

A guide to health : being cautions and directions in the treatment of diseases : designed chiefly for the use of students / by the Rev. Joseph Townsend, rector of Pewsey, author of The physician's vade mecum, and of A journey through Spain. [Vol. 1].

Contributors

Townsend, Joseph, 1739-1816
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Publication/Creation

London : Printed for Cox , St. Thomas's-Street, Borough ; and sold by Robinsons, Paternoster-Row ; Dilly, in the Poultry ; Murray , Fleet-Street ; and Owen, Piccadilly, opposite Bond-Street, 1795.

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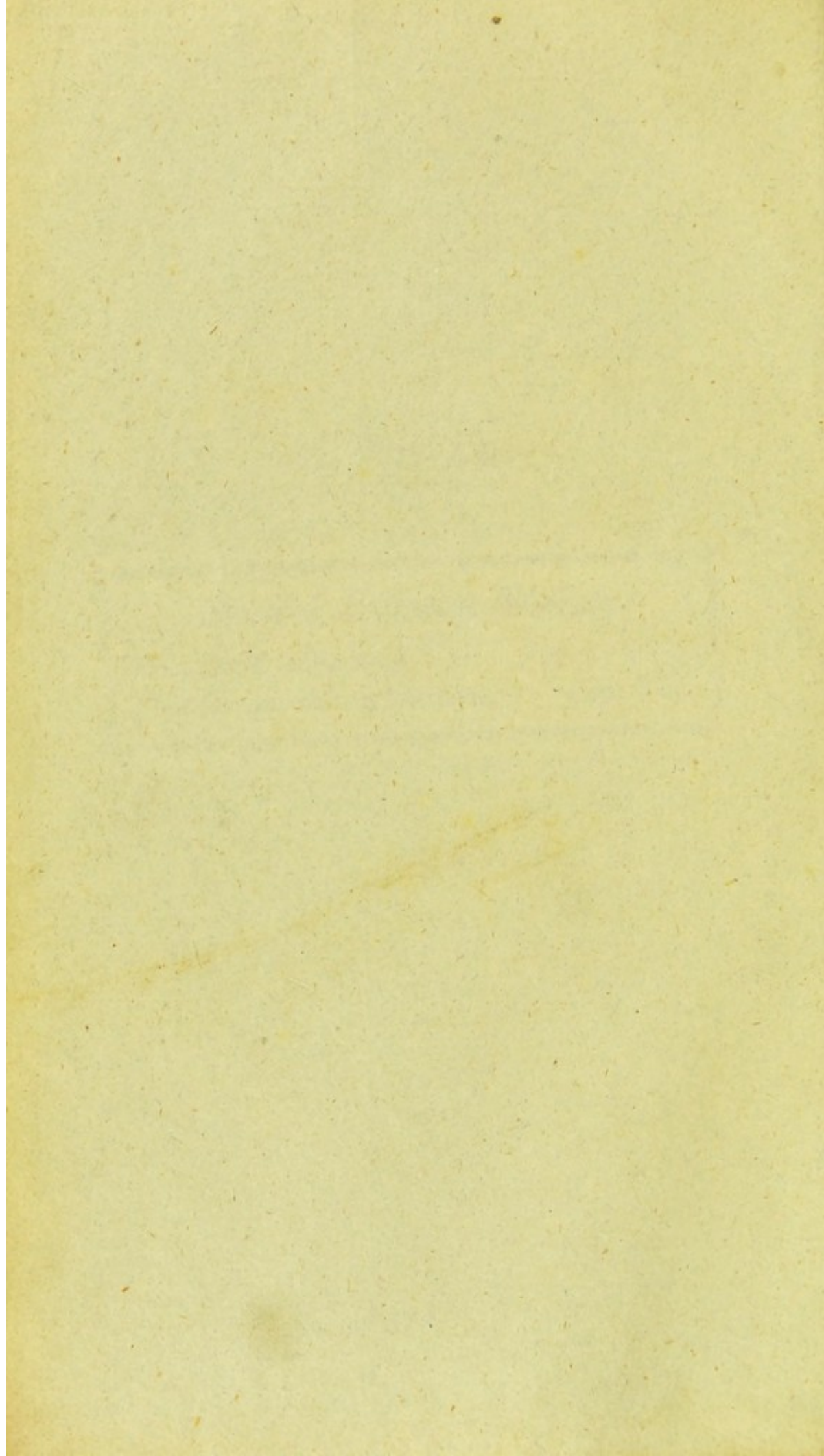
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A
GUIDE TO HEALTH;

BEING
CAUTIONS AND DIRECTIONS

IN THE
TREATMENT OF DISEASES.

DESIGNED CHIEFLY FOR THE USE OF
STUDENTS.

BY THE REV. JOSEPH TOWNSEND,

RECTOR OF PEWSEY,
AUTHOR OF THE PHYSICIAN'S VADE MECUM,
AND OF A JOURNEY THROUGH SPAIN.

VOL. II.

see self


Nullius in Verba Magistri.

LONDON:

PRINTED FOR COX, ST. THOMAS'S-STREET, BOROUGH;
AND SOLD BY JOHNSON, ST. PAUL'S CHURCH-YARD; ROBINSONS, PATER-
NOSTER-ROW; DILLY, IN THE POULTRY; MURRAY AND
HIGHLEY, FLEET-SREET; AND OWEN, PICCA-
DILLY, OPPOSITE BOND-STREET.

1796.

GUIDE TO HEALTH
BY
GEORGE AND MARY
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A GUIDE TO HEALTH
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CONTENTS OF VOLUME II.

	PAGE
GEN. XLIX. PERTUSSIS. <i>Clin-cough</i> or <i>Hooping-cough</i> - - - - -	1
{ Sect. I. Of the <i>proximate Cause</i> of HOOPING-COUGH	1
{ Sect. II. Of the <i>Indications</i> of Cure in HOOPING-COUGH - - - - -	2
Genus L. PYROSIS. <i>Water-brash</i> - - -	4
Gen. LI. DYSENTERIA. <i>Dysentery</i> - - -	4
{ Sect. I. Of the <i>proximate Cause</i> of DYSENTERY -	4
{ Sect. II. Of the <i>remote Cause</i> of DYSENTERY - -	6
{ Sect. III. Of the <i>Indications</i> of Cure in DYSENTERY	9
Gen. LII. COLICA. <i>Colic</i> - - - - -	14
{ Sect. I. Of the <i>Species</i> of Colic - - - - -	14
{ Sect. II. Of the <i>proximate Cause</i> of COLIC, and <i>Indications</i> of Cure - - - - -	15
Gen. LIII. CHOLERA. <i>The Cholera Morbus</i> -	16
{ Sect. I. Of the <i>Causes</i> of CHOLERA - - - - -	17
{ Sect. II. Of the <i>Cure</i> of CHOLERA - - - - -	18
Gen. LIV. DIARRHŒA - - - - -	19
{ Sect. I. Of the <i>Causes remote</i> and <i>proximate</i> of DIARRHŒA - - - - -	19
{ Sect. II. Of the <i>Indications</i> of Cure in DIARRHŒA	20

	PAGE
Genus LV. DIABETES. <i>An imoderate flow of Urine</i>	24
{ Sect. I. Of the <i>Causes proximate</i> and <i>remote</i> of DIA-	
BETES - - - - -	24
{ Sect. II. Of the <i>Indications of Cure</i> - - - -	33
Gen. LVI. HYSTERIA - - - - -	34
{ Sect. I. Of the <i>attendant Symptoms</i> - - - -	34
{ Sect. II. Of the <i>predisponent Cause</i> of HYSTERIA	35
{ Sect. III. Of the <i>occasional Causes</i> of HYSTERIA -	36
{ Sect. IV. Of the <i>proximate Cause</i> of HYSTERIA -	37
{ Sect. V. Of HYSTERIA as <i>distinguished</i> from HYPO-	
CHONDRIASIS - - - - -	38
{ Sect. VI. Of the <i>Indications of Cure</i> in HYSTERIA	39
Gen. LVII. HYDROPHOBIA. <i>Canine Madnefs</i> -	52

Class II. NEUROSES.

Order IV. VESANIÆ.

Gen. LVIII. ONEIRODYNIA. <i>Incubus or Night-mare</i>	55
<i>Introduction</i> - - - - -	55
{ Sect. I. Of the <i>Species</i> of ONEIRODYNIA with Sy-	
nonima - - - - -	56
{ Sect. II. Of the <i>Causes remote</i> and <i>proximate</i> of	
ONEIRODYNIA GRAVANS - - - -	58
{ Sect. III. Of the <i>Brain</i> - - - - -	60
{ Sect. IV. Of <i>Sleep</i> - - - - -	71
{ Sect. V. Of <i>Vigilance</i> - - - - -	77
{ Sect. VI. Of <i>Dreaming</i> - - - - -	87
{ Sect. VII. Of the <i>Causes remote</i> and <i>proximate</i> of	
ONEIRODYNIA GRAVANS - - - -	90
{ Sect. VIII. Of the <i>Indications of Cure</i> in ONEIRO-	
DYNIA - - - - -	91
Gen. LIX. MELANCHOLIA. <i>Melancholy</i> - - -	93
<i>Introduction</i> - - - - -	93

Sect,

	PAGE
Sect. I. Of <i>Delirium</i> - - - - -	94
Sect. II. Of the <i>History</i> and <i>Progress</i> of MELAN- CHOLY - - - - -	100
Sect. III. Of the <i>remote Causes</i> of MELANCHOLIA, with <i>Cases</i> - - - - -	102
Sect. IV. Of the <i>proximate Cause</i> of MELANCHOLIA	109
Sect. V. Of the <i>Indications</i> of <i>Cure</i> in MELAN- CHOLIA - - - - -	120
Gen. LX. MANIA. <i>Furious Madness</i> - - - - -	129
Sect. I. The <i>History</i> of MANIA - - - - -	129
Sect. II. Of the <i>Species</i> of MANIA - - - - -	132
Sect. III. Of the MANIA MELANCHOLICA - - - - -	135
Sect. IV. Of MANIA PHRENITOIDES - - - - -	145
Sect. V. Of MANIA HYSTERICA - - - - -	156
Sect. VI. Of the MANIA MENTALIS of Dr. Cullen	173
Gen. LXI. AMENTIA. <i>Idiotism</i> - - - - -	186

Class III. CACHEXIÆ.
CACHEXIES.

<i>Introduction</i> - - - - -	182
Sect. I. Of the <i>Absorbents</i> and their <i>Use</i> - - -	184
Sect. II. Of <i>Morbid Action</i> in the <i>Absorbents</i> - -	190
Sect. III. Of the general <i>Indications</i> of <i>Cure</i> in mor- bid action of the ABSORBENTS - - -	194

Class III. CACHEXIÆ.
Order I. MARCORES.

Gen. LXII. TABES. <i>A wasting of the Body</i> - - -	203
Sect. I. Of <i>Nutrition</i> - - - - -	203
Sect. II. Of the <i>occasional Causes</i> of EMACIATION and DEBILITY - - - - -	216
Sect. III. Of HECTIC - - - - -	219
Sect. IV. Of the <i>Species</i> of TABES - - - - -	221
Sect. V. Of the <i>Indications</i> of <i>Cure</i> in TABES -	224
Class	

Class III. CACHEXIÆ.
Order II. INTUMESCENTIÆ.

	PAGE
Gen. LXIII. POLYSARCIA. <i>Obesity</i> - - - -	229
Gen. LXIV. PNEUMATOSIS. <i>Emphysema, or windy Swellings</i> - - - -	231
Gen. LXV. TYMPANITES. <i>Tympany</i> - - - -	234
Gen. LXVI. PHYSOMETRA. <i>Windy Swellings of the Uterus</i> - - - -	243
Gen. LXVII. ANASARCA. <i>Universal Dropsy</i> - -	243
{ Sect. I. Of the <i>remote and proximate Cause of DROPSY</i> - - - -	244
{ Sect. II. Of the <i>Indications of Cure in ANASARCA</i>	246
Gen. LXVIII. HYDROCEPHALUS EXTERNUS. <i>An external Swelling of the Head</i> - - -	261
Gen. LXIX. HYDRORACHITIS. <i>The Spina Bifida</i>	262
Gen. LXX. HYDROTHORAX. <i>Dropsy in the Chest</i>	266
Gen. LXXI. ASCITES. <i>Dropsical Swelling of the Abdomen</i> - - - -	268
{ Sect. I. Of the <i>Causes of ASCITES</i> - - - -	268
{ Sect. II. Of the <i>Indications of Cure in ASCITES</i> -	269
{ Sect. III. <i>Cases of ASCITES</i> - - - -	272
Gen. LXXII. HYDROMETRA. <i>Dropsy of the Womb</i>	275
Gen. LXXIII. HYDROCELE. <i>Dropsy of the Scrotum</i>	276
Gen. LXXIV. PHYSCONIA. <i>Enlargement of the Abdomen</i> - - - -	278
Gen. LXXV. RACHITIS. <i>Rickets</i> - - - -	279
{ Sect. I. <i>History and Progress of RACHITIS</i> - -	28
{ Sect. II. Of the <i>Causes remote and proximate of RACHITIS</i> - - - -	281
{ Sect. III. Of the <i>Indications of Cure in RACHITIS</i>	284

Class III. CACHEXIÆ.
Order III. IMPETIGENES.

Gen. LXXVI. SCROPHULA. <i>King's Evil</i> - - -	288
	Sect.

CONTENTS.

