydrocele, in which, the cutting away the greater part of the tunica vaginalis, in the following manner, is recommended as the safest and best method of making a radical cure.

Having laid the patient in a proper posture, an oval piece of the skin is to be taken away, beginning a little above the upper part of the tumor down to the bottom, the widest part of the incision being almost equal to the widest part of the tumor; then the cyst is to be opened by a small incision, and to be dilated its whole extent with a pair of probe pointed scissors. After this the testicle is to be carefully supported by an assistant, while the operator separates the cyst every where from the skin, and then cuts it close to the margin of the testicle and spermatic cord. In doing this we should not take up too much of the cyst at once, as it is scarce possible to pare it off so as not to leave some behind, which, by all means, should be avoided. The other side is to be cut away in the same manner, until all the cyst, excepting what covers the spermatic cord, is entirely

I
ly

ASCITES.

129. Water collected in the abdomen is called Hydrops Ascites, or dropsy

ly removed. This done, the testicle is to be replaced, the cavity filled up with dry lint, and a thin pledget of tow spread with digestive put over it; and the whole scrotum to be covered with an emollient cataplasm, and secured with a proper bandage.

The advantages which Mr. Douglass alledges that this method of operating has, are; that by removing the sac, the great inflammation, pain, and symptomatic fever which, he says, attend the common radical cure till such time as the cyst sloughs off and separates, are prevented; that a good suppuration soon ensues without any violent symptoms; and that a cure is completed without any danger of a relapse. See his *Treatise on the hydrocele*, chap. iv.

Whether this method has really such advantages over the common radical cure, the future experience of surgeons must determine: as I never saw the operation, I cannot so well judge of it.

This method of cure is as old as Celsus's time, and has been proposed in some cases by

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fy of the belly : the water here sooner becomes acrid than in other dropfies, by the agitation it fuffers in different poftures and motions of the body, by the mixture of bile tranfuding thro' the coats of the gall-bladder, and the putrid miasmata which penetrate thro' the intestines (c).

by fome late writers, as Mr. Douglafs obferves.

“ Si fcrotum, & fub hoc protinus vitium eft,
 “ nihil aliud quam humor eft effundendus, ab-
 “ fcindendæque membranæ funt, fi quæ eum
 “ continuerunt ; deinde eluendum id ex aqua,
 “ quæ vel falem adjectum vel nitrum habeat :
 “ fi fub media, imave tunica, totæ hæ extra
 “ fcrotum collocandæ excidendæque funt.”
Celf. lib. vii. cap. 21.

(c) Du Verney the younger tells us, that the water of the afcites is of various colours and confiftences. When it is like citron-coloured ptifan, a little mucilaginous, of an urinous fmell, and a little falt to the tafte, it is the leaft dangerous, and the danger increafes as it recedes from thefe qualities. *Mem. de l'acad. des fciences, 1703.* See his other prognofticks in the fame place.

When the patient is erect, the water bears chiefly on the hypogastrick region; but when he lies in an horizontal position it distends the inferior region of the loins, and the diaphragm bears a considerable pressure. The chylopoietick organs, macerated and soaked in the water, are weakened and do not perform their office sufficiently (*d*), but being irritated by the waters, or rubbed against one another while they are thus soaked, inflame and grow together (*e*). The kidneys being compressed, secrete but little

(*d*) The stomach and intestines being weakened by soaking in water, and having little stimulus from the mild juices which the patient's watery blood furnishes, cannot enough resist the rarefaction of the air they contain, but are often distended by it to a larger than ordinary size; on which account the ancients mention the ascites and tympany as frequently conjoined in the same patient.

(*e*) Whoever has seen many hydropical bodies opened, must have often observed the intestines in the condition here mentioned; and all the observators are full of such histories.

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little urine, so that the blood is not freed of its superfluous watery liquors, and therefore furnishes matter to increase the disease. When the acrid liquors are absorbed, they create thirst, cough, fever, inflammations, and their consequences.

This dangerous disease has, however, some advantages which other dropsies want: for, 1. Internal corroborant medicines, purgatives, diureticks, and diaphoreticks, being applied near to the seat of the disease, have a better chance of relieving the patient than in other incysted dropsies, according to the axiom in sect. 36: and, 2dly, The water can be more easily and safely let out than in many other species of dropsies.

130. As in this disease the more is drunk the greater is the thirst, and liquids increase the disease; so, in order to cure it, the severest abstinence is to be prescribed, and the thirst

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must be mitigated or amused by moistening the fauces (*f*).—Friction, exercise, and bandages ought to be used as much as the patient can conveniently bear.—Topical corroborants, are sometimes of use, and are even said to have cured the disease (*g*). Emeticks (*h*) are very often beneficial

(*f*) Dr. Mead knew two persons who, by long abstaining from drink, were entirely cured of a severe ascites. *Monit. medic. cap. viii.*

(*g*) Two people were cured of the ascites, by a tomentation composed of aromatics boiled in wine, and frequently applied to the belly. *Misc. cur. a. n. c. dec. 1. ann. 3. obs. 147.*

(*h*) R. Tinct. ipecacuan. drach x.—vel: R. pulv. rad. ipecacuan. scrup. i. tartar. emetic. gr. iii.—vel R. vin. antimon. unc. i.