	PAGE
<div> <div>Sect. I. <i>History and Progress of SCROPHULA</i> - -</div> <div>Sect. II. <i>Of the Species of SCROPHULA</i> - - -</div> <div>Sect. III. <i>Of the proximate Cause of SCROPHULA</i> -</div> <div>Sect. IV. <i>Of the Indications of Cure in SCROPHULA</i> -</div> </div>	<div>ib.</div> <div>290</div> <div>292</div> <div>ib.</div>
Gen. LXXVII. <i>SYPHYLLIS. Venereal Disease</i> - -	298
Gen. LXXVIII. <i>SCORBUTUS. Scurvy</i> - - -	303
Gen. LXXIX. <i>ELEPHANTIASIS</i> - - -	307
Gen. LXXX. <i>LEPRA. Leprosy</i> - - -	311
Gen. LXXXI. <i>TRICHOMA. Plica Polonica</i> - -	313
Gen. LXXXII. <i>ICTERUS. Jaundice</i> - - -	314
<div>Sect. I. <i>Of the Causes remote and proximate of IC-</i></div> <div>TERUS - - -</div> <div>Sect. II. <i>Of the Species of ICTERUS</i> - - -</div> <div>Sect. III. <i>Of the Indications of Cure in ICTERUS</i> -</div> <div>Sect. IV. <i>Of Cases of JAUNDICE</i> - - -</div>	<div>315</div> <div>316</div> <div>325</div> <div>334</div>
Gen. LXXXIII. <i>CHLOROSIS. Green Sickness</i> - -	342
<div>Sect. I. <i>Of the Causes remote and proximate of</i></div> <div>CHLOROSIS - - -</div> <div>Sect. II. <i>Of the Indications of Cure in CHLOROSIS</i> -</div>	<div>343</div> <div>345</div>

Class IV. LOCALES.

Order I. *DYSÆSTHESIÆ.*

Gen. LXXXIV. <i>CALIGO. Darkness</i> - - -	351
Gen. LXXXV. <i>AMAUROSIS. Gutta Serena</i> - -	357
<div>Sect. I. <i>Of the History of AMAUROSIS</i> - - -</div> <div>Sect. II. <i>Of the proximate Cause of AMAUROSIS</i></div> <div>and distinction into <i>Species</i> - - -</div> <div>Sect. III. <i>Of the Indications of Cure in AMAUROSIS</i> -</div>	<div>ib.</div> <div>358</div> <div>363</div>
Gen. LXXXVI. <i>DYSOPIA. Defect in vision</i> - - -	366
Gen. LXXXVII. <i>PSEUDOBLEPSIS. Imaginary vision</i>	
of <i>Objects</i> - - -	367
Gen. LXXXVIII. <i>DYSECOEA. Hearing diminished or</i>	
destroyed - - -	369
Sect.	

CONTENTS.

	PAGE
{ Sect. I. Of the <i>Causes</i> of DEAFNESS - - - -	ib.
{ Sect. II. Of the <i>Cure</i> of DEAFNESS - - - -	571
{ Sect. III. <i>Cases</i> of DEAFNESS - - - -	375
Gen. LXXXIX. PARACUSIS. <i>Singing in the Ears</i> -	379
Gen. XC. ANOSMIA. <i>Smell diminished or destroyed</i> - - - -	382
Gen. XCI. AGEUSTIA. <i>Taste diminished or destroyed</i> - - - -	383
Gen. XCII. ANÆSTHESIA. <i>Loss of Feeling</i> -	384

Class IV. LOCALES.

Order II. DYSOREXIÆ.

Gen. XCIII. BULIMIA. <i>Appetite for Food voracious</i>	385
Gen. XCIV. PICA. <i>Appetite depraved</i> - - - -	386
Gen. XCV. POLYDIPSIA. <i>Excessive Thirst</i> - -	387
Gen. XCVI. SATYRIASIS. <i>Libidinous Passions in Men</i> - - - -	389
Gen. XCVII. NYMPHOMANIA. <i>Furor Uterinus</i>	393
Gen. XCVIII. NOSTALGIA. <i>Impatience to return home</i> - - - -	394
Gen. XCIX. ANOREXIA. <i>Appetite impaired</i> - -	395
Gen. C. ANAPHRODISIA. <i>Impotence</i> - -	398

Class IV. LOCALES.

Order III. DYSCINESCIÆ.

Gen. CI. APHONIA. <i>Inability to utter Sounds</i>	400
Gen. CII. MUTITAS. <i>Inability to utter articulate Sounds</i> - - - -	401
{ Sect. I. Of the <i>Species</i> of DUMBNESS - - - -	ib.
{ Sect. II. <i>Cases</i> of MUTITAS - - - -	404
Gen. CIII. PARAPHONIA. <i>Depravation of Voice</i>	406
Gen. CIV. PSELLISMUS. <i>Vitious articulation</i> -	409

CONTENTS.

	PAGE
Gen. CV. STRABISMUS. <i>Squinting</i> - - - -	412
Gen. CVI. CONTRACTURA. <i>A permanent and rigid contraction of a Joint</i> - - - -	413

Class IV. LOCALES.

Order IV. APOCENOSES.

Gen. CVII. PROFUSIO. <i>Loss of Blood</i> - - - -	415
Gen. CVIII. EPHIDROSIS. <i>A violent and morbid Sweating</i> - - - - -	416
Gen. CIX. EPIPHORA. <i>Lacrymation</i> - - - -	418
Gen. CX. PTYALISMUS. <i>A Salivation</i> - - - -	423
Gen. CXI. ENURESIS. <i>Involuntary discharge of Urine</i> - - - - -	425
Gen. CXII. GONORRHŒA. <i>A Flux from the Urethra of Men</i> - - - - -	428

Class IV. LOCALES.

Order V. EPISCHESES.

Gen. CXIII. OBSTIPATIO. <i>Costiveness</i> - - - -	431
Gen. CXIV. ISCHURIA. <i>Suppression of Urine</i> - -	436
Gen. CXV. DYSURIA. <i>Difficulty and pain in discharging Urine</i> - - - - -	446
Gen. CXVI. DYSPERMATISMUS. - - - - -	449
Gen. CXVII. AMENORRHŒA. <i>Menses wholly or partly obstructed</i> - - - - -	450

Class IV. LOCALES.

Order VI. TUMORES.

Gen. CXVIII. ANEURISMA. <i>A soft Tumour on Arteries with Pulsation</i> - - - - -	454
---	-----

CONTENTS.

	PAGE
Gen. CXIX. VARIX. <i>A soft Tumour on Veins without Pulsation</i> - - - - -	457
Gen. CXX. ECCHYMOMA. <i>A Bruise</i> - - - - -	450
Gen. CXXI. SCIRRHUS - - - - -	459
Gen. CXXII. CANCER - - - - -	462
Gen. CXXIII. BUBO. - - - - -	465
Gen. CXXIV. SARCOMA. <i>A fleshy Excrescence</i> - - - - -	467
Gen. CXXV. VERRUCA. <i>A Wart</i> - - - - -	469
Gen. CXXVI. CLAVUS. <i>A Corn</i> - - - - -	470
Gen. CXXVII. LUPIA. <i>A Cyst under the Skin</i> - - - - -	471
Gen. CXXVIII. GANGLION. <i>A soft Tumour on a Tendon</i> - - - - -	ib.
Gen. CXXIX. HYDATIS. <i>An Hydatid</i> - - - - -	473
Gen. CXXX. HYDARTHUS. <i>A White Swelling</i> - - - - -	ib.
Gen. CXXXI. EXOSTOSIS. <i>A hard Tumour on a Bone</i> - - - - -	474

Class IV. LOCALES.

Order VI. ECTOPIÆ.

Gen. CXXXII. HERNIA. <i>A Rupture</i> - - - - -	478																
<table> <tr> <td>Sect. I. <i>Introduction, with enumeration of the Species</i> - - - - -</td> <td>ib.</td> </tr> <tr> <td>Sect. II. <i>Of ENTEROCELE</i> - - - - -</td> <td>479</td> </tr> <tr> <td>Sect. III. <i>Of EPEPLOCELE</i> - - - - -</td> <td>486</td> </tr> <tr> <td>Sect. IV. <i>Of GASTROCELE</i> - - - - -</td> <td>487</td> </tr> <tr> <td>Sect. V. <i>Of HEPATOCELE and SPENOCELE</i> - - - - -</td> <td>ib.</td> </tr> <tr> <td>Sect. VI. <i>Of HYSTEROCELE</i> - - - - -</td> <td>488</td> </tr> <tr> <td>Sect. VII. <i>Of CYSTOCELE</i> - - - - -</td> <td>ib.</td> </tr> <tr> <td>Sect. VIII. <i>Of ENCEPHALOCELE</i> - - - - -</td> <td>489</td> </tr> </table>	Sect. I. <i>Introduction, with enumeration of the Species</i> - - - - -	ib.	Sect. II. <i>Of ENTEROCELE</i> - - - - -	479	Sect. III. <i>Of EPEPLOCELE</i> - - - - -	486	Sect. IV. <i>Of GASTROCELE</i> - - - - -	487	Sect. V. <i>Of HEPATOCELE and SPENOCELE</i> - - - - -	ib.	Sect. VI. <i>Of HYSTEROCELE</i> - - - - -	488	Sect. VII. <i>Of CYSTOCELE</i> - - - - -	ib.	Sect. VIII. <i>Of ENCEPHALOCELE</i> - - - - -	489	
Sect. I. <i>Introduction, with enumeration of the Species</i> - - - - -	ib.																
Sect. II. <i>Of ENTEROCELE</i> - - - - -	479																
Sect. III. <i>Of EPEPLOCELE</i> - - - - -	486																
Sect. IV. <i>Of GASTROCELE</i> - - - - -	487																
Sect. V. <i>Of HEPATOCELE and SPENOCELE</i> - - - - -	ib.																
Sect. VI. <i>Of HYSTEROCELE</i> - - - - -	488																
Sect. VII. <i>Of CYSTOCELE</i> - - - - -	ib.																
Sect. VIII. <i>Of ENCEPHALOCELE</i> - - - - -	489																
Gen. CXXXIII. PROLAPSUS. <i>A Protrusion</i> - - - - -	490																
Gen. CXXXIV. LUXATIO. <i>A Dislocation</i> - - - - -	497																

Class

CONTENTS.

Class IV. LOCALES.

Order VIII. DIALYSIS.

	PAGE
Gen. CXXXV. VULNUS. <i>A Wound</i> - - - -	500
Gen. CXXXVI. ULCUS. <i>An Ulcer</i> - - - -	506
{ Sect. I. Of <i>Inflammation</i> and its several <i>species</i> -	ib.
{ Sect. II. Of <i>Suppuration</i> - - - -	509
{ Sect. III. Of <i>Ulceration</i> - - - -	510
{ Sect. IV. Of <i>Granulation</i> - - - -	512
{ Sect. V. Of <i>general</i> and <i>special</i> management of	
ULCERS - - - -	514
Gen. CXXXVII. HERPES. <i>Tettars</i> - - - -	525
Gen. CXXXVIII. TINEA. <i>A Scald Head</i> - - - -	529
Gen. CXXXIX. PSORA. <i>The Itch.</i> - - - -	531
Gen. CXL. FRACTURA. <i>A Fracture</i> - - - -	532
Gen. CXLI. CARIES. <i>The destruction of Bones</i> -	533
A NOSOLOGICAL SYNOPSIS, adapted to the Work	537

THE IVY TOILETS

Other Villainous

100	THE IVY TOILETS
101	THE IVY TOILETS
102	THE IVY TOILETS
103	THE IVY TOILETS
104	THE IVY TOILETS
105	THE IVY TOILETS
106	THE IVY TOILETS
107	THE IVY TOILETS
108	THE IVY TOILETS
109	THE IVY TOILETS
110	THE IVY TOILETS
111	THE IVY TOILETS
112	THE IVY TOILETS
113	THE IVY TOILETS
114	THE IVY TOILETS
115	THE IVY TOILETS
116	THE IVY TOILETS
117	THE IVY TOILETS
118	THE IVY TOILETS
119	THE IVY TOILETS
120	THE IVY TOILETS
121	THE IVY TOILETS
122	THE IVY TOILETS
123	THE IVY TOILETS

A NOVEL BY THE AUTHOR OF THE IVY TOILETS

Genus XLIX. *Pertussis.*

Chin Cough, or Hooping Cough.

THE symptoms are convulsive strangulating cough with hooping, relieved by spontaneous vomiting. It is contagious.

SECTION I.

OF THE PROXIMATE CAUSE OF HOOPING COUGH.

FROM all the observations I have made on this disease, it appears to be connected with, if not wholly dependant on, the affections of the stomach, and to have for its proximate cause morbid irritability chiefly of the stomach with increased action of its mucous glands. Yet such is the correspondence and consent between the stomach and the lungs, that it is not in all cases easy to determine, in which of the two is the original seat of the disease. In catarrh this consent has been already noticed, but more particularly in tussis stomachalis

and in asthma; and we have occasion to make the same remark in whooping cough.

That in this disease there is produced a distressing quantity of viscid mucus or tough phlegm, we have ocular demonstration, and evidently see, that when the stomach has been cleared from this the cough ceases for a time.

SECTION II.

OF THE INDICATIONS OF CURE IN HOOPING COUGH.

TAKING therefore morbid irritability chiefly of the stomach, with increased action of its mucous glands, for the proximate cause of chin cough, the indications of cure will be to remove the irritating cause, that is, the phlegm, and to diminish the morbid irritability of the stomach with the increased action of the mucous glands, the former by frequent emetics, and the latter by astringents, to which may be joined antispasmodics, and the inhalation of *vital air* diluted with atmospheric.

R Antimon. tartarizat. gr. 3. Aq. Menth. un. 3.
Syr. balf. dr. 2. M. Capt. un. 1 omni horæ quadrante usque ad vomitionem.

Take

Take tartar emetic three grains ; mint water three ounces ; balsamic syrup two drams : Mix, and take one ounce every quarter of an hour till it vomits.

R Cinchon. Rub. un. 2. Aq. font. lb. 3. Coque ad lb. 2. Colaturæ un. 3. adde Tinct. Asæ foetid. gtt. 15. Tinct. Opii, gtt. 10. om. 8a. h. s.

Take red bark two ounces, spring water three pints ; boil it to one quart, and strain. To three ounces of this decoction add tincture assa foetida fifteen drops, liquid laudanum ten drops. To be given three times a day.

It frequently happens where emetics have been omitted, that children, after the hooping-cough, are troubled with *worms*. These may be destroyed by calomel, and then the tonic plan must be pursued. I had lately a little patient three years and an half old, in the hooping-cough ; who, when brought to me, had that morning passed one and thirty worms, and in the preceding days twenty-eight, many of which were from six to nine inches long. To this little infant I gave two grains of calomel every night, and three grains of jalap the succeeding morning. These procured two stools in the course of the day, brought away three worms, making the whole number sixty-one, and in ten days perfected a cure of the hooping-cough, without the assistance of emetics.