“ Etenim post duas vel tres vomendi vices
 “ per infusionem croci metallorum excitatas,
 “ aquæ non tam medicamenti vi secretoria elici
 “ videntur, quam ruptis quasi repagulis & clau-
 “ stris reſeratis pleno alveo effundi, quod satis
 “ constat ex earundem eruptione atque impetu
 “ sæpe facto, inter ipsa vomendi spatia sive
 “ intervalla. Hoc interim observari velim,
 “ quod si leviusculo aliquo ventris tumore te-
 “ neatur æger, non ita prompte educuntur
 “ aquæ

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beneficial by the stimulus they give to the absorbing vessels, provided the head or breathing is not too much affected during their operation. Catharticks (*i*), repeated as often as the patient's

“ aquæ per infusionem croci metallorum, ac in
 “ ascite grandiore ubi ingens aquarum copia ad
 “ gesta fuerit.” *Sydenham de hydropse.*

(*i*) R. Pulv. rhabarb. semidrach. calomel gr. vi. syrup. alb. q. s. ut fiat bolus.—vel R. syrup. de rhamn. sesquiunc.—vel R. syrup de rhamn. unc. i. tinct. jalap. drach. i. misce.—vel R. pulv. jalap. scrup. i. calomel. gr. x. misce.—vel R. pulv. jalap. gr. xxv. sal. nitri gr. x. misce.—vel R. gum. gambog. gr. xii. cremor. tartar. gr. viii. zinzib. gr. iv. syrup. alb. q. s. ut fiat bolus.—vel R. pil. ex colocynth. semidrach. form. in pil. vi.—vel R. succi irid. nostrat. sesquiunc.—Hæc omnia cathartica summo mane deglutienda.—Great variety of hydragogues have been strongly recommended by different authors, the elaterium, decoctions of the inner bark of the elder, and, in short, almost all the strong purges of the materia medica.

“ Id diligenter est observandum, (in hydragorum nempe usu) ut aquæ ea maxima celeritate exhauriantur, quam ægri vires ferre queant; utpote qui singulis diebus expurgari debeat; nisi quod, sive ob nimiam debilitatem

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ent's strength can bear, are extremely useful. Emeticks and catharticks given in small doses, frequently repeated, prove sometimes more powerful hydragogues than larger doses of these medicines taken at longer intervals; for they carry off the water not only by stool but by urine likewise (k)—

When

“ corporis, five propter præcedentis operatio-
 “ nem plus satis violentam, dies unus aut alter
 “ intercalari possit. Etenim si non nisi post
 “ longa intervalla repetatur purgatio, quantum-
 “ libet copiosa catharsis præcesserit, aquis de-
 “ nuo affatim colligendis ansam præbebimus;
 “ adde quod periculum est, ne aquarum inter
 “ viscera mora diuturnior eadem putredine
 “ quadam sua inquinet, ac inficiat.—Ex re quo-
 “ que erit ad vesperam opiatum aliquod adhi-
 “ bere ad turbas à purgatione excitatas com-
 “ pescendas.” *Sydenham. tractat. de hydrope.*—
 “ Est autem, ubi medicamenta omnia, qualis
 “ cumque demum generis, quæ alvum movent,
 “ prorsus omitti possint ac debeant, quoties enim
 “ æger constitutione est infirmiori, vel scæmi-
 “ na vaporibus obnoxia, aquarum evacuatio
 “ diureticis solum committenda, inter quæ ea
 “ sunt efficacissima, quæ ex salibus lixivialibus
 “ fiunt.” *Ibid. Process. integ. de hydrope.*

(k) R. Oxymel. scillit fessquidrach. aq. cin-
 nam.

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When purgatives are given, corroborants and diureticks may be join- with them, and are always to be taken (*l*) in the intervals.—Some- times also great benefit has been receiv- ed from the use of diaphoreticks (*m*).

nam. simp. unc. i. spirit. lavend. comp. syrup. e cortice aurant. ana drach. i. misce. Capiat talem dosin omni quadrihorio.—vel R. pil e co- locynth. sal. succin. ana semidrach. syrup. scillit. q. s. ut fiant pil. xviii. capt. iii. bis die.—vel R. elect. e cassia drach. ix. pulv. rad. jalap. drach. i. ol. stillat. juniper scrup. i. syrup. zinzib. drach. iv. misce capt. scrup. ii. ter die.—vel R. elect. lenit. unc. ii. tartar. emetic. gr. xii. coque ex aq. fontan. unc. xvi. ad unc. xii. cap. unc. ii. ter die.

(*l*) R. vin. amar. vel. tinct. ad stomach. Pharm. Edin. lib. ii. capiat unc. ii. ter vel qua- ter die.—vel R. pulv. cortic. Peruv. unc. ii. cort. aurant. unc. i. limatur. mart. semunc. sy- rup. e cortic. limon. q. s. ut fiat electuar. Ca- piat molem nucis moschat. mane & vesperi.— vel R. aq. menth. piper. unc. v. tinct. aroma- tic. vin. chalybeat. ana sesquiunc. syrup e cort. aurant. unc. i. misce. Capiat unc. i. horis medicis.

(*m*) See examples of the effects of these dif- ferent classes of medicines in notes to indication I. and II. of part I.

131. When the belly is much distended with water, the patient is not only afflicted with a difficulty of breathing and coughing, occasioned by the compression of the diaphragm, which prevents the passage of the blood thro' the lungs, but the absorption of the dropfical water (the only cure of this disease) is extremely diminished (*n*), or ceases entirely. On these accounts it is necessary to let out the water by tapping, tho' few who have undergone the operation have obtained a complete and lasting cure, but have been subject to relapses.

The place to be chosen for the paracentesis or tapping is the middle

(*n*) “ Deinde, ut inde cæperit, tamen aqua
 “ nisi emittitur, quæ contra naturam ibi sub-
 “ stitit, & jocinori & cæteris interioribus par-
 “ tibus nocet. Convenitque corpus nihilomi-
 “ nus esse curandum. Neque enim sanat emis-
 “ sus humor, sed medicinæ locum facit, quem
 “ intus inclusus impedit.” *Cels. lib. iii. cap. 21.*

point

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point between the navel and the upper anterior spinal process of the os ilium, where there is neither too great thickness of the containing parts, nor any tendon, large vessel, or nerve, in hazard of being wounded, and the water can easily run off (o).—If a small incision thro' the skin is first made with a lancet, where the perforation is intended to be made with the trocar, the instrument pierces with much less force than is otherwise required; and this ought always to be done previous to the operation when there is but little water in the belly, in order that the danger of hurting