Genus L. *Pyrosis*.

WATER-BRASH of Scotland, and WATER-BRASH of the west of England, is a copious eructation of a watery insipid fluid, attended with heart-burn. It frequently recurs, but being attended with no alarming symptoms, it has generally been left to nature.

Genus LI. *Dysenteria*.*Dysentery*.

OF this the symptoms are frequent griping stools, chiefly mucous, sometimes mixed with blood and followed by tenesmus. It is commonly attended by pyrexia, and appears to be contagious.

SECTION I.

OF THE PROXIMATE CAUSE OF DYSENTERY.

FROM all the observations I have made, I acquiesce in the opinion of Dr. CULLEN respecting the

the proximate cause of this disease, and have therefore ventured to remove it from the pyrexiaë, and to arrange it under the class NEUROSES, in the order SPASMI.

It appears to be a spasmodic constriction of the colon induced by local irritation.

By this constriction the fæces are retained, and by the action of the absorbents they become hardened, and therefore increase both the irritation and spasm.

In consequence of this the mucous glands of the intestines are excited, either by the immediate action of the hardened fæces, or by consent to supply the mucus, which is hurried on by the quickened peristaltic motion of the intestines, and appears in frequent stools.

The same irritation, communicated by sympathy to the heart, quickens the pulse, but in the extreme arteries of the part affected produces either effusion of blood or inflammation. This again increases irritability, and consequently spasm.

The stimulus applied to any part of the intestines being propagated to the rectum, produces the *tenesmus*, that is, a most urgent and incessant desire to evacuate the fæces.

That the theory of Dr. CULLEN is well-founded will appear from hence, that when the hardened *scybalæ* are evacuated, the disease is speedily relieved.

Should it be suffered to continue, the villous coat will separate, and be discharged mixed with pus

or putrid fanies, because the acrid matter acts like cantharides, when it brings on inflammation and separates the cuticle, or continuing to act when the vital energy is much diminished, induces sphacelus. All this agrees with observations after death, for the intestines have been discovered, not only in all the various stages of inflammation, of supuration, and of gangrene, but with their diameters contracted, and their coats much thickened.

SECTION II.

OF THE REMOTE CAUSES OF DYSENTERY.

THE predisponent cause seems, as in the case of spasm in general, to be debility and morbid irritability, either general or partial.

The occasional causes may be,

1. *Putrid acrimony generated in the system.*

During the protracted heat of summer, the determination, as already stated in the observations on heat and cold, is to the external surface: but when cold and damp succeed to heat, and when the vital energy is much diminished, the determination is reversed, the perspiration is diminished, the
urine

urine is increased, and the secretions both of bile and mucus in the intestines are not only increased in quantity, but rendered more acrid, and by stagnation become putrescent. Hence arise dysenteries with putrid fevers, and the weakest are the first to suffer.

2. *Putrid infection.*

This, although apparently received into the lungs, seems to exert its first action on the mucous glands of the intestines, as appears by loss of appetite, sickness, nausea, vomiting.

In these ideas I am confirmed by revolving in my mind what is related by Sir JOHN PRINGLE in his treatise on the diseases of the army.

The observations, to which I refer, were made in Zealand, and in Brabant, where the country is low and damp, and the springs are near to the surface of the earth; where the nocturnal fogs are thick and fetid, and where an autumnal sun exhales putrescent vapours.

In these circumstances, and in these situations, the army under his care was frequently attacked by putrid diseases in a variety of forms; more especially when hot days were followed by cold and foggy nights.

These at first appeared as tertians and double tertians, with foulness of the tongue, bitterness in the mouth, nausea, and desire of acids, putrid vomiting, and sense of oppression about the stomach.

Such were the symptoms in the camp on the first approach of this disease. But he soon had occasion to observe a connexion between these intermittents and the dysentery, because they who were first seized with dysentery usually escaped the fever, if a plentiful evacuation followed; or if any of the soldiers were attacked by both diseases, it was alternately, so that when the flux began the fever ceased, and when the former stopped the other instantly returned.

Even in the camp it appeared to be contagious, but in the hospitals it took the form of a putrid malignant fever; inasmuch that their bedding conveyed infection, and whenever the hospitals were crowded, a great mortality ensued.

He had occasion to remark, when the disorder came on with the most alarming symptoms, when the men were suddenly seized with head-ach, pain in their back, heat and thirst, delirium, bilious vomitings and bilious stools, tenesmus and pain in the region of the colon; the fever remitted on the evacuation of the first passages of the alimentary canal: yet without artificial evacuations nature made no cures, unless when a cholera supervened.

Profiting by this observation he gave emetics, which were always most effectual, when they were powerful enough to procure a plentiful discharge from both passages. After these he gave virriolated tartar, and perfected his cures by rhubarb and the Peruvian bark, whilst to some patients, more especially

especially if he discovered worms, he gave for a dose, half a dram of rhubarb with twelve grains of calomel, but to other patients, who had merely dysentery, he gave one dram of rhubarb with five grains of calomel.

As to the nature of the contagion, Sir JOHN PRINGLE had occasion to observe, that it arose frequently from dead bodies left unburied in the field of battle; in one instance from the rotting of a whale; often from putrid carcases of cattle, and from the effluvia of marshes in the autumn, and not unfrequently from foul ulcers, as well as from crowded jails and hospitals.

SECTION III.

OF THE INDICATIONS OF CURE IN DYSENTERY.

THE idea which has been formed of the proximate, as well as of the predisposing and the occasional cause, naturally points out the indications.

1. *To relieve the spasm.*
2. *To cleanse the alimentary canal from putrid fordes, from scybala, and from every species of colluvies.*
3. *To*

3. *To sheath the irritated portions of the colon with mucilaginous substances.*

4. *To administer tonics with astringents, in order to prevent morbid irritability and the recurrence of the spasm.*

Such are the indications. And the effect of medicines, answering these intentions, confirms our ideas respecting the proximate cause of this disease.

The first operation of cathartic medicines is to bring away loose stools, but no effectual relief is to be expected till the hardened scybala appear. These being once evacuated, all the spasmodic affections are speedily relieved.

To effectuate this purpose, it is found necessary to have recourse to opium, and modern experience shews, that calomel, succeeding the operation of this powerful antispasmodic, is most efficacious in cleansing the alimentary canal from *scy-bala*. Sir JOHN PRINGLE ordered usually a bolus of rhubarb twenty-five grains, with calomel five grains, to be taken in the morning.

Whilst I was in Edinburgh I paid particular attention to the practice of Dr. WHYTT in the treatment of this disease, because he seldom failed to cure it, although not so speedily as by the modern practice. He began with a powerful emetic; after which he gave every night a bolus of rhubarb half a dram, japonic confection two scruples,
liquid

liquid laudanum five and twenty drops. Sometimes instead of this he gave rhubarb and calomel, as recommended by Sir JOHN PRINGLE.

When he had in some measure cleared the bowels, he ordered,

R Cinchon. un. 1. Coque ex aqua font. ℥ 4 ad
℥ 2. Cola & adde confect. japon dr. 5. M.
Cap. coch. 3. omni 4 a. hora.

Frequently instead of this, he ordered a decoction of *simarouba* with remarkable success. It is a powerful tonic, and at the same time promotes both perspiration and the discharge by urine.

R Cort. Simaroub. dr. 4. Coque ex aq. font. ℥ 2.
ad ℥ 1. Colaturæ capt. un. 3. sextâ quâque
horâ.

The practice of Dr. Cullen was somewhat singular, yet successful. Every evening about five o'clock he gave an emetic of ipecacoan, and in two hours after it one grain of opium, followed in an hour more by five grains of ipecacoan, and then at going to rest a starch clyster, with one dram of bark and thirty drops of laudanum.

He strongly recommended ripe fruit, particularly oranges.

My practice, till lately, has been regulated by that of Dr. WHYT, but in addition to his plan,
I have

I have been in the habit of giving a sheet of white writing-paper dissolved in about a pint of milk.

This sheaths the colon, where the villous coat has been abraded, and preventing the local irritation, effectually relieves the spasm.

Dr. WARD for the same purpose gave an ounce of mutton suet dissolved in milk.

In the place of these, but with the same intention, Dr. COLLINGWOOD, of Sunderland, has recommended a decoction of the inner bark of the elm, which being extremely glutinous, lubricates the mucous membranes. Of this he administers two table spoonfuls after every stool, and on a trial of twelve years, recommends it to the public.

For the same purpose Dr. HERZ, of Berlin, after having cleansed the alimentary canal, orders *lichen islandicus* six drams, boiled in a pint of milk, of which three ounces may be taken often.

This lichen grows in elevated regions, and is found in Scotland, Westmoreland, Wales, and Woodstock.

To answer the preceding indications, the student may prescribe as follows, varying however the prescriptions as occasion may require.

For the *Emetic*.

℞ Ipec. gr. 10. Antimon. tart. gr. 2. M. pro
emet.

For

For the *Cathartic*.

℞ Rhei, gr. 25. Calomel. gr. 5. M. Cap. mane.

For the *Anodyne* at night.

℞ Ipec. gr. 5. Opii, gr. 1. M. f. pil. horâ somni
fumend.

For the *Anodyne Clyster*.

℞ Enem. de Amylo. Pharm. Eding. un. 8. Tinct.
Opii, gtt. 30. M. pro enem. horâ somni inji-
ciend.

Or, in case of great putrescency, add to this one dram of Peruvian bark.

These medicines must be repeated till the disorder is removed; then give the following to prevent a relapse.

℞ Cort. Angustur. scr. 1. f. pulv. ter in die fumend.

Or take either the bark of Terra Japonica, or the decoction of Simarouba, as ordered by Dr. Whytt.

Or, should the patient be much exhausted, you may give,

℞ Infus. Cort. Angustur. dr. 6. Tincturæ ejusdem,
dr. 4. Pulv. ejusdem, scr. 1. Tinct. Opii, gtt. 30.
Tinct. Lavend. Compos. gtt. 40. M. c. coch.
3. omni 4a, horâ.

Genus LII. *Colica.**Colic.*

THE symptoms are pain in the lower belly, permanent, with twisting round the navel; vomiting; and costiveness.

SECTION I.

OF THE SPECIES OF COLIC.

1. *Spasmodica* with retraction of the navel, and the muscles of the abdomen so contracted into separate portions, as to resemble a bag full of balls.

2. *Piſtonum*, preceded by sensation of weight and uneasiness in the abdomen, chiefly about the navel; the colic pain being at first slight, and not continual, but increased after eating; then more severe and perpetual, with pain of the arms and back, terminating in palsy.

3. *Stercorea*, after protracted costiveness.

4. *Accidentalis*, from acrid substances received into the stomach.

5. *Meconialis*,

5. *Meconialis*, in new born infants, from the retention of the *meconium*.

6. *Callosa*, with sensation of stricture in some part of the intestines, and flatulence with pain: costiveness and discharge of liquid stools in small quantities.

7. *Calculosa*, with fixed hardness in some part of the abdomen, and calculi discharged by stool.

SECTION II.

OF THE PROXIMATE CAUSE IN COLIC, AND INDICATIONS OF CURE.

THE proximate cause is spasmodic stricture in some part of the alimentary canal, chiefly in the colon, embracing a quantity of hardened fæces, which are the irritating cause.

The indications of cure must therefore be,

1. *To evacuate the hardened fæces.*
2. *To relieve the spasm.*

The former will be effectually answered by giving calomel, to be assisted in its operation by decoction of fenna, and the latter by opium.

Dr.

Dr. PERCIVAL begins with clysters, ordering for that purpose a strong decoction of poppy heads, with thirty drops of tinctura thebaica, to be repeated till the pain and vomiting are relieved, after which he gives calomel and jalap with fenna tea.

Let the student consult what has been said on the preceding genus.

I would particularly call his attention to one occasional symptom; which is, inversion of the peristaltic motion in the alimentary canal, so as to discharge the stercoraceous contents of the intestines by the mouth. This constitutes the *iliac passion*. This illustrates what I have delivered on the several degrees of irritation, with the efforts of nature to relieve herself. For one degree of stimulus accelerates, another induces spasm, a third inverts the peristaltic motion, and this either topically, or by consent, throughout the whole extent of the intestinal canal, as in the following disease.

Genus LIII. *Cholera*.

THE symptoms are a purging and vomiting of bile; painful gripings; with spasms of the abdominal muscles.

It is a disease chiefly of warm climates, more especially when rain or heavy dews succeed a scorching sun.

SECTION I.

OF THE CAUSES OF CHOLERA.

THE student may recollect what I have said on the power of *heat*, in the beginning of this work, in relaxing the fibre, and inducing debility with morbid irritability, and of *cold*, as causing a determination to the interior surfaces and secretory organs. This, with relaxation of the vessels, produces a more abundant secretion of bile, which, like all other secretions, becomes acrid in proportion to the quantity produced.

The bile thus produced, either accumulates, corrupts, is absorbed, and diffused over the system, causing, with other stimuli in the alimentary canal, the *yellow fever* of the West-Indies; or, from the increased irritability of the stomach and of the intestines, it is rejected by spontaneous purging and vomiting, as the most natural efforts of nature speedily to relieve herself.

Hence we trace the connexion between these two diseases, and clearly understand why a cholera supervening, cures the *yellow fever* of warm climates, or the *bilious autumnal fever* of more northern latitudes.

The superabundance of bile, now acrid and highly stimulant, being diffused through the whole extent of

the alimentary canal, in addition to the debility induced by heat, increases irritability at every instant, with all the violent effects commonly produced by excessive stimuli; which are, as stated above, acceleration or inversion of peristaltic motion and convulsion rapidly succeeding to each other.

As the debility proceeds, the external parts are drawn into consent, and the spasms are communicated, not only to the abdominal muscles, but to the extremities.

SECTION II.

OF THE CURE OF CHOLERA.

FROM what has been said, it will be clear, that the alimentary canal must, without loss of time, be cleared of bile and fordes.

But then, considering the increased irritability of the stomach and bowels as a chief part of the disease, the practitioner must be extremely cautious how he ventures to prescribe emetics; and in fact it has been too frequently observed, that in this disease vomiting, excited by emetics, is not easily restrained. For the same reason cathartics must be carefully avoided.

The most safe and efficacious mode of treatment is, to dilute with plenty of water-gruel, and emollient

lient clysters frequently injected; then to exhibit opium with cordial stimulants, and to close the whole with bark.

Let the student consult what has been delivered on dysentery and colic, between which and cholera there is an evident connexion.

Genus LIV. *Diarrhæa.*

THE symptoms are frequent liquid stools, with natural excrement; but not contagious, and seldom attended by pyrexia.

SECTION I.

OF THE CAUSES REMOTE AND PROXIMATE OF DIARRHŒA.

IN submission to my master, I have left this disease in the class NEUROSES, and in the order SPASMI, where it appears to have been attracted by colic and cholera. Yet reverence and submission to a master were not my only motives; for in truth, I knew not where else to arrange it, unless I had either taken PROFLUVIA for a class, which I am not prepared to do, or removed it to the CACHEXIÆ, where under the order of MARCORES it might find a better place.

The proximate cause of *Diarrhœa* is, increased action of the exhalants and excretories, with a proportionate increase in the peristaltic motion of the intestines. The predisposing cause is morbid irritability. The occasional causes may be the passions of the mind; poisons; cathartic medicines; the stimulus of food, offending either by quantity, by quality, or by fermentation, whether acetous or putrid; suppressed perspiration, more especially from cold applied to the feet; and in children, worms and dentition.

SECTION II.

OF THE INDICATIONS OF CURE IN DIARRHŒA.

FOR the indications of cure we attend,

1. To the occasional cause.
2. To the proximate and predisposing cause.

To obviate the occasional cause, we consider its nature, and if there be acrimony, we endeavour,

1. *To correct it;*
2. *To expel it;*
3. *To dilute it;*
4. *To lubricate the intestines by mucilages;*
5. *If*

5. *If the perspiration is suppressed, we endeavour to restore it ;*

6. *If there are worms, they must be destroyed.*

If there is acidity, as in the case of infants, magnesia and testaceous powders must be given; or, if the exciting cause of diarrhœa is putrid fœces, acids must be used as occasion may require.

Emetics serve a double purpose, as they evacuate offending matters, and as they determine to the surface, restoring obstructed perspiration. With this view, ten grains of ipecacuanha, with one grain of blue vitriol, may be given in the morning.

To clean the intestinal canal,

R Pulv. Rhei, ʒj. Syr. Cort. Aurant. ʒij. Aq. N. moschat. ʒss. Aq. font. ʒj. M. f. H. h. s. s.

That is,

Take rhubarb one scruple; syrup of orange-peel two drams; nutmeg-water half an ounce; pure water one ounce. To be taken at going to rest.

Or, if this should not speedily effect a cure, give one grain of ipecacuanha every three or four hours.

To dilute, nothing is better than broth and water gruel alternately.

For sheathing and protecting the intestines from irritation, mucilage of gum arabic has been recommended, but in pure diarrhœa this can be seldom needful.

After having cleared the intestines, tonics and astringents should not be forgotten. Among these, in cases of diarrhœa, the simarouba stands pre-eminent, being at once tonic, antispasmodic, diaphoretic, and promoting sleep. The decoction may be made by boiling half an ounce in three pints of water, till it becomes a quart, and of this three or four ounces may be given three times a day.

Where the strength is much reduced, with a quick feeble pulse, and increased irritability in the alimentary canal, the Angustura bark combined with opium produces excellent effects. The subsequent form comes to us strongly recommended.

℞ Infus. Cort. Angusturæ, ℥vj. Tincturæ ejusdem,
℥ss. Pulv. ejusd. ʒj. Tinct. Opii, gtt. 20. Tinct.
Lavend. comp. gtt. 40. M. c. co. iij. o. 4. h.

That is,

Take infusion of angustura bark six ounces; tincture of the same half an ounce, and powder of the same one scruple; tincture of opium twenty drops; tincture of lavender forty drops. Of this mixture, three table spoonfuls may be given every four hours.

Tanners, when they have diarrhœa, are in the habit of curing it themselves, without the aid of a physician. For this purpose they drink about half a pint of their strongest oose made warm, that is, their strongest infusion of oak bark; and if occasion should require, they repeat the dose.

The

The younger students must be careful to distinguish one case, which has been frequently treated as a diarrhoea with emetics, cathartics, demulcents, and astringents, not omitting antispasmodics, but all to no effect. Such a case I remember was submitted to my friend Dr. BARVIS of Devizes, whose attention and sagacity few circumstances could escape. Every thing had been tried, and the patient was considered as incurable, till application was made to him, who at once declared it to be a case of constipation. He took notice, that, with incessant *tenesmus* and irritation in the rectum urging the patient continually to go to stool, scarcely any thing was voided, but small quantities of liquid, sometimes however mixed with a few scybala, or portions of the hardened excrement. Yet there was no colic, for the pain was referred chiefly to the rectum.

From these symptoms, the doctor was persuaded that the constipation was in the last gut, and by a marrow spoon the servant extracted such a quantity of indurated faeces, that with the next cathartic the whole was cleared away, when it appeared, that more than a quart measure full had blocked up the passage.

Genus LV. *Diabetes.*

THE symptoms are superabundant discharge of urine, which is limpid and sweetish to the taste; thirst perpetual; skin dry; pulse quicker and more feeble than in a state of health; emaciation.

SECTION I.

OF THE CAUSES PROXIMATE AND REMOTE OF DIABETES.

IN diabetes we have seldom instances of spasm; yet there are evident tokens of debility with irritability. A nosologist, therefore, may be doubtful where to class it; but the practitioner, with whom the rank it holds, is only a subordinate consideration, may be satisfied to leave it among those diseases, which have morbid irritability for the predisponent cause. For my own part, I acknowledge freely a suspicion, that, for reasons to be hereafter mentioned, I should have arranged it under the class CACHEXIÆ.

To understand the pathology of this disease, it will be necessary first to ascertain some facts.

1. The

1. The quantity of fluid discharged by urine is, in diabetes, usually more than has been visibly received. A patient of Dr. HOMES drank four pints a day, and passed from eleven to twelve.

2. Even solid food increases the urine; yet this most frequently exceeds the quantity of meat and drink united. Dr. DOBSON mentions one, who took in, between liquids and solids, fourteen pounds a day, and passed by urine eight and twenty pounds.

3. The urine of diabetes is sweet to the taste, and readily passes through the vinous, acetous, and putrid fermentations. It contains much sugar, and being fermented with yeast, makes a liquor resembling small beer.

4. It is well known, that punch sometimes passes almost as soon as it is swallowed, that asparagus quickly give a peculiar odour to the urine, that in a very short space of time cassia renders it almost black, and that some liquids pass unchanged.

5. When this, at the commencement of the present century, was observed by M. MORIN, of the French academy of sciences, he concluded, that liquids have a shorter passage to the bladder than by the arteries and the kidneys. To ascertain the fact, philosophers have tied ligatures round the ureters of dogs, who have continued to pass urine as if no such operation had been performed on them. And Baron HALLER has particularly noticed the
7 production

production of urine after the kidneys themselves had been totally destroyed.

6. It is well known, that the cutaneous absorbents imbibe a quantity of moisture from the atmosphere. I know a gentleman who after hard exercise quickly gains some pounds, and Dr. KEIL without exercise acquired eighteen ounces in one night.

From these and other corresponding facts, the late and much to be lamented Mr. Charles Darwin concluded that the proximate cause of *diabetes* is inverted action of the urinary branch of the lymphatics.

This doctrine of the retrograde motion of the absorbents, when first announced, met with such a favourable reception, that it seemed to promise immortality to the author's name. Every one admired, as we must continue to admire, his fertility of genius and vivacity of fancy: yet even at the time his system did not escape the censure of the best anatomists and experimental physiologists.

To establish his system, he either supposes or asserts,

I. That the valves of the absorbents in some diseases may suffer their fluids to regurgitate.

But unfortunately for his theory, these valves do not perform their valvular action by virtue of their living power, for after death it is equally perfect

as during life. Dr. Haighton, with my friend Gimbernath, and many other most experienced anatomists, assure me, that they have frequently, in attempting to make quicksilver pass contrary to the natural course, burst the side of an absorbent, because its valves would not give way. The author indeed appeals to the authority of baron Haller as affirming, that if mercury, air, or suct, are injected into the absorbents, they will pass the valves very easily, contrary to the natural course of their fluids, when the vessels are a little forcibly distended. But Dr. Haighton suspects there is some error in the reference, as he finds nothing on this subject in the fourth section of the third volume, which is the part quoted: but even admitting the quotation to be just, the authority of Haller in matters relative to the œconomy of the absorbent system is questioned by anatomists of the present day.

II. That the mouths of lymphatics seem to admit water to pass through them after death the inverted way easier than the natural one, since an inverted bladder readily lets out the water with which it is filled, as there is no obstacle at the mouths of these vessels to prevent the regurgitation of their contained fluids.

Now admitting, as the author states, that an inverted bladder lets out water more readily than one not inverted; yet it is merely matter of opinion, whether

whether it passes by the absorbents, or by the interstitial spaces of the cellular substance.

III. That the valves of the aorta, when scirrhous (meaning perhaps ossified), suffer a return of part of the blood into the heart; and for this he produces the authority of Lieutaud.

Of such diseased valves most anatomical collections contain instances: but here he blends two ideas which should be kept distinct; diseased structure and diseased action. That the aortic valves fail in the performance of their office, when their flexibility is diminished, or their figure is destroyed, needs no proof; but this, it must be remembered, is a disease of structure, and the effect is such as may be expected from this defect of mechanism.

IV. That there are valves in other parts of the body analogous to those of the absorbent system, which are liable, when diseased, to regurgitate their contents, and that thus the upper and lower orifice of the stomach are closed by valves, which when too great quantity of warm water has been drank, with a design to promote vomiting, have sometimes resisted the utmost efforts of the abdominal muscles and diaphragm: yet that the upper valve or cardia, at other times easily permits the evacuation of the contents of the stomach; whilst the inferior valve or pylorus permits the bile and
other

other contents of the duodenum to regurgitate into the stomach.

But alas ! this supposition is not well founded ; for no anatomist has ever been able to detect these *valves*. At the pylorus there is absolutely none, and at the cardia there is only a small duplicature of its internal membrane, which can never be mistaken for a valve, nor in a healthy state does it ever close this entrance to the stomach.

V. That the cutaneous absorbents, excited by their consent with the urinary branch of the absorbents, when this has inverted its motion, increase the flow of urine in *diabetes*.

This seems to be confirmed by an observation of Dr. Gregory, who caused a diabetic patient to be annointed with oil, after which the flux of urine, to appearance, was diminished : but Dr. Ferriar particularly states, in his late valuable publication, that in two cases of diabetes, the patients complained of profuse sweats at a time when the discharge by urine was more considerable.

VI. That there is a communication between the absorbents of the alimentary canal and those of the bladder, as demonstrated by Hewson.

But Dr. Haighton assures me, that the communication is too minute and subtle for any eye excepting that of the imagination, and he believes, that no practical anatomist, by injecting the different
parts

parts of this system, has hitherto been able to give even probability to this opinion.

That however liquids have a shorter passage from the stomach to the bladder than through the arteries and the kidneys seems to be rendered probable, not merely by what has already been suggested, but from recent observations which excite such a suspicion in the mind.

I understand that M. Carlisle, an amiable young surgeon, who pursues his anatomical researches with more than common ardour, has lately made ligatures on the pylorus after having filled the stomach of animals with aqueous fluids, by which he has been convinced, upon dissection, that some considerable absorbents, more than have been hitherto discovered, pass immediately from that viscus, for he found it empty. M. Gimbernat of Madrid, who, when he was a young man, dissected more bodies than any anatomist in Europe, detected vessels leading from the stomach, which he was not able to pursue, but which induced him to believe, that liquids may pass directly from the stomach to the bladder. Under this persuasion he has collected a variety of facts, all tending to confirm his opinion on this subject,

It has often happened, that on examination of stones extracted from the bladder, some extraneous body has been detected as the nucleous, which could not have passed in the common way of circulation. Some of these, as Van Swieten has
very

very judiciously observed, had been introduced by the urethra: but others, I apprehend, are clear from this suspicion.

The possibility, therefore, still remains, that chyle may find its way unaltered to the urinary vessels.

But on the other hand, when we consider that in *diabetes* the kidneys are morbidly affected; that they are, as Dr. Cullen has remarked, in a *flaccid state*, and, which is more worthy of our notice, that the arteries of the kidneys are in *diabetes* preternaturally enlarged, particularly those of the cryptæ or minute glands, which secrete the urine, as observed by M. Cruikshank; shall we not be inclined to think it probable that the fluid of *diabetes* arises from some remarkable change in the vessels which usually secrete the urine.

We know that secretory organs in different states secrete fluids of very different qualities. Thus it is with the glands secreting the tears, which are sometimes acrid and corrosive, and with the salivary glands, which under the influence of mercury no longer secrete a spontaneous fluid. Thus it is with the stomach, which by the mere influence of the mind ceases for a time to secrete a gastric fluid fit for digestion, in consequence of which symptoms of dyspepsia immediately ensue: but with the restoration of tranquillity there is a restoration of the digestive powers.

The glands of the breast, when cancerous, secrete no longer milk, but the most offensive and corrosive

five matter; and, not to mention the wonderful alterations in the bile produced under the influence of heat and cold, of poisons and of the passions of the mind, we may remark the more wonderful changes which take place in the discharge of ulcers, for this may be either inodorous, thick and yellow, or ichorous, pale, watery, acrid, and offensive to the nostrils.

The enlargement of the arteries in the cryptæ of kidneys, shew increase of action, and the flaccidity of those organs demonstrate their want of tone.

With such a discharge of aqueous fluids by the urinary passages, as we observe in *diabetes*, it is natural to expect that the cutaneous absorbents should be excited into energetic action by consent: but, considering the occasional causes, which are drunkenness and intemperance, and perhaps atonic gout, we have reason to conclude that *diabetes* is founded in debility.