(o) The common directions of tapping four or five inches below the navel, and as much to one side, become very precarious, and of consequence often dangerous when the belly is distended with water; since a point thus described must vary according to the different degrees of distention of the belly.—See these reasons more fully explained, the necessary directions about the manner of performing the operation, and the description of a belt proper to be used, in *Med. essays*, vol. i. art. 18:

any

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any of the viscera may be avoided. The antients observing that patients who were tapped were liable to faint, and even to the hazard of life itself, when much water was let out at once, imagined these symptoms were owing to the animal spirits flowing out with the water, and therefore drew it off at different times (*p*), that too much might not be wasted at once; but Dr. Mead fully (*q*) demonstrated, in 1705, that these appearances depended entirely on the pressure made by the water on the surrounding parts being too suddenly removed; and proper bandages have been since contrived to remedy this inconvenience. For by these means the same pressure can be kept

(*p*) “ Per hanc (nempe fistulam) effundendus humor est: atque ubi major pars ejus evocata est, claudenda demisso linteolo fistula est; & in vulnere, si id uestum non est, relinquenda. Deinde per insequentes dies circa singulas heminas emittendum, donec nulum aquæ vestigium appareat.” *Celsi lib. vii. cap. xv.*

(*q*) See *Mead. monit. med. cap. viii.*

on

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on the belly, during and after tapping, as before the operation: in determining which, the greater or less difficulty of breathing serves as a sure criterion (*r*). The general practice now is to let out all the water at once; by which there is less danger, than by the old method, of gangrene in the orifice made in the teguments; or of a tympany, by want of compression on the intestines; or of the remaining water macerating the bowels, or becoming acrid and eroding them by the admission of air into the cavity of the abdomen. If the matter contained in the abdomen is either too thick to flow thro' the cannula of a trocar, or if hydatides be mixed with the

(*r*) I have more than once seen the bad consequence of not observing this precaution of keeping a proper compression on the abdomen in the time the water is letting out, by the patient's fainting; and afterwards, when the water has been again collected and let out, it has been tinged with blood, owing to the want of proper compression at the former tapping.

water,

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water (*s*), the orifice is to be enlarged by an incision wide enough to let out the extravasated liquors. Or if the abdomen happens at any time to be preternaturally divided into two cavities by the concretion of any of the viscera to the peritoneum (*t*), and both are full of water, both must be tapped.

132. In order to prevent the return of the dropsy after tapping, it has

(*s*) See the case of Baron Penterrider, who was tapped for a dropsy of the belly, but the liquor being too thick to pass through the cannula of a trocar, an incision was made into the abdomen, through which, in two days, twelve German measures of a thick gelatinous liquor mixed with a number of hydatides, some as big as a hen's egg, some no bigger than an ant's, were evacuated. *Philosoph. transf. num. 370. sect. 4.*

(*t*) See such a case in the *Medical essays*, vol. iv. art. 30. where the upper part of the omentum had grown all round to the peritoneum, and thereby formed two cavities in the abdomen; from the upper one of which the water was not voided when it was let out of the lower one by tapping.

been.

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been proposed to inject some astringent liquor into the cavity thro' the cannula, immediately after the water is all let out (*u*); or to cause such a liquor to enter by one pipe of a double trocar, while the water is run-

(*u*) Mr. Christopher Warwick, surgeon at Truro, relates the case of a woman (Jane Roman) into whose abdomen he injected a large quantity of liquor made with two thirds of claret and one of Bristol water mixed together, after extracting by the common operation of the paracentesis thirty-six pounds of a greenish transparent lymph: and a relapse was prevented by these means. When a large quantity of the injection was in her belly, a pungent pain possessed her breast, frequently darting through all the viscera, her breathing became extremely difficult, her pulse faltered, she fell into syncope and became speechless. *Philosoph. trans. num. 472. sect. 3.*—Brunner proposed that tincture of myrrh and aloes, with camphorated spirit of wine, should be injected into the belly, to prevent the return of the ascites. *Misc. cur. a. n. c. dec. 2. ann. 8. schol. ad obs. 100.* But this would surely be too acrid, as we may judge from the effects just now related of a much milder liquor, the claret and Bristol water, and from the violent inflammation which spirits thrown into the scrotum raised.

ning

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ning out at the other (*w*); but there have not yet been sufficient trials made for determining how far this method may be depended upon.

133. After the water is drawn off by tapping, the stomach and intestines, having less assistance than formerly from the muscles of the belly, which do not immediately recover their tone so as to press with sufficient force on those bowels, generally are inflated, and the patient is affected with anxiety, gripes, or spasms. When these symptoms come on after tapping, or after the operation of emeticks or purgatives, the most effectual remedy is an anodyne, which under these circumstances generally becomes a powerful diuretick (*x*).

The

(*w*) This is the proposal of the ingenious Dr. Hales. *Ibid.* *sect.* 4.

(*x*) R. Aq. menth. piperit. simp. unc. i.—
cinnamom. spir. semiunc. tinct. castor. drach. i.
tinct. thebaic. gutt. xl. tartar. lixiv. scrup. i.
syrup.

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The regimen directed in sect. 51. long continued, seems altogether necessary to prevent a relapse into an ascites.

134. A hydrocele attended with an hernia and ascites, and the hydromphalus (y), or protrusion of the navel by the water of the abdomen, may be considered as appendages to the ascites, and cured by evacuating the water that occasioned them. But when the teguments which include the water in these cases are very thin, a puncture with a lancet may serve instead of tapping: it requires, however, the same

fyrup. alth. drach. i. misce pro haustu vespertino.—vel R. aq. menth. piperit. spir. unc. i. tinct. thebaic. gutt. xl. vin. antimon. gutt. l. fyrup. ex althe. drach. ii. cap. h. s.

(y) Riverius gives a case of an ascites accompanied with the hydromphalus, where the patient was cured by letting out the water at the prominent navel. *Obs. commun. a Formis, obs. iv.*—See a number of cases of the hydromphalus in *Bonetus* and *Schenkius*.

precau-

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precautions, with this addition, that a gangrene is here more to be apprehended by the sudden collapsing of the teguments, and therefore the corroborants prescribed in sect. 72. *a.* ought to be diligently made use of. Sometimes the skin of the navel or groin is burst by the distending water; in which cases it is to be treated as if an incision had been made.