Besides this genuine diabetes, whose essential character is not merely a præternatural flow of limpid water, but water of a sweetish taste, and abounding with saccharine matter, we have other species which are purely symptomatic: for a profuse discharge of urine may be produced by fear, by the application of cold, by hysterical, febrile, and gouty affections, or by ligatures on the vessels of the spleen. Hence are derived the *diabetes insipidus* of Cullen, and *diabetes hystericus*, *D. arthriticus*, *D. febricofus*, and *D. artificialis*, of Sauvage.

SECTION II.

OF THE INDICATIONS OF CURE.

THIS, taken from the predisponent cause, is simply to obviate relaxation, debility, and morbid irritability, which may be accomplished by tonics and astringents, by bark, steel and myrrh, with a generous diet, cool air, and constant exercise.

Dr. GRIFFITH recommended the following :

℞ Myrrh. dr. i. solve terendo in mortario cum Aq.
Alex. simp. un. 7. Aq. N. M. dr. 4. Tinct.
Cort. Per. dr. 6. adde Sal Absinth. scr. 2. Sal
Martis, gr. 16. Sach. alb. scr. 2. M. c. cochl.
4 : ter in die.

That is,

Take myrrh one dram, to be triturated with simple alexiterial water seven ounces ; nutmeg-water half an ounce ; tincture of peruvian bark six drams ; salt of wormwood two scruples ; salt of steel sixteen grains ; sugar two scruples. Dose four spoonfuls thrice a day.

The ingenious Dr. BROCKLESBY ordered the flores martiales, with sea bathing ; and when his patient, after a cure, relapsed, he gave the following :

VOL. II.

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℞ Flor.

℞ Flor. Chamæmel. gr. 25. Pulv. Aromat. gr. 3.
Rhei, gr. 2. M. c. ter in die.

With this he gave alum whey half a pint twice a day.

Genus LVI. *Hysteria*.

THE pathognomic symptoms are, a grumbling noise in the belly followed by *globus hystericus*, or a ball ascending to the throat with a sense of suffocation; stupor; insensibility; convulsions; laughing and crying without visible occasion; sleep interrupted by sighs, and attended by a rumbling in the bowels.

SECTION I.

OF THE ATTENDANT SYMPTOMS.

HOFFMANN calls hysteric affection a cohort of diseases; SYDENHAM compares it, for the infinite variety of its forms, to Proteus, and for the mutability of its appearances, to a chameleon.

Among the most distressing symptoms may be reckoned a pungent pain in some part of the head, called *clavus hystericus*, attended by vomiting; cough; colic, imitating iliac passion, and terminat-

ng by suffusion of bile; diarrhoea; strangury; spasms; nephritic pain; swelling of the ancles, chiefly in the morning and without pitting; pains in the back and in the teeth; coldness of the extremities; flatulence, lassitude, and palpitations.

We observe, likewise, remarkable sensibility and irritability of mind; spirits elated, depressed, and variable, independent of visible occasions, with a disposition equally to laugh or to cry upon the most trifling excitements; ridiculous fancies; frequent, sudden, and profuse discharge of *limpid urine*, more especially previous to the paroxysm.

When this disorder terminates fatally, it is, like as in epilepsy, by the apoplectic stroke. But commonly the paroxysm quiets for a time all spasmodic symptoms, leaving the patient languid and universally relaxed.

SECTION II.

OF THE PREDISPONENT CAUSE OF HYSTERIA.

THE persons most liable to this disease are females, from the time of puberty to the age of thirty-five, unmarried women, and young widows, chiefly those of the sanguine temperament; of a relaxed habit; of great sensibility; and of an irritable fibre; more especially after profuse evacuations,

whether sanguine or serous; the indolent, and those who are exhausted by either long protracted fevers or habits of intemperance; and such also in whom the uterine hæmorrhage is unseasonably stopped, or habitually obstructed.

Can we therefore hesitate to assign as the predisponent cause, debility with morbid irritability?

SECTION III.

OF THE OCCASSIONAL CAUSES OF HYSTERIA.

1. *Violent excitement in the brain.*

- a. By the sensations of pain or pleasure.
- b. By the passions of joy, grief, anger, fear, surprise.
- c. By distension of the blood vessels.

2. *Irritation.*

- a. In the stomach.
- b. In the uterine vessels.
- c. In the ovaries and spermatic vessels.
- d. In the olfactory nerves.

SECTION IV.

OF THE PROXIMATE CAUSE OF HYSTERIA.

SYDENHAM, for the proximate cause, assigns an *ataxy*, or disorder of the animal spirits, that is, vehement action in particular parts of the system, which being endued with exquisite sensibility, are thereby affected with pain and spasm, whilst the other parts suffer equally from defect of nervous energy; and by this unequal distribution all the functions are disturbed.

But Dr. CULLEN considers the chief part of the proximate cause to be mobility of the system, depending generally on its plethoric state. This opinion seems to confound the proximate with the remote causes: for debility with irritability are the predisponent cause, and the *stimulus of distension* can be only an occasional cause of this affection.

To me it appears, that the proximate cause is nearly the same as in epilepsy, with which the hysteric paroxysm has a remarkable affinity.

HOFFMANN has left us two valuable cases, in which the two diseases were combined; and Dr. WOODFORD has favoured me with an account of Mr. Palmer, a surgeon at Trowbridge, who after either intoxication, or agitation of mind,

was usually seized with violent convulsions, rolling of his eyes, frothing at the mouth, complete insensibility, followed by deep sleep: yet these fits were always attended by violent laughter and globus hystericus.

SECTION V.

OF HYSTERIA AS DISTINGUISHED FROM HYPOCHONDRIASIS.

THE older physicians, Boerhaave, Sydenham, Van Swieten, with the sagacious Whytt, consider these diseases to be the same: and even Hoffmann, notwithstanding his efforts to distinguish, yet confounds them; for of fourteen cases, supposed by him to have been hypochondriasis, some are evidently hysteria.

This confusion is the more remarkable, because in the first place Dr. WHYTT, although he declares these affections to be one, yet most clearly distinguishes them, stating *hysteria* to depend on morbid irritability, and *hypochondriasis* on torpor, as appears by his second chapter on nervous disorders: and HOFFMANN, in his cautions and practical directions sect. iii, makes the same accurate distinction.

It is to Dr. CULLEN we are indebted for the just arrangement of these diseases, which have nothing in common, but dyspepsia, flatulence, and debility;

bility; yet even in this they differ, for in one we have debility with irritability, in the other the debility of torpor.

SECTION VI.

OF THE INDICATIONS OF CURE IN HYSTERIA.

THESE are, 1st, to remove those predisponent causes in the body, which render it peculiarly liable to hysteria.

2. To remove or correct the occasional causes, which, especially in such as are predisposed, produce the numerous train of hysteric symptoms already mentioned.

The first intention may be answered by bitters, bark, steel, a generous diet, cool air, cold bathing, regular horse exercise, and agreeable amusement.

For bitters we may take myrrh, gentian, centaury, orange peel, or quassia. To the infusion of these may be added, cassia lignea as an useful aromatic; steel, which is the most powerful remedy, may be given as recommended by SYDENHAM, in filings, from five grains to fifteen, twice a day; or the celebrated prescription of Dr. GRIFFITH may be here advantageously adopted.

℞ Myrrh. scr. $2\frac{1}{2}$, solve terendo in mortario c. Aq.
Menth. un. 4. Sp. Cinnam. dr. 4. adde Kali, gr.
24. Ferri vitriolat. gr. 10. Syr. s. dr. 1. M. f. H.
4. quarum cap. unum 6a. quaque horâ.

That is,

Take myrrh, two scruples and an half, triturated with
mint water four ounces; spirit of cinnamon half an
ounce; salt of wormwood twenty-four grains;
green vitriol ten grains; syrup of sugar one dram.
Make four draughts, of which take one every six
hours.

This venerable doctor relates the case of a young
lady, tender, delicate, hysterical, who scarcely slept;
hurried by opiates and distressed by fœtid medicines,
receiving no relief from bark and cordials, who had
frequently profuse sweats, which lasted for twelve
hours at least. This young lady voided much pale
urine; had great thirst; no appetite; spasmodic
retchings with pulse quick and low. In addition to
these symptoms of debility and irritability she was
much inclined to faint; yet by the foregoing prepa-
ration of myrrh and steel, she was soon restored to
health.

In cases of hysterical affection Dr. WHITT depended
chiefly on the bark with gentian, and from him I
took my ideas in the treatment of hysteria, having
observed that his practice was successful. The in-
structions delivered in his public lectures, and the
information with which he honoured me in private
conversation, are the same as have been communi-
cated

cated in his treatise on this subject, a work which is inestimable for strong reasoning, and for facts clearly stated. He recommends the following:

℞ Cinchonæ, un. 4. Gentian. Cort. Aurant. aa. un.
1½. Sp. Vin. gal. ℥4. Digere per 6 dias. Capt.
dr. 4 bis die.

That is,

Take Peruvian bark four ounces; gentian and orange peel of each one ounce and an half; brandy two quarts; digest for six days. Take half an ounce twice a day, and continue it for months.

With the same intention the learned and ingenious Dr. LETTSOM recommends white vitriol with aromatic bitter.

℞ Ligni Quassia, dr. ½. Aq. font. ebul. un. 6. Digere, cola, & hujus colaturæ un. 1½, adde Zinci vitriolati, gr. ss. ad gr. 4. Tinct. Cardam. dr. 1. Test. Ostr. p. p. scr. 1. M. f. H. ter de die sumend.

That is,

Take quassia half a dram; boiling water six ounces; digest; strain; and to one ounce and an half of this add white vitriol from half a grain to four grains; tincture of cardamoms one dram; oyster-shell one scruple. Mix. To be repeated three-times a day.

A generous diet is essential in every case where debility and irritability prevail.

SYDENHAM

SYDENHAM relates that he was sent for to a convalescent, who having been, during a fever, severely handled by his physician, and, after excessive evacuations, forbid the use of animal food; became so enervated, that without visible occasions, he frequently, as if overwhelmed with grief, shed floods of tears attended by deep sighs, and sobbing, which bordered on convulsions. SYDENHAM immediately ordered him a fowl and wine, with such an excellent effect, that the convulsive weeping never more returned.

One caution however is needful. Let hysteric patients be extremely careful not to overload the stomach. They must eat little and often.

If the student recollects, what I have said upon digestion, he will see the reason for this caution, a caution the more needful because such patients are almost universally inclined to transgress in this respect.

The consequence of this transgression is flatulence, with spasmodic affection in the alimentary canal, which, if neglected, will draw other parts of the system into consent.

When I was in London last winter, I had the pleasure of meeting, at the house of my friend Dr. Thornton, an amiable young lady, who spoke with rapture, of the benefits she had received from the *vital air*. Since her arrival from Italy, which was two years ago, in the vicissitudes of this climate, she early experienced a considerable diminution of strength, appetite, and spirits. She took in
consequence

consequence a vast quantity of bark, steel, and other tonics, under various physicians, but with no alleviation of the symptoms. When she became a patient to Dr. THORNTON, she was so weak, as scarcely to be able to walk across the room; she was subject to hysteric fits, which occurred seldom less than three or four times each day; and the least angry word, or slightest contradiction, excited a flood of tears. Her feet were cold as ice; but after taking food, more especially if she used an acid, she had heat and flushings of the face, while the rest of the body remained nearly as cold as her extremities.

Having the greatest aversion to every kind of medicine, she made trial only of the vital air, except an occasional aperient draught of rhubarb and sal polychrest in some peppermint water. In a fortnight, by the daily inhalation of vital air mixed with atmospheric, the hysteric fits returned no more; her appetite improved; her spirits rose; cold was less severely felt; and her strength was so far increased, that she was able, after a fortnight, to walk near a mile, to attend on Dr. Thornton. If at any time she left off for a few days the inhalation of the vital air, she experienced the most uncomfortable sensation of cold, and less muscular powers, with pain in her stomach; all which symptoms were removed as often as she recurred to the use of vital air. She inhaled the modified air during the whole of the last severe winter, continued it at intervals in the spring, used the shower-bath in the summer, and in the autumn she was in excellent health.

I took occasion to remark, at the conclusion of the case of bilious autumnal fever, that when the typhus was completely cured, nothing remained but *hysteric affection*, and that a remarkable connexion
was

was to be observed between these two diseases, such as may direct our practice in the treatment of them both.

In typhus debility and irritability are seen in the extreme; hence the impatience of light and of sound, and the quick sensibility of both the taste and smell. This irritability is not however confined to the organs of sense: it affects the mind. It is manifest likewise in the pulse, which is quick, weak, and small.

These, but not in the same degree, are the symptoms of hysteria. In both we find the patient equally disposed to laugh or cry.

In both diseases, the indications are to correct the morbid irritability by astringents and by tonics, and in both the effect upon the pulse is similar, this being rendered slower by animal food, by opium, and by wine.

When the typhus fever, in the case already stated, was succeeded by *hysteric affection*, the cure was effected by Dr. THORNTON in the following very judicious manner:

R Cinchonæ, scr. 2. Serp. Virg. scr. 1. Cascaril.
gr. 10. M. f. Pulv. 2 a. q. h. s. superbibendo
Vin. Rub. un. 2.

That is,

Take Peruvian bark two scruples; Virginian snake root one scruple; Cascarilla bark ten grains; every two hours, drinking with it a glass of port wine.

I

This

This promoted a gentle perspiration at the same time that it increased the power of life, as appeared in the first instance by the pulse, which gradually became stronger and less frequent.

In a few days the snakeroot was omitted, and in its place was substituted the rust of iron in this form.

℞ Cinchon. un. 2. Chamæmel, un. 1½. Fer. Rust. scr. 1. Syr. symp. q. s. f. Elect. c. c. M. N. M. 4 a. q. h.

That is,

Take Peruvian bark two ounces; Chamamile flowers an ounce and an half; rust of iron one scruple; syrup a sufficient quantity to make an electuary, of which take the quantity of a nutmeg every four hours.

To keep the body soluble, *butter-milk* was given in the evening, which assisted likewise to procure refreshing sleep.