135. The hydrops ascites ficcus, or tympany, accompanying the ascites, is no other than what was mentioned in sect. 129. note *d.* And when it is seen without a dropsy, is not a disease caused by water, and therefore no part of my present subject.

DROPSY of the THORAX.

136. Water collected in one or both cavities of the thorax is difficultly discovered, the ribs and tense short intercostal muscles not allowing the water to extend itself outwardly, or the
fingers

OF THE DROPSY. 187

fingers to feel any fluctuation (z). But if a person breathes laboriously with a sense of weight at the lower part of the thorax, when the trunk of the body is erect, and towards the upper part when the body is horizontal, and feels withall a sensible fluctuation while he changes postures, there are good grounds for suspecting that a fluid is collected in the thorax; and, if no symptoms of inflammation and supuration have preceded, we may justly conclude this liquor to be water; and there will be the greater probability of this being the case, if, at the same time, the patient makes but a small quantity of urine, with a late-ritious sediment, and hath œdematous swellings of the feet or other parts of the body.

(z) See Reimmannus's dissertation on the uncertainty of the signs of this disease, in *Act. phys. med. a. n. c. vol. i. obs. 170.*

137. When

137. When one cavity of the thorax only has water in it, the patient lies generally on that side, the breathing becoming more difficult when laid on the other; and if, on comparing the two sides of the breast, the affected one is larger than the other near to where the diaphragm is fixed (*a*), there is reason to conclude that water is collected in the enlarged side.

I do not know if it is always accompanied with that symptom which

(*a*) The swelling of the lower part of the thorax is a symptom that sometimes, tho' but seldom, attends this disease. I have seen a considerable number of people who have died with collections of water or pus in the cavity of the thorax, but I never could observe any external swelling from the liquor contained in the cavity of the thorax itself: however, we have examples of it among the observators, one in *Willis pharm. ration. p. ii. sect. 1. cap. xiii.* and two in the *Histor. morbor. Uratistav. 1699, 1700.* one quoted from *Fonseca. Ibid. de hydrop. pect. cap. i. sect. 7.* and one in *Med. essays, vol. v. art. 59.*

Riverius

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Riverius mentions as a sure pathognomick, viz. "That the difficulty of breathing is increased when the patient lies down to sleep, and grows worse during the night, becoming milder with the day (*b*); or if the scrotum becomes hydropical before the belly or limbs (*c*)."
I never observed these symptoms myself, nor have seen them generally mentioned

(*b*) "Quibus hoc unicum addere licet tanquam pathognomonicum, & quo solo hydrops pectoris a cæteris difficultatis respirandi speciebus distinguitur. Quando nimirum spirandi difficultas primo quoque somni tempore invadit, eumque intercipit, ac per noctem magis urget, procedente vero die sensim lentescit." *River. prax. med. lib. vii. cap. 5.*

(*c*) "Id vero notatu dignissimum est, quod scrotum in hoc hydropis genere attollatur in tumorem, antequam vel venter vel pedes intumescant. Neque enim semel sed iteratis vicibusprehendimus, quod jam tumido scroto pedes oedematoso tumore corripiantur." *Hist. morbor. Uratislav. 1699, 1700. de hydrop: pector. cap. i. sect. 8.*—See such a case in *Hoffman*, where the scrotum swelled and not the abdomen: *de hydrope, obs. 7.*

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as constant and peculiar to this disease.

138. Diaphoreticks, corroborants, and purgatives are very useful in this species of the dropsy; but emeticks, if the patient can bear them without danger of being suffocated during their operation, are much more beneficial. Diureticks (*d*) sometimes make a cure: for

(*d*) R. Rad. scill. gr. v. pulv. ari. comp. gr. x. rad. zinzib. gr. v. syrup e cortice aurant. q. s. ut fiat bolus; talis bis die devorandus.---vel R. confect. cardiac. scrup. i. sal. succin. gr. v. ol. stillat. juniper. gutt. ii. misce. Capiat dosin hujusmodi ter vel quater die.---vel R. ciner. genist. scrup. i. vin. amar. unc. ii. misce. Haustulus talis quater die repetendus.---vel R. aq. menthæ unc. i. lixiv. tartar. semidrach. syrup. zinzib. semiunc. misce. Propinet haustulum talem mane & vespere.---vel R. tinct. flor. martial. drach. ss. aq. menth. piper. unc. i. syrup. e cortic. aurant. drach. ii. capiat ter die.---vel R. baccar. juniper. unc. ii. contus. effunde vin. rhenan. unc. xii. stet loco calido per tres dies, & colaturæ adde aq. raphan. comp. unc. i. capiat unc. ii. ter vel quater die.---vel R. fol. cochlear. horten. nasturt. aquatic. baccar.

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for the kidneys, being free from compression, permit the water to pass off
more

car. juniper. ana unc. ii. tartar. lixiv. unc. i.
infunde per quadratum in cerevis. veter lib. v.
Dosis est ad lib. ss. die.---vel R. summit. H.
absinth. virid. genist. ana semiunc. rad. gentian.
drach. ii. infunde per biduum in aq. fontan.
fervid. lib. i. colaturæ capiat unc. iii. mane &
vesperi.

The emperor Maximilian II. found great advantage from these sort of medicines: he laboured under a dropsy of the breast for twenty years, and used to make sometimes six pounds of urine in a day, which always relieved him; at last the passage by the kidneys having been stoppt, he was suffocated. *Sennert. præf. lib. ii. p. 2. cap. xx.*

I had the following case from Dr. Fothergill: A gentleman of a fresh complexion, full, lax habit, and a large make; in respect to liquors, for the most part, temperate, with a good appetite, and ample means of gratifying it; about the fifty-sixth year of his age, perceived, upon a little unusual motion, an obstruction to his breathing, attended with a palpitation of the heart.

These complaints gradually increased so much as to induce him to consult his physician, to whom he gave the following account.