Particular care was taken not to overload the stomach with food, and for this purpose it was frequently exhibited in small quantities, but never till the appetite was keen. By this conduct, the gastric juice, being always ready, and sufficiently abundant to prevent fermentation and the evolution of air, whilst at the same time it acted as a solvent, nutrition made a rapid progress, and flatulence was totally avoided.

All his nourishment was given him by weight and measure, and so regular was the process of digestion, that Dr. THORNTON knew, precisely by the clock, when his patient would awake and call for food.

If nourishment was not immediately at hand, the genial warmth and moisture of his extremities was succeeded by dryness in the palms and coldness in the limbs, which symptoms were speedily removed by either wine or food. These never failed to produce a universal glow and gentle perspiration.

It was likewise remarked, that when at any time there was irritation in the rectum, with tenesmus and colliquative stools, these symptoms were instantly relieved by food and wine.

In hysteria, the second indication of cure is, to remove the occasional causes.

If the irritation be from indigested food, bile and viscid mucus in the first passages; these must be removed by emetics, which should be taken dry; for warm liquids relax the fibre and increase debility. One grain of blue vitriol and two of tartarized antimony may be given early in the morning, and must be frequently repeated.

To cleanse the bowels, you may order four or five grains of rhubarb, before breakfast and dinner, with a double dose at night, always remembering to administer tonics after evacuants.

Hoffmann on this subject says, *experientiâ ducti asseveramus,*

asseveramus, primam regionem, quæ vitiosorum humorum colluvie plerumque valde repleta est, accommodatis remediis esse expurgandam.

And Sydenham universally began his curative process by three or four cathartics, before he exhibited the steel and tonics.

I must here request the student to consult the case of the young woman mentioned by Dr. Whytt, in chap. viii. sect. ii. p. 469, of his *Treatise on Nervous Diseases*.

July 20. She was seized with violent convulsions, followed by syncope, and returning from 12 to 18 times every day on hearing the least noise, even of a tea-cup, or the opening of a door; yet between the fits she was uncommonly cheerful and jocose. After having tried in vain all that musk, camphor, castor, assa foetida, and laudanum, could do for her, she took bark and valerian. Soon after this she was seized with severe *asthmatic* fits, which together with the faintings and convulsions often made the number of paroxysms amount to 30 in a day.

August 9. She took an emetic, threw up much bile, and escaped her fits. This was repeated nearly every other day with similar success, and by following this process every other morning, with a small dose of elixir sacrum sometimes at night, before the beginning of September she was perfectly recovered.

Should there be much tough phlegm or viscid mu-

cus in the alimentary canal, you may prescribe lime water three times a day, in addition to the emetics and moderate cathartics.

As for opium, camphor, castor, musk, and asa foetida, so frequently recommended as antispasmodics, they are merely palliative, and to be resorted to on the most urgent cases of distress, such as violent hysteric *colic*, in which Dr. Whytt usually ordered a clyster, with seventy or eighty drops of laudanum, that by favour of this opiate some pills of aloes and calomel might be thrown in.

In ordinary cases of *flatulence*, with costiveness, he combined asa foetida with aloes and steel.

℞ Asæ foetid. dr. 2. Aloe Soc. Ferri. Vitriolat.
Zinzib. aa. dr. 1. Elix. propriet. q: s. ut fiant
Pill. gr. 4. c. c. 3. o. ii.

Take asa foetida two drams. Socotrine aloes, salt of steel, and ginger, each one dram. Elixir proprietatis a sufficient quantity. Make pills of four grains each, and take three of these every night.

For the salt of steel, I usually substitute steel filings, and for the aloes I order rhubarb.

Many physicians are fond of bleeding in spasmodic affections, and it frequently relieves the patient; but then it should always be remembered,

1. That plethora implies a laxity of the solids, and therefore some debility in the moving fibres.

2. That

2d. That loss of blood brings on debility, and being repeated ultimately increases plethora.

These propositions have been demonstrated by Dr. Cullen. But in addition to these, I must observe, that by frequent bleeding, the most moderate distention, such is the force of habit, becomes a powerful stimulus and produces spasm.

It is remarkable that parrots, if highly fed, not having exercise in proportion to their food, are apt to suffer by the distention of their plumage. To relieve themselves, they pluck out the most luxuriant feathers. Others quickly supply their place, and in succession are destroyed, till the stimulus of even the smallest feathers become intolerable, and are plucked out as soon as they appear.

This reasoning might be extended, for the same principle prevails in a variety of cases interesting as well to the moralist as to the medical practitioner.

A venerable professor of Edinburgh, recommending venesection, mentioned to his pupils, as an example of the facility with which the body creates new blood, the case of a lady, whom he bled more than an hundred times in the space of three years for spasmodic affections. Yet he confessed that the laxity of the solids, and the consequent morbid irritability of the moving fibre increased daily, in proportion to the loss of blood.

SYDENHAM bled once, and then having cleansed
VOL. II. E the

the alimentary canal, placed his whole dependance on tonics, astringents, pure air, and constant exercise.

Instead therefore of repeated bleedings, should there be distended veins, a florid countenance, a strong pulse with vertigo and dyspnœa, it will be needful to advise more exercise and a less nutritious regimen than usual.

Should hysterical affections be induced by worms, these must be destroyed by anthelmintics; after which the tonic plan must be pursued.

When atonic gout, amenorrhœa, or fluor albus, are the occasional causes of hysteria, the attention must be turned to what has been said on those primary diseases.

In the *hysteria libidinosa*, it will be necessary to obviate morbid irritability by tonics, astringents, the cold bath, cool air, and constant exercise: he will give wine and animal food, but in moderation, and will forbid the use of spices with high seasoned dishes. The patient must be cautioned to avoid crowded assemblies and hot rooms.

So much for the predisponent cause.

The occasional causes call for more particular attention. These are commonly mental excitements by improper conversation or by books. Such therefore must be carefully avoided; and in their place must be substituted whatever can agreeably occupy the mind and not inflame the imagination.

Solitude

Solitude must be strictly forbidden, and a change of scene respecting society, residence, and usual haunts, must be strongly recommended. This may most effectually be obtained by travelling, which implies incessant change of company, of place, of air, with unremitting exercise both of body and of mind.

By these means the associated ideas and excitements will be changed, bad habits will be broken; accumulated irritability will be expended; mental and corporeal strength will speedily return; and the humiliating disease in question, will no longer cause distress.

I have frequently observed, with pity, this affection in the south of Spain, and have known it most absurdly treated by the confessors, who should have been the last consulted. These blind leaders of the blind, instead of committing their tender charge to the care of the physician, recommended every thing which could confirm the evil. They charged guilt, where no guilt existed; they increased distress of mind, and they imposed penance; all tending to induce debility with irritability; to rivet the attention, which ought to have been diverted; to inflame the imagination; and to render those affections permanent, which, if left unnoticed, would have been transient as the vernal breeze.

Genus LVII. *Hydrophobia.**Canine Madness.*

THE characteristic symptom is a dread of water as inducing painful convulsions of the pharynx.

We have a very accurate description of this disease by Dr. WOLF, in five cases of persons who died of this dreadful disorder. The eye, as in typhus fever, is impatient of the least light; any bright colour creates uneasiness; the mind is very irritable; the best friends are disliked. It is remarkable that the lint, or other dressings, when taken off discover a *black* surface, even though the wound may discharge good pus; the fauces have no appearance of redness; the face, which at first is pale, becomes brown, and during each spasmodic attack turns almost quite black; the lips are extremely livid; as the disease advances each paroxysm is less violent; the patient has intervals of reason; the dread of strangulation from water goes off; the pulse becomes weak, quick, and fluttering; and the body feels remarkably cold; he then composes himself as it were to sleep, and expires. Upon dissection there is not to be found the least trace of inflammation.

From

From this appearance of things, have we not reason to expect some advantage from the inhalation of *vital air*? Opium, camphor, musk, and submerſion, have from repeated trials juſtly loſt their reputation in this fatal diſeaſe.

M. MATHEU, after bleeding and purging, excites as ſoon as poſſible ſalivation. He ſays, “ the
“ hydrophobia yields, as it were, by enchantment,
“ when the ſalivation appears; and it muſt be kept
“ up according to the degree of the diſeaſe and
“ the ſtrength of the patient.” The illuſtrious SAUVAGE, ſpeaking of mercury, declares, “ After
“ many enquiries, I know not whether mercury has
“ ever failed, even when the hydrophobia had com-
“ menced.” It may be ſaid, that mercury has been adminiſtered in ſome caſes in England without advantage; but as far as I have read, it has been conſtantly in ſuch caſes accompanied with muſk, bleeding, opium, or camphor. But whether in this alarming diſorder it be better to *oxygenate* the blood or not when the diſeaſe has taken place, as prevention is always better than cure, it ſhould occupy moſt of our attention.

When the contagion of a putrid fever is taken by the ſaliva into the ſtomach and bowels, which is its conſtant road, if the patient, the moment he finds himſelf attacked with a ſenſe of chillineſs, loſs of appetite, and an unpleaſant taſte in his mouth, has recourſe to two emetics at proper intervals, and after the operation of the firſt emetic, takes a ca-

thartic, he has certainly got rid of the infection : in the same manner, even after three days, or perhaps a week, if the part bitten by the dog be cut out with the knife, the danger is escaped. But sometimes it will happen that the patient will not submit to this operation, or to the application of the lunar caustic, which perhaps may be preferable to the knife, and it then becomes an object of enquiry, what next should be done ? This was the case three years ago. Five men were bitten by a dog supposed to be mad, and which was shot. The village doctor, who knew in this disease nothing beyond the knife, finding his patients refuse the operation, had recourse to Dr. THORNTON for his advice. This physician recommended the application of hot vinegar sharpened with vitriolic acid, the wounds being first scarified, and the events turned out favourable. Are the mineral and vegetable acids correctors of this poison ? Or in these five cases did the cloth prevent the insertion of the poison ? In this age of investigation this interesting question will, in all probability, be soon fully ascertained.

Class II. NEUROSES. Order IV. VESANIÆ.

Judgment impaired without either Coma or Pyrexia.

IN this order Dr. CULLEN, has enumerated four genera, *Oneirodynia*, *Melancholia*, *Mania*, and *Amentia*.

Genus LVIII. ONEIRODYNIA.

Incubus, or Night-Mare.

THE pathognomic symptom is, vehement or distressing imaginations during sleep.

INTRODUCTION.

THE difficulties attending methodical arrangement must here be pleaded as an excuse for giving oneirodynia a place with the vesaniæ: yet this disease, I trust, will throw light on others, in the front of which it stands.

SECTION I.

OF THE SPECIES OF ONEIRODYNIA WITH SYNONIMA.

DR. CULLEN has two species.

I. *Oneirodynia gravans*, with a sense of weight and pressure on the chest.

II. *Oneirodynia activa*, exciting to various motions, and more particularly to walk.

I. ONEIRODYNIA GRAVANS is the common *incubus* or *night-mare*.

This, by Sauvage, is called *ephialtes*, and is distinguished by him into six species.

1. *Ephialtes plethorica*. 2. *Ephialtes stomachica*.
3. *Ephialtes ex hydrocephalo*. 4. *Ephialtes verminosa*. 5. *Ephialtes tertianaria*. 6. *Ephialtes hypochondriaca*. But his *ephialtes tertianaria* taken from Forestus, although attended with peculiar symptoms, belongs to one of his preceding species.

Etmuller, who had treated judiciously of *incubus*, makes two species only. 1. *Incubus accidentalis*. 2. *Incubus habitualis*.

II. ONEIRO-

II. ONEIRODYNIA ACTIVA is the *Somnambulismus* of Sauvage, which he considers as a genus and divides into two species.

I. *Somnambulismus vulgaris*.

In this the patients may be awaked. It admits, however, of a distinction, for some never leave their beds, but bawl and talk, and by their gestures seem to be defending themselves from thieves. Others leap from their beds, put on their clothes, kindle a light, seek for the key, unlock the door, wander far from home, avoid opposing obstacles, pass over narrow bridges, or, by swimming across the streams, return to the house, undress and go to bed again, unconscious of all that passed.

2. *Somnambulismus Catalepticus*.

Of this species, wherein active night-mare is combined with catalepsy, several instances have been recorded. Among these, Sauvage relates the case of a married woman, who was committed to his care. This lady at the time of menstruation, being insulted by a peasant, suddenly lost her senses and walked about muttering, talking and discovering by gestures the resentment of her mind. When the surgeon entered the room, she flew at him in a rage, but soon after was engaged in pursuing her shadow on the wall: yet she neither saw nor heard her husband, when he spoke to her, nor gave any signs of feeling, although punctured with a pin.

During the paroxysm her fingers, hands, and arms, retained the positions in which they were placed by the observers. These fits frequently returned for many months, whenever her mind was in the least disturbed, and lasted commonly from half an hour to an hour. They were at last relieved by change of scene, amusements, and constant exercise.

SECTION II.

OF THE CAUSES REMOTE AND PROXIMATE OF ONEIRODYNIA GRAVANS.

THE predisponent cause is, beyond a doubt, debility, for not the robust, not men of a rigid fibre, but the relaxed and irritable, are most liable to these complaints.

The occasional causes may be,

1. Indigested sordes in the stomach, more especially if the person sleeps upon his back.
2. Ebriety, whether from opium or fermented liquors.
3. Viscid mucus.
4. Worms.
5. Obstructed catamenia.
6. Heat with unusual weight of clothes.
7. Hydrocephalus internus.
8. Mental irritation arising from anger, terror, and disgust, or from any other passion excited in the day, and recurring to the imagination during the time of sleep.

For

For the proximate cause, Hoffmann assigns stagnation of blood in the vessels of the lungs during sleep, and with this the Pathology of Etmuller substantially agrees, for he attributes *incubus* to defective respiration, whether arising from distention of the stomach, which prevents the free descent of the diaphragm, or from an affection either paralytic or sympathetic, and spasmodic of the nerves, which serve for respiration.

To me, agreeable to this opinion of Etmuller, it appears that the proximate cause of *oneirodynia gravans* is spasmodic constriction of the lungs induced by some irritation in the system. Hence the tremor with the sense of lassitude. Hence also the violent and rapid vibration of the diaphragm, all which remain for some time, after every other symptom has ceased with sleep.

Some practitioners imagine, that a loaded and distended stomach, pressing on the aorta in its descent, sends the blood too copiously to the head; but Dr. Whytt was clearly of opinion, that it originated in nervous irritation, and his doctrine is confirmed by a consideration both of the occasional causes and of the persons most liable to this complaint. This subject however will be resumed when I come to treat of mania.

Before we attempt to investigate the cause of *oneirodynia activa*, or even hazard a conjecture, it will be proper to examine the brain, and to ascertain, if possible, the proximate cause of sleep and dreams.

SECTION III.

OF THE BRAIN.

THIS wonderful compages ; this source of sympathy and bond of union to the whole machine ; this centre of sensation, thought, volition ; this repository of consciousness and support of memory ; this field, in which imagination ranges unrestrained ; this sanctuary of hope and fear ; this residence of reason ; this microcosm ; this mansion of an immortal spirit ; demands particular attention.

We observe it placed in the most elevated region of the body, as in a citadel, defended by the arms and covered with abundant caution, by a vast variety of tunics. Externally we see a garment of hair ; under this a thick tough skin, with a subjacent membrane ; and then arrive at the cranium, which answers the purpose of a wall. Within we find the brain invested by its meninges, the dura and the pia mater, with the tunica arachnoides interposed between them. Thus protected, it is preserved, not only from wounds and bruises, but, which is of the last importance, from external pressure.

The brain is the part first formed, and that from which the heart and arteries, the stomach, the absorbents,

forbents, the muscles, and the bones originate. Some accurate observers with Malphigi, have distinctly traced this progress in the incubated egg. For in this, when not impregnated, they discerned only the shell, the membranes, the albumen, and the yolk, with a little empty sack: but when impregnated, this sack evidently contained a speck, so minute indeed as to escape the eye, yet visible by the aid of a powerful lens. After some hours of incubation, with the heat at 98° of Fahrenheit, the speck became, as in the first rudiments of all animals, a vermicle, and they remarked a head and tail, which are the brain with its appendage the spinal marrow. The heart next appeared, at first only as a vibrating arch, but by degrees it assumed auricles and ventricles. After this the lungs and viscera with the limbs began to take their proper form, and the perfect chick appeared.

Thus precisely is it, at least as supposed by Boerhaave, Hervey, and Aquapendente, in the human species;—in which the brain lays the foundation for the arterial system, for the viscera, for the muscles, and even for the bones, all deriving their origin from it, as the root, the trunk, the branches, and the leaves, in plants spring from the little corculum of their seeds.

How beautiful in this view of the subject are the pious breathings of the royal prophet! “I will praise thee, for I am fearfully and wonderfully made. My substance was not hid from thee; when I was made

made in secret and curiously wrought in the lowest parts of the earth. Thine eyes did see my substance, yet being imperfect, and in thy book were all my members written, which in succession were formed, when as yet there was none of them." Psalm cxxxix.

When we have removed the coverings of the brain, we observe in the cerebrum two hemispheres curiously divided into lobes, with deep and multiplied circumvolutions, by which mechanism the cortical part, every where covered by the pia mater, is much increased.

This is cineritious in its appearance and vascular in its texture; but the medullary part is white, fibrous, and somewhat harder than the cortical, from whose ultimate arterial branches it is derived. A continuation of the medullary fibres forms the nerves.

It is now universally agreed, that the cortical substance is not glandular, and indeed where a constant and regular supply of a secreted fluid without interruption is required, the glandular mechanism with its reservoirs would be improper. That in this case to have a perfect intermission of the influx would be dangerous in the extreme, is evident, because no sooner is there a deficiency of arterial blood in the encephalon, than *syncope* ensues, which is instantly relieved when the vital stream returns.

We can readily assign the reason why it was
8 needful,

needful, that the cortical substance should have a great extent of surface, for by this contrivance it is able to contain the numerous orders of secreting vessels, from the smallest which are discernible to those which are invisible, and which terminate in the nervous tubuli of the medulla.

The cerebellum, seated in the inferior and posterior part of the head, is divided into two lobes; but it has not such circumvolutions as appear in the cerebrum. In this, as well as in the brain, the cortical part abounds, but the separation between the cortical and the medullary substance is not so well defined, for the *latter* takes a ramifying course, and is thence denominated *arbor vitæ*.

From the medullary substance both of the brain and of the cerebellum is derived the medulla oblongata, and from this originate both the spinal marrow and the nerves, which either supply the organs of sensation or attend the moving fibres.

The brain is supplied with blood by the carotid and vertebral arteries, the former derived immediately from the aorta, the latter rising up from the subclavians. These are well protected in their ascent towards the head, and, as they enter the cranium, are inflected in curious arches to restrain the impetus of their contained fluids, which might be otherwise injurious to the tender substance of the brain. The carotids are diffused over the cerebrum; and the vertebral arteries convey the vital stream more immediately to the cerebellum. Yet
these

these communicate by innumerable branches, so as to form a wonderful contexture of inosculating arteries, which contribute to impede the rapid progress of the blood, whilst at the same time they effectually prevent stagnation and distention. These arteries deposit their strong muscular integuments, before they enter the cranium. When they have entered, losing a second coat, they have no pulsation, and therefore resemble veins, only they are destitute of valves. Under this form they constitute the most extensive contexture of the pia mater, and from thence pass by innumerable and infinitely small ramifications into the cortex both of the cerebrum and of the cerebellum.

In the dura mater, the arteries are of a different construction, for they retain their coats, and have strong pulsations. They seem to have no communication with the cortical part either of the brain or of the cerebellum, for the dura mater and the pia mater appear to be perfectly distinct and separated by the cellular membrane, known by the name of tunica arachnoides, which contains a serous lymph.

From the carotid and vertebral arteries, the two lateral ventricles derive branches to supply with blood their plexus choroides, which is a wonderful reticular membrane, consisting of arteries, veins, and, as Dr. Ridley reports, lymphatics.

The veins scarcely penetrate the medullary substance of the brain, but turn back, and from the
cortex

cortex hasten to discharge their blood into the sinuses of the dura mater, which, running along the inner surface of the bones, and defended by a thick dense membrane, are preserved not merely from rupture, but from distention, which is likewise prevented by strong filaments stretched across them. It is thus sufficiently provided, that the veins shall not cause compression; but lest they should be themselves compressed, the consequence of which would be stagnation, and a fatal apoplexy, they neither in any part of the brain attend the arteries, nor do they enter by the same foramina.

That a constant supply of blood, circulating through the vessels of the brain, is needful for the purposes of life, was early noticed by physiologists, who called the carotids by that name, from *καρπος*, sleep, because Erasistratus observed that when ligatures are fastened on these arteries, the animal becomes lethargic. Drelincourt, who tried his experiments on dogs, assures us, that he made them apoplectic at his pleasure.

As this effect may arise from deficiency of blood; so a redundance, causing distention of the vessels and pressure on the brain, produces the same apoplectic symptoms. Hence Pyerus, having tied up one of the jugular veins in a dog, observed that the animal was become stupid and lethargic.

That plethora in this case acts by compression will be demonstrated when I come to treat of hydrorachitis, and is evident by a similar effect hav-

ing been produced on the Parisian beggar mentioned by every anatomical professor. This man, to excite compassion, and for a trifling recompence, submitted to pressure on the brain, having a portion of the skull bare. In consequence of this, he first perceived innumerable sparks, then lost his sight and fell into deep apoplectic sleep, all which symptoms gradually vanished when the pressure was removed. To avoid the hazard of needless and uncertain pressure, it was provided that the brain should have no muscular fibres, and that in the cranium there should be no reservoir of fat.

In the brain we remark four ventricles; two anterior, which are the largest; a third formed by the thalami of the optic nerves, and the crura of the medulla oblongata; and the fourth between the crura of the cerebellum and medulla oblongata. When these are empty, they collapse and leave no vacant space.

With regard to the benefits resulting from different proportions between the cerebrum and the cerebellum, Boerhaave has remarked, that wisdom and sagacity depend upon the former, whilst strength is universally derived from the latter; and it has been observed by others, that in proportion as animals approach to vegetables the brain diminishes, whilst the cerebellum is proportionably increased.

The cerebellum is carefully protected from every
kind

kind of pressure, particularly from that of the superincumbent brain, and has neither sinus, ventricle, nor pulsatile artery.

It is remarkable, that when the brain is extirpated, the vital, although not the voluntary, motions are continued; but no sooner is the cerebellum injured, than the vibration of the heart is stopt, and respiration ceases. Drelincourt, who made numerous experiments on dogs, discovered, that when he had deprived them of their brain, they lived indeed, but like vegetables, without sense or motion.

Such is the wonderful machine, to which, as both Hoffman and Boerhaave state it, one third of the blood, chyle, and lymph, is sent fresh from the fountain, that is, when it has recently received a supply of oxygen in its passage through the lungs.

But for what purpose is this abundant treasure sent into the brain? Not merely for nutrition, but chiefly for secretion. The heart has commonly two small arteries, the liver only one, whilst the brain receives blood from four, and those considerable. That the nerves derive a fluid from the brain is rendered probable, by the experiment of Hoffmann, which Dr. Monro repeated, who having tied up the phrenic nerves, observed that the diaphragm no longer moved: yet, when these nerves were pressed below the ligatures, some palpitation of the diaphragm returned. The nerve commonly examined is the left phrenic, as being most favourable for experiments, because it is longer than the right,

and gives no filaments till it arrives at the diaphragm. On opening the chest, it is seen passing down the side in the form of a white thread.

From all that has been said, it may fairly be conjectured, that the nerves and fibres of the brain are pervious, although, from their extreme tenuity, no one, except Lewenheuk, was ever able to affirm that he had ocular demonstration of the fact. Nor should this be matter of surprise, when we consider that no eye has yet discovered hollow tubes in the peduncles, through which fruits are fed, as in the gourds of Spain, weighing from sixty to one hundred pounds, although it is certain that in this manner nutriment is conveyed to them. It is computed that the smallest nervous filaments are no bigger than the hundredth part of an hair. By what means therefore can they be injected, and without injections how can their permeability receive ocular demonstration?

In various cases of disease a viscid lymph is discovered in the ventricles of the brain, and to this we attribute coma: but, independent of disease, it is notorious, that the longer after death dissection is performed, the greater is the quantity of lymph, for as Sauvage expresses himself,

Nil vulgatius quam serum in sinibus cerebri reperire, si longo post mortem tempore aperiatur cadaver: quò longius, eò uberius invenietur serum. Tom. ii. p. 630.

It is true, *absorbents* have never been discovered in

in the brain: yet, as there are undoubtedly exhalants, it is reasonable, both from effects and from analogy, to conclude, that some correspondent vessels to absorb, as in all other cavities, must exist, although from their minuteness they escape the sight. Dr. Cullen supposes that the extremities of the veins may perform this office. It matters not, however, what kind of absorbents are employed by nature, because, whatever they are, they must be subject to the laws of irritability, and liable both to the accumulation and exhaustion of their vital energy.

Hoffmann, in his treatise on the nervous fluid, delivers an opinion, derived, as I imagine, either from Baglivi or Pachioni, which, although not adopted by subsequent professors, yet, as coming from such an eminent physiologist, cannot pass without our notice. According to him the *dura mater* has its systole and diastole, its dilatation and contraction, by which the reflux blood, returning through the veins from the arteries of the pia mater, and received into its sinuses, is assisted in its progress to the heart, whilst the secretion and motion of the nervous fluid is increased by the same contrivance. In confirmation of his system, he considers the mechanism of the *dura mater*, and particularly notices the structure and direction of its membranaceous and nervous fibres. Hence he concludes, that the *dura mater* is not merely a covering of the brain, but that it serves the purpose of secreting

and propelling the nervous fluid to the most distant movements of the animated fabric. In proportion therefore to the strength, tone, stricture, laxity, or atony, of this elastic membrane, the nervous fluid moves with greater or less celerity, and from hence arise the peculiar affections of motion and sensation observable in different constitutions. If this membrane labours under atony, the blood moves more slowly, whence a viscid lymph is separated in greater abundance, and comatose diseases are induced. If the dura mater is spasmodically affected, and that for any length of time; the arteries, veins, and medullary substance, are compressed; circulation ceases; the senses, internal as well as external, are abolished; and apoplexy follows, which may be either slight or fatal, according as either blood, by rupture of the vessels, or serum, by exudation, is poured forth.—If the dura mater is, with celerity and force, alternately constricted and relaxed; the motion of the blood is quickened; secretion is augmented, and the nervous fluid, propelled with violence, produces epilepsy. ¶

Such is the system of this accurate observer; yet Boerhaave, not less attentive to nature, nor less diligent in his anatomical researches, differs from him in opinion, and conceives the nervous fluid to be protruded merely by the action of the heart and arteries. In order to solve the difficulty, why under this supposition sensations have not their pulsations, according as the nervous fluid is accelerated or retarded

tarded by the action of the heart; he ingeniously remarks, that the first impression is not lost before it is succeeded by a second and a third. This observation might have been illustrated by the whirling of a firebrand, which exhibits light in one continued circle.

SECTION IV.

OF SLEEP.

THE end and design of sleep is both to renew, during the silence and darkness of the night, the vital energy, which has been exhausted through the day, and to assist nutrition.

Among the exhausting powers may be reckoned heat, light, motion, sound, and thought, with the exercise of reason, imagination, desire, and volition. And if to these we add sensations, accompanied by pain or pleasure, we shall complete our catalogue.

When therefore we are to ascertain the degree exhausted by these powers, we are taught by nature to retire, that, recumbent in some sequestered spot, unmolested by light, by heat, by noise, and free from the excitements of volition, sleep may quietly steal upon our senses and close the avenue to thought. In this situation all the muscles, excepting the sphincters, are relaxed, and voluntary motion ceases,

but not the vital and involuntary, for these, far from exhausting, serve only to recruit our strength. Such is the peristaltic motion of the alimentary canal, on which depends nutrition; such respiration, which supplies the pabulum of life; and such the motion of the heart, which distributes the energetic principle to every part of the animated frame.