That

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more freely than in the dropsy of the belly. Issues and setons in the interstices

That on walking one hot day, after having spent an hour or two in business, in a room crowded with company, he found such an uneasy straitness of the wind-pipe, just above the sternum, that it seemed as if a bur, as he termed it, stuck there, and hindered him from breathing with his usual freedom: that at night, upon going to bed, he had a palpitation of the heart, and a greater difficulty in finding such a posture as he could lie in with ease than he had ever before experienced.

It was not every night he found himself thus afflicted: sometimes he had three or four bad nights successively, in which he was either obliged to sit up most part of the night, or altogether prevented from sleeping when able to keep in bed.

Things had continued in this situation some months. His countenance was then fresh and florid; his breathing upon motion somewhat laborious; he coughed but little, and this rather voluntarily, to fetch up something that to him seemed obstructing the wind-pipe, than from an irritation of the lungs themselves. His pulse was extremely irregular, never beating five strokes alike, but varying incessantly, either in respect to frequency, or strength, or both; his urine was high-coloured, depositing for the most

OF THE DROPSY. 193

interstices of the ribs, are known to have done remarkable service in the various diseases of the breast.

139. When

most part a copious sediment, of a colour betwixt the lateritious and carnation; his stools regular in every respect; he found himself commonly easiest when lax, and his breath laborious if ever so little costive. He had no heat, thirst, dry tongue, or any symptoms of a fever, except a high coloured urine, which was accounted for from its being in small quantities. No peripneumonic symptoms, except laborious breathing; no appearance of a humoral asthma; nor was it apprehended that a convulsive one could produce just such appearances, especially as the irregularity of the pulse was not less when the breathing was free and easy, than when it proceeded to such a pitch as to oblige the patient to rise out of bed at midnight, to avoid the danger of immediate suffocation.

As the patient had lived in such a manner as might seem to have intitled him to the gout, and he was then at an age when the first attacks of this disease are most commonly irregular, this likewise was taken into consideration; tho' the constant irregularity of the pulse rather seemed to indicate, that something more permanent was the cause than the gouty matter, which, whenever it attacks these unsuspected parts, most commonly allows of some, tho' oft

K

uncertain

139. When the means above proposed are unsuccessful, the only method

uncertain and short vacations. After moderate evacuations, by bleeding and purging, were first premised a course of gum pills, extract of the bark, chalybeats in very small doses was recommended, with some mild balsamicks intermixed. No increase of the symptoms being observed from this method, it was persisted in some time; the air and moderate exercise on horseback proposed, and a due regard to quantity as well as the quality of aliments. A longer truce seemed to be gained by this method than had been perceived from the first attack; but as the winter approached, this calm was often interrupted, frequently without any manifest cause; the patient being often obliged to rise after he had been an hour in bed and spend the remaining part of the night. This soon brought on an œdematous swelling of his legs, heaviness by day, inquietude by night, and the evident symptoms of an *hydrops pectoris*.

By the use of the following remedy, viz. R. Sapon. venet. scrup. i. g. ammon. gr. x. pulv. scillar. siccat. gr. iv. syr. simp. q. s. f. bol. fumend 6^{ta} q. h. near a gallon of urine was discharged in one night, which lessened the dyspnea, abated the anasarcaous swelling that had spread even to his hips and belly, enabled him to

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thod seems to be to make an aperture into the affected side of the thorax;

to continue quietly and easily in bed thro' the night, and gave him and every one about him hopes of a speedy amendment. He enjoyed this tranquillity a month or six weeks, the irregularity of his pulse nevertheless continuing, tho' remarkably less after this evacuation of urine; once he seemed during summer to have acquired firm health, his pulse becoming somewhat less intermittent, and the other symptoms disappearing; but this was only a longer interval than ordinary. The returning winter brought with it his former complaints; and though fontanels, blisters, diureticks, purgatives, corroborants intermixed, were tried, under the direction of some of the ablest persons of the profession, his disorder increased, and he was at last suddenly suffocated by the load of water in the thorax.

One thing may be necessary to remark in respect to the use of squills, which is, that when ever one would give them as diureticks, the proper dose seems to be that quantity which will not produce a nausea, at least a lasting one. And tho', in the instance before us, four grains of the powder gave the stomach no offence, yet in most people one grain and half, or two at most, will produce this effect.

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this perforation should be made above the place commonly recommended, the diaphragm being connected to ribs higher than the ninth or tenth. —If the patient ever had a pleurisy, or other acute pain in that side, the aperture is not to be made near the seat of the pain, for there the lungs and pleura probably adhere; by which means the operator, instead of penetrating into the cavity of the thorax, may be in danger of wounding the lungs. When the perforation is made, the water is to be let out slowly, lest the lungs being too suddenly freed from compression become unable to resist or transmit the blood flowing into them, and the patient be thereby suffocated. To prevent this, the belly should be pressed with a belt, which being gradually drawn tighter, presses the diaphragm upwards as the water runs out; and if the quantity of water be very great, part of it only must be evacuated at once.

once (e). At every dressing the air that may rush in at the wound should be

(e) In *Willis* we have the case of a young man, who from too much exercise fell into a dropsy of the breast; his left side swelled, and a number of bad symptoms appearing, the doctor ordered an incision to be made between the sixth and seventh rib, to let out the water; a cannula was put into the orifice, and the first day there were about six ounces of a thick white coloured liquor, like chyle, let out; the second, about as much; on the third, the liquor run off too freely, and the patient became faint and feverish, on which account the doctor allowed no more to be let out for two or three days after, and then but a small quantity every day. By this method the patient in a little time began to recover his health and strength, so that he could at last ride and take his usual exercise. All this time but very few medicines were given, only after the operation some gentle cordials, an anodyne, and vulnerary decoction. In a few months the patient thought himself quite recovered, and took out the cannula: but the wound was no sooner healed than his disease returned, and he was obliged to have a new aperture made, and the cannula put in again; he soon got well, but was obliged to keep the cannula in ever after. *Pharm. ration. p. 2. sect. 1. cap. xiii. de hydrope pectoris.*---A wo-

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be warmed; for which purpose vessels filled with warm water are rather to be used than charcoal, or any other substance which emits suffocating or irritating steams; and when the orifice is to be dressed, the air which entered by the wound is to be squeezed out by the patient's efforts in breathing.

140. The water being evacuated, the patient must persist long in the

man about thirty years of age, labouring under both an ascites and dropsy of the breast, was cured by letting out the water first from the abdomen, and then from the thorax. After the operation she was twice purged, took an opiate morning and evening, and for some time after observed a very strict regimen of diet. *Memoir. de l'acad des sciences, 1703.*---In the same place we have an account of a man addicted to drinking, who was almost cured by the same method. When all the symptoms were gone but a little œdematous swelling of his legs, by the advice of a quack he applied blisters to them, which brought on a gangrene, of which he died. *Ibid.*

use

OF THE DROPSY. 199

use of proper medicines, especially diureticks.

DROPSY of the PERICARDIUM.

141. The dropsy of the pericardium can scarce be certainly known till after death by dissection; for all the symptoms of this disease that have been specified by the most accurate physicians are ambiguous (*f*), and attend other diseases likewise; for in-

(*f*) *Bonetus* gives the dissection of a man who died of the dropsy, in whose pericardium there was found thirty ounces of water. *Lib. ii. sect. 1. obs. 60.*---In a patient who died of a cough and asthma, the thorax and pericardium were full of water, the lungs stuffed with a viscid matter, and a number of schirrous tubercles dispersed through their substance; a stony matter too was found in them; and the liver and spleen were schirrous. *Ibid. obs. 41.*---*Piso* tells us of one Jacob Loret, who had long laboured under a palpitation of the heart and difficulty of breathing, of which he died: upon dissection there were found several pints of water in the pericardium. *De seros. colluv. sect. 3. cap. ii. obs. 39.*

K 4

stance,

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stance, an unequal pulse, an uneasiness in lying, a frequent necessity of sitting down, an oppression within the sternum after motion, difficulty of breathing, attended with a sense of pain and restlessness, either no cough at all, or a very moderate and dry one; all which symptoms become milder, or go off altogether when the patient is at rest (g).

142. Could

(g) *Franciscus Albertinus* gives the following account of this disease: “Hydropem pericardii, qui ex se ipso & solus infestat, hisce indicibus, aliqua saltem ex parte, ab aliis vitiis discriminari, ægrotantium observationes & eorum extispicia me monuerunt. Pulsus igitur comparate molles, potius frequentes, ac parvos sibi adjungere consuevit, ubi structura cordis sive immodice flaccida evaserit, sive hic illic in suis fibris inceperit fracescere, sive restagnans in pericardio humor lentus, sive mere aqueus sit. Parvos vero frequentiores adhuc, vibratos, ac tensores, cum sapor ejus salinus & vellicans est. Exiles etiam, celebriores, deficientesque, si tanta humoris copia in pericardio contineatur, quanta fere maxima contineri in eo potest. At ea pulsus inæqualitas aliis cordis vitiis communis est.”
“Tussim

142. Could the dropsy of the pericardium be discovered, its cure may be attempted by the medicines proposed for the cure of the Hydrops Pectoris, sect. 138; but it seldom yields

“ Tussim quoque vel nullam vel modicam ad-
 “ junctam habet & fere siccam sive cum sputis
 “ tantum salivalibus. Difficilis in eo decubitus
 “ & frequens residendi necessitas vix unquam
 “ incidit; eaque interdum a cibo, potu, animi
 “ aut corporis motu, etiam si in lecto motus
 “ exerceatur. Et quamvis a mediocri quocum-
 “ que locali motu ingravescat motus cordis, ad
 “ tremorem accedens, & una cum eo spirandi
 “ difficultas, sive potius apnœa, & ad sternum
 “ oppressio cum sensu doloris & jactatione con-
 “ tingat; hæc tamen in ægroto, ubi moveri
 “ desinit & quieti se tradidit, si non omnino, at
 “ maxima ex parte evanescent; modo ne iis
 “ salinis aculeis humor pericardii refertus sit,
 “ a quibus irritetur & corrodatur superficies
 “ cordis, quem ad modum eam leviter corro-
 “ sam in muliebri cadavere conspeximus. Nec
 “ absimilia symptomata, licet solum occasione
 “ concitatoris motus, illi quoque patiuntur, in
 “ quibus non nihil crassius alicubi, vel quasi
 “ membraneo vinculo laxè cordi alligatum pe-
 “ ricardium invenimus.” *Comment. acad. Bo-*
noniens, vol. i. p. 389.

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to internal remedies ; and it would be a bold, not to say a rash attempt, to make an aperture into the pericardium (*b*).

(*b*) We have, however, examples of the pericardium being opened without destroying the patient, in the *Commerc. literar. Norimberg*, 1734, *Hebd.* 35. *sect.* 4. Dr. Storkius tells us, that he caused the sternum to be perforated after a wound of the breast, and let out six pounds of blood diluted with water. By his orders also the left side of the thorax of the same man was opened, from which more than nine pounds of a bloody gelatinous matter issued. The patient lived a month after the sternum was perforated, and three days after opening the thorax. When the dead body was examined, a wound an inch long appeared in the pericardium, which contained some pus and adhered to the heart. There was an impression on the heart, which he judged to have been a wound there.---*Galen* tells of a boy, part of whose sternum was carious, which he ordered to be cut away ; and finding part of the pericardium corrupted, took it away also, and left the heart quite naked ; and yet the boy soon recovered. *De anat. administrat. lib. vii. cap. 13.*

The

The true HYDROPTHALMIA. }

143. In the true hydrophthalmia the ball of the eye increases gradually, and the sight decays; at length, when the swelling becomes large, the patient grows blind, and part of the ball stands prominent without its orbit; sometimes a smart pain is felt in it, and the transparency of the eye is lost.

144. This disease rarely proves mortal, but frequently deprives the patient of sight.

145. At its beginning it is sometimes cured by astringent strengthening applications (i). Purgatives are

(i) R. Acet. q. s. ut madescat lintum, cui aspergatur pauxillum spir. vin. camphorati, et oculo applicetur.---R. flor. camamel. rosar. rub. ana unc. ii. coque ex vin. Gallic. rub. q. s. ut fiat epithema.---R. tutiæ præparat. drach. i. vitriol. alb. gr. iv. sacchar. saturn. gr. ii. misce,

K 6

terantur.

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frequently to be given; and moderate bleeding, repeated as occasion requires, is often necessary.

146. When the eye is large, and medicines cannot diminish it, a small incision must be made into the lower part of the cornea to let out the water; after which a proper compression must be kept on the eye, and strengthening applications administered frequently; and it is often necessary to let out the water several times (*k*).

INTERNAL

terantur. in pulv. subtil. et cum aq. rosar. sesquiunc. fiat. collyrium oculo instillandum.---R. pulv. subtil. tut. drach. ii. alumin gr. v. axung. porcin. drach iii. misce, fiat s. a. ung. cujus pauxillum inter palpebras immittendum.

(*k*) *Blancard* gives two cases of the hydrophthalmia; 1. Of an English nobleman labouring under this disease, who had always a sharp pain of the eye when he eat any thing salt or sour. He tried many remedies, but received no benefit. 2. A young man, after an inflammation of the eye, was seized with an hydrophthalmia; the water was four times evacuated,

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INTERNAL HYDROCEPHALI.

147. Water has been found in large quantity between the cranium and dura

cuated, but collected anew; the fifth time it was let out, and by the help of a pressure a relapse was prevented, but he lost the sight of his eye. *Oper. vol. ii. cap. 13.*---A student of divinity labouring under an hydrophthalmia, (which not only disfigured him much, but affected the sight of his eye) after taking a great many medicines without receiving any benefit, had the water let out by an orifice made at the part where the needle is commonly introduced in couching a cataract. After the operation his eye was anointed morning and evening with vipers fat, and pledgets wet with camphorated spirit of wine kept constantly applied to it: notwithstanding which the water collected anew. It was again perforated, and the same remedies applied, while a continual pressure was kept upon it with a concave piece of lead just large enough to cover the eye. By this manner of treatment the eye, in a few months, was in a pretty good state. *Heister's observat. p. 589. obs. 527.*---*Nuck* mentions a case where the eye was reduced to its natural state by frequently letting out the water, and keeping a pressure upon

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dura mater (*l*), or between this membrane and the pia mater (*m*); and hydatides have been observed in the substance of the brain (*n*). These have all

upon it with a piece of lead. *De oculor. dueti-
bus aquos. cap. 2.*---Boerhaave says he was twice
so lucky as to cure this disease; his method of
cure was by bleeding, and giving strong mer-
curial hydragogue purges, by letting out the
water frequently, and then keeping pledgets
dipped in spirit of wine applied to the eye, and
compressing it with a plate of lead. He says an
atrophy of the eye generally succeeds the cure
of this disease. *De morb. oculor. sect. 165.
p. 170.*

(*l*) Five pounds of water was found between
the skull and dura mater, in the falx and cavi-
ties of the brain. *Bonnet. sepulch. anat. lib. i.
sect. 2. obs. 45.*---Trew saw water between the
skull and dura mater, between this last and the
pia mater, and in the ventricles of the brain.
Act. phys. med. a. n. c. vol. iv. obs. 135.

(*m*) *Blancard* found about two pounds of wa-
ter between the dura and pia mater of a foetus
about seven months old, and also a vesicle that
contained thirty ounces of water adhering to
the membranes of the back part of its mouth
that lie above the vertebræ. *Oper. vol. ii. p.
135.*

(*n*) See cases of hydatides in the brain in
Haller's

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all the name of internal hydrocephali.
They bring on the symptoms of a
com-

Haller's disput. anat. vol. ii. p. 845. by Bergen.

---In a boy between six and seven years of age who died of an hydrocephalus, there was found a small cyst full of water near the surface of the brain, the ventricles distended with water, and a number of hydatides in the plexus choroides.

Medical essays, vol. iii. art. 23.---*Wepfer* says that a surgeon of credit (Philip Oemelin) assured him, that hydatides in the brain was a common disease among the horned cattle in Switzerland, and shewed itself by a giddiness or vertigo. When the country people observe this, they strike the head behind the horns with a hammer, to try if by the sound they can distinguish any preternatural hollow below, and if they imagine they do, they immediately trepan the part, put a quill into the hole, and suck out the hydatides, if they lie near the surface of the brain, and so make a cure: but, if the hydatides lie so deep in the brain that they cannot suck them out, they immediately kill the creature. This operation the surgeon assured him he had seen done, and attended with success.

De apoplect. loco affect. p. 69. He afterwards tells us, that he himself saw it tried upon an ox afflicted with giddiness, when a large number of hydatides were sucked out; but the vertigo still continuing they killed the creature, and,
upon

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pressed brain, to wit, pain of the head, giddiness, stupor; such patients stare excessively, the tears frequently flow, they are drowsy, their senses dull; sometimes they become blind and deaf, and lose all the animal faculties, till at last convulsions, lethargy, or apoplexy put an end to their miseries. But since these symptoms may be produced by other causes, and the crania of adults do not yield to the distending water, one can only conjecture in such a case what is the disease. In children, indeed, the bones of whose heads are not firmly united, they are separated by the water farther than

upon opening the head, they found a number of hydatides in the ventricles of the brain. *Hist. apoplect.* 14. These histories although related by Wepfer, an author of credit, yet seem too much upon the marvellous; and, at any rate, the uncertainty of the existence of the disease from the method taken to discover it, and the danger of the operation, will, in all probability, prevent its being ever attempted on the human subject.

they

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they ought to be, and leave larger spaces between them, where sometimes the fluctuation of water can be felt.

148. Corroborants, catharticks, diureticks, and diaphoreticks are to be employed according to the exigency of the case.—The head is to be covered with a woollen cap well fumigated with spices, over which a pretty tight bandage is to be put (o); a perpetual issue is to be kept running at the bregma; or a pea issue may be put at the lower part of the occiput; and rather than let the patient inevitably perish, a very uncertain and dangerous operation may be attempted,

(o) A child whose head was much swelled, and the sutures greatly dilated, was cured by bandages alone, without any other assistances. *River. obs. commun. obs. vi.*---It is said in *Boerhaave's praxis medica*, that he cured the hydrocephalus by giving some purgatives, putting in an issue, and afterwards bandaging and fomenting the head. *Seet. 1204.*

viz.

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viz. To make an aperture by which the water may flow out (*p*). As a trocar requires a forcible push to make it perforate the teguments, its point may penetrate further than is intended; therefore it is safer to make the opening with a lancet, wherever a fluctuation can be felt, taking care not to wound the larger arteries or the superior longitudinal sinus. After a small quantity of water is let out, the wound is to be stuffed to prevent too

(*p*) A surgeon opened the bregma of a child of nine months old, and let out a pound of water, but the child died in about thirty-six hours after. *Hildan. obs. chirurg. cent. 5. obs. 17.*---Le Cat let out the water of a hydrocephalus at different times, by help of a short broad shouldered trocar, the cannula of which he let remain in the wound. He covered its orifice with a sticking plaister, which he removed when he let out any of the water, and put it on again when he thought he had evacuated a sufficient quantity; and always afterwards bound up the head tight with a capaline bandage; notwithstanding which precautions the child died the fifth day after the operation. *Philosoph. transact. for 1751, 1752. sect. 40.*

great

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great a discharge; for worse effects are to be expected from a sudden evacuation here than any where else, because the weak vessels of the brain, and its soft substance, cannot resist the force and rarefaction of the blood impelled by the heart; so that the brain is soon overloaded with blood when the pressure of the water is too suddenly taken away: a sponge, or some such substance, which allows a slow draining off of the water, is the best and safest application to the wound; for a pipe introduced into the wound, and allowed to remain there, may hurt the tender internal parts. As the water is thus drawing off, the bandage on the head ought to be drawn tighter and tighter, that the cranium may be contracted in proportion to its contents.

If the internal medicines that augment the excretions are found insufficient to free an adult from this disease,

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ease, trepanning is the only remedy in such a case.

WATER in the VENTRICLES of the BRAIN.

149. Water in the ventricles of the brain may be called The most internal Hydrocephalus (q).

150. When it distends these cavities, the substance of the brain being

(q) *Tulpius* found five pounds of water in the ventricles of the brain of a boy of five years of age. The brain at first seemed wanting, but it adhered every where to the bones of the skull, in form almost of a thick membrane. *Obs. lib. i. obs. 24.* And in the following observation he says, he has twice seen about two pounds in one of the ventricles, without any in the other. *Ibid. obs. 25.*---*Vesalius* saw a case of a hydrocephalus where the ventricles of the brain were so much distended as to contain nine pounds of water. *Anat. lib. i. cap. 5.*---*Hildanus* took eighteen pounds of water out of the ventricles of the brain. *Cent. i. obs. 10.*---The ventricles contained twenty-four pounds of water in a child of a month old. *Misc. cur. a. n. c. dec. 3. ann. 1. obs. 10.*

squeezed.

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squeezed between the water and the skull, must become very thin, and we may expect the patient to have a high degree of the symptoms mentioned in sect. 147.

151. This disease must be treated as directed for the hydrocephalus, where the water is either between the skull and dura mater, or between it and the pia mater (*r*); only it is obvious that no incision can be made into the hydropical sac without immediate danger of the patient's life (*s*).

(*r*) A boy six years of age, whose head was as large as that of a youth of eighteen, was cured by aromack and spirituous medicines applied to his head, an issue in each leg, frequent purging, taking lixivium of tartar with his drink, and aromatics with his food. *Misc. cur. a. n. c. dec. 1. ann. 1. obs. 46.*

(*s*) It was surprising that Le Cat's child, mentioned before, lived five days after the operation, the water having been let out of the ventricles of the brain.

BASTARD

BASTARD HYDROCEPHALUS.

152. The bastard hydrocephalus, is an hydropical excrecence on the back part of the head, the sac of which has an immediate communication with the ventricles of the brain; it is a sort of appendix to the last named true species of hydrocephalus, and is seldom or never cured, but proves fatal in a short time.

153. The integuments are to be kept entire as long as possible; for the opening such tumors causes death soon (*t*); and the external medicines prescribed in sect. 72. *a.* may be tried; but little or nothing else can be

(*t*) *Ruyfch* has sometimes seen these tumors larger than the head of a new-born foetus, and he remembers once to have seen one larger than the child's whole body; he says they communicate with the ventricles of the brain, and that the opening them destroys the patient immediately. *Obs. anat. chirurg. obs. 52.*

done

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done for such young patients as these generally are.

DROPSY of the SPINAL MARROW, or SPINA BIFIDA.

154. The same is to be said of the watery tumors of the spine, where the back parts of the vertebræ, or os sacrum, are wanting, and the spinal marrow seems in many to have been changed into water (*u*).

(*u*) *Ruyfch* relates ten cases of this disease which all proved mortal. *Obs.* 34.----*Blancard* met with two which had the same fatal exit.---*Mr. Malcolm*, surgeon to the Scots royal regiment, told me, he once saw such a tumor opened, and the child died immediately.---I once saw such a tumor, but would not allow it to be opened; what became of the child I know not, having never seen it or the parents afterwards.---A child had fifty ounces of water within its brain, a tumor on its occiput, and a divided spine. *Bonet. sepulchret. anat. lib. i. sect. 16. obs. 4.*---A similar case, where the spinal marrow at the part where the tumor was could not be seen, and there were scarce any vestiges of nerves. *Misc. cur. a. n. c. dec.*
2. ann.

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2. *ann.* 2. *obs.* 158.---A child was born with a tendinous, or coriaceous, spot above the os sacrum, which extended itself into a large tumor, and was extirpated. It contained more than a pound of water, and the nerves of the cauda equina. The child was always paralytick in the lower extremities, and could not retain its fæces or urine. The bulk of the head diminished considerably when the operation was performed, and it died next day. *Misc. cur. a. n.* 8. *dec.* 1. *ann.* 1. *obs.* 152. *hist.* 2.

F I N I S.