When all stimulating powers, excepting those which immediately excite the vital functions, are removed, sleep first takes possession of the limbs and blunts sensation; then impairs the recollection with the reasoning power, and finally precludes volition. If profound, it puts a total stop to all the imaginations of the mind.

Such are the phænomena of sleep. But how is it produced? What is the proximate, what the remote cause of sleep?

I am inclined to think that there are absorbents in the cavities of the brain, as in all other cavities of the body, to take up and carry off what the exhalants have deposited, and I imagine that, during our waking hours, their activity is great in proportion to the intensity of thought, of volition, and of muscular exertion. Should this be granted; it will follow, from the laws of the animated fibre, that these absorbents, exhausted by incessant action, will become torpid in a degree, whilst the exhalants continue to pour forth into the ventricles of the brain their viscid lymph, as happens even after death,
according

according to the assertion already quoted from Sauvage.

Hence may arise that degree of pressure on the vessels of the brain which blunts the faculties, produces a cessation of voluntary motion, and terminates in total absence of sensation.

For the occasional causes of somnolency we may look to such as diminish the vital energy and action of the absorbents by excess of stimulus; which may be heat, animal food, spices, spirits, opium, and either violent or long-continued exertions, whether mental or muscular. Among these we find the same causes which occasion drunkenness in its several degrees of intensity, with deep sleep and death.

Or the occasional causes, diminishing the vital energy, may be directly sedative, such as excess of cold, which is attended by insuperable desire to sleep; fear, when extreme; profuse evacuations; exhausting diseases; and whatever either diminishes the supply of blood to the vessels of the brain, such as ligatures on the carotids, and pressure on the cortical substance of the brain by plethora, or impedes the return of blood by the veins, as happens to decrepit age, and to such as are oppressed with fat.

Hoffmann, when treating of sleep and wakefulness, remarks, that the tone and vigour of the brain being much diminished, partly by vigilance through the day, and partly by languid circulation of the blood by night, this gives occasion to more copious exhalation

exhalation of lymph, which stagnates in the vessels of the brain, and impedes the secretion of the nervous fluid. He observes, that whatever retards the circulation of the blood produces sleep, and that sleep itself retards the circulation of the blood; for during sleep the pulse is slow, and the respiration is both deeper and slower than when we are awake.

That during sleep the whole system is relaxed is evident, because every part of the body becomes turgid; and that some of the exhalants act more freely than the absorbents, with which they are connected, is manifested by the pearly drops of sweat standing like dew upon the face of children, or flowing from every pore of hectic patients, in the morning. To this observation it may be added, that children and people of lax habits sleep more than old people, or such as are distinguished for rigidity of fibre. That there is some accumulation in the vessels of the brain is rendered probable by observing, that when any one is suddenly awakened from profound sleep, he is convulsed; weight and torpor in the head are felt for some considerable time; the senses are slow in their return, and the muscles do not readily obey volition. These symptoms are frequently rendered more remarkable when weakly subjects sleep after a full meal before the fire.

During quiescence the absorbents, having accumulated vital energy, act with renovated vigour, and a disposition to wakefulness ensues.

Thus this wonderful machine, by its alternate accumulation and exhaustion of energetic power, seems

to resemble, in simplicity of action and contrivance, the syphon fountain, or an engine kept in motion by the alternate collection and condensation of the steam.

In support of this theory the student may consult what I have delivered respecting the proximate cause of ferous apoplexy. One degree of pressure produces, as I imagine, drowsiness, and a greater brings on sleep in its several stages of intensity, from that which is lightest, to lethargy, apoplexy, death.

If any one retires to a sequestered spot, undisturbed by light, by noise, by pain, or mental passions, when every muscle is quiescent, and when volition ceases; when there is nothing to excite the system; his state of somnolency will be prolonged, attended first by sound and refreshing sleep, afterwards by dozing. Boerhaave relates the case of a wealthy young nobleman in Holland, who, having overdrunk himself, was, by orders from the prince of Orange, carried into a dark and quiet place, where he slept three days and as many nights, not incessantly, for he awoke often, but whenever he opened his eyes, believing it to be the middle of the night, he turned round and dozed again.

From what has been said, it should appear, that sleep may arise from either exhausted energy or want of excitement in the absorbent system.

Many animals, secluded from light, heat, and the free access of atmospheric air, doze through the

whole winter. In this case the vital functions are scarcely perceptible, for although the lamp of life is not extinguished, it burns dim; the animal functions are suspended; and the natural functions are nearly so; for nothing passes either by urine or by stool, little escapes by perspiration, and in the torpid state digestion ceases. In this condition of the animal little oxygen is received into the system by the lungs; no great quantity of hydrogen is consumed in any given time for the purposes of life, and consequently the vital heat is much diminished.

Although I have supposed that sleep may be induced by pressure and accumulation of lymph in the ventricles of the brain; yet we must remark that during sleep the absorbents are certainly at work.—

1. In the urinary bladder; for the urine is small in quantity, and high coloured.
2. In the alimentary canal; for the fæces are hardened.
3. In the membrana adiposa; for the fat after long protracted sleep is considerably wasted, and at the end of winter, in the torpid animals, is commonly consumed.
4. In the ventricles of the brain, for were it otherwise, not merely sleep, but apoplexy and death, would be the consequence.

In the torpid and quiescent state the appetite for food is lost, for it usually bears proportion to the quantity of exertion, whether mental or muscular; and as no fresh supply of hydrogen is received into the stomach, the little required to feed the lambent flame is readily derived by absorption from the cells

or

or reservoirs of fat dispersed over the body, and more especially about the loins.

During our time of sleep, when every muscular fibre is relaxed, and when nutritive particles are distributed wherever they are wanted; provision of oil is made for the consumption of the waking hours. Hence animals, who eat and sleep immoderately, are apt to be oppressed with fat.

Somnolence, too much indulged, brings on fatuity. Boerhaave relates the case of a physician, who took such delight in sleeping, that he retired to a quiet and sequestered chamber, where, in perfect darkness, he slumbered almost incessantly, till he lost his intellects, and perished in an hospital.

The duration of sleep, with the alternate periods of repose and vigilance, depend much on habit; and this once acquired is with difficulty changed.

SECTION V.

OF VIGILANCE.

VIGILANCE, when attended by anxiety, pain in the head, loss of appetite, and diminution of strength, is by Sauvage and Sagar considered as a genus, and is called *agrypnia*. They have classed it

it under the *VESANIÆ*, immediately after their *deliria*; and of this genus Sauvage enumerates eleven species.

1. *Agrypnia artbritica*, arising from retrocedent or atonic gout.

2. *Agrypnia pathematis*, induced by passions of the mind, such as anger, fear, and strong desire.

3. *Agrypnia hysterica*, attended by palpitations, starting, subfultus tendinum, impeded respiration, spasmodic contraction and convulsive motions, at the instant when sleep is stealing on the senses.

4. *Agrypnia cephalalgica*, attended by violent head-ach, induced by inflammation in the pia mater.

5. *Agrypnia ex pancreate*, arising from an abscess in the pancreas, and attended by cold sweats with syncope.

6. *Agrypnia a dolore*, induced by grief, and therefore coinciding with his second species.

7. *Agrypnia ab indigestione*.

8. *Agrypnia febrilis*, common in all fevers.

9. *Agrypnia senilis*, attendant on old age.

10. *Agrypnia critica*, preceding epistaxis and other critical discharges.

11. *Agrypnia ab insectis*, such as bugs, lice, fleas, gnats, ants, &c.

In

In treating of this subject I shall, without following step by step the specific arrangement of Sauvage, consider what are the remote causes, and then venture to suggest what may be the proximate cause of vigilance.

The occasional causes are evidently such as stimulate the system.

1. The stimuli may be purely mental, such as anger, fear, joy, grief, with intensity of thought and *volition*.

I was acquainted thirty years ago with a most amiable lady, Mrs. Mitchell, of Glasgow; who having the misfortune to lose a husband, by whom she was tenderly beloved, never slept a moment for six weeks: and Sauvage makes mention of a young lady at Montpellier, who having seen her husband murdered by assassins, was deprived of sleep for more than three months.

2. The stimuli may be material, including such changes in the body as excite sensation. Such are strong light, loud sounds, offensive smells, disgusting taste, hard touch, if these are unusual or such as commonly call forth volition, for none of these produce watchfulness, when the mind has been accustomed to regard them with indifference.

The most powerful stimulus is *pain*, because by this the animal is warned of immediate danger, whether the uneasy sensation arises from spasm, distention, laceration, or any solution of continuity produced

duced either mechanically or by chemical attraction. When pain has been for any length of time endured, it proves, like all other stimulants, a powerful sedative.

3. The stimuli, if not so powerful as to excite sensation or volition, may yet produce irritation, as I have explained at large in the sections of irritability and stimulants in the preceding volume.

The irritation may be,

- a.* In the lungs; as in cases of asthma and catarrh.
- b.* In the stomach; arising from indigested foodes, viscid mucus, worms, hunger, thirst. Hoffmann says, *Ventriculo bene habente, totum corpus alacrius est, somnus fit placidus, si vero onustus est alimentis incongruis, somnus deficit vel insomniis terrificis interturbatur.*
- c.* In the bowels; from bile and flatulence, from fæces in the rectum.
- d.* In the urinary bladder.
- e.* In the feminal vessels.
- f.* In the brain, or its meninges, either arising from or attended by a quickened circulation of the blood, for whatever accelerates the motion of the circulating fluids in the vessels of the brain, induces vigilance.

Thus

Thus far all is clear; but as we advance we shall find ourselves in the regions of doubt, of darkness, of conjecture.

How then shall we account for vigilance? Borrowing a ray of light from chemistry, shall we venture to suppose it may arise from the uninterrupted supply of oxygen and hydrogen to the vessels of the brain?

If we suppose sleep to be produced by the pressure of roscid lymph in the ventricles of the brain, and particularly, as I may now proceed to state it, by pressure on the plexus choroides and the minuter or secreting vessels of the brain; may we not indulge our imagination and conjecture, that vigilance is produced by the union of oxygen and hydrogen, the latter perhaps secreted by some of the vessels of the brain, the former derived by chemical attraction from the arterial blood of the plexus choroides? We know that by vigilance and thought, as well as by motion in the system whether vital or voluntary, both oxygen and hydrogen are consumed and lost, whilst heat and water are produced; and it is now understood that the chemical union of those principles generates water and disengages heat.

Let the student recollect, that in the ventricles of the brain he finds no coagulable lymph, but the purest water, which is therefore denominated roscid lymph by Boerhaave.

I have already stated, that the absorbents recover
VOL. II. G their

their tone merely by quiescence; but supposing the stimuli above stated are applied to any part of the system; the absorbents, agreeable to the laws of the animal œconomy, will be excited by sympathy, for it is observed, that irritation draws into consent the nearest exhalants and the remote absorbents. The fact is certain, and the wisdom of this œconomy will be obvious to the student, if he recollects what has been delivered on the efforts of nature to relieve herself.

In support of these theoretical conjectures I would suggest the subsequent considerations.

1. A superabundant supply of hydrogen from fermented liquors received into the stomach, at first brightens all the faculties and gives increase of vigour, but speedily brings on intoxication followed by apoplectic sleep: but the inspiration of oxygenated air, as Dr. THORNTON has cleared proved, stops the progress of intoxication, and therefore prevents apoplectic sleep.

2. We observe in crowded rooms, when candles burn dim for want of air, the human understanding is confused, and all its powers are enfeebled; but the imagination kindles, when the lungs take in a fresh supply of well oxygenated air.

3. The inspiration of foul air in mines, whether hydrogenous, carbonic, or the two combined, brings on deep sleep and death; but by the admission of uncontaminated air the miners are speedily revived,
and

and the same happens frequently in Spain to those who sit too long, or sleep in a close room with burning charcoal, which consumes the oxygen and discharges carbonic air.

4. Boerhaave has remarked, that in acute diseases, the blood is found chiefly in the arteries, while the veins are comparatively empty. For this phænomenon he in vain endeavours to account; but the cause is evidently this: the blood in all inflammatory fevers, being highly oxygenated, strongly stimulates the heart, and is therefore propelled into the arteries in great abundance, and quicker than the veins can receive it.

But when highly oxygenated blood, as in acute diseases, such as synocha, pleuritis, phrenitis, moves with rapidity through the system, and therefore in the vessels of the brain, vigilance, particularly in young subjects, sometimes continues night and day for a whole week together. In such circumstances, as Boerhaave, with his usual accuracy of discernment, well observed, their body has been rendered lighter by one third part of its weight, so that those, who had been very fat, have been reduced almost to skeletons. See his lectures on the theory of physic, sections 599, 600.

In such circumstances, whilst the fever rages, the patient can rise up with ease and support himself in bed: but when the fever is exhausted, weak and relaxed, he sleeps incessantly, or only awakes to take in more food, that is, to supply the lamp of life with

hydrogen, then sleeps again. My friend Dr. *Thornton* informs me, that when he exhibits oxygenated air to thin people, it increases their appetite for food; but that when fat people inspire it, they eat less, grow thinner, and yet find no deficiency of strength. Many instances have been recorded, and the judicious author of a late work called MEDICAL EXTRACTS has been at the trouble of collecting several, where persons, overcharged with hydrogen, as in the case of *drunkards*, have been consumed by *spontaneous combustion*, when heat, sufficient for that purpose, was disengaged by the chemical union of oxygen with the hydrogen.

The process of *combustion* being little understood, unless by modern chemists, I shall explain it in the burning of a wax candle. You kindle twisted threads of cotton and thereby melt the wax. This being fluid is by capillary attraction drawn up into the wick, and ascends into the part which is in flame, from whence it rises in the form of gas, and in that state, combining readily with the oxygen of the atmospheric air, composes aqueous vapour, which may be easily condensed, and sets at liberty both light and heat. When I was last in London, Dr. THORNTON shewed me a very elegant process of combustion by putting one drop of ether into a two ounce phial of oxygenated air, which he then kindled with a match. The combination was instantaneous; water was produced; and the light and heat

heat were not inferior to those which are disengaged from detonating gold.

It is allowed that the blood, in its return towards the heart, has lost the oxygen which it had acquired in the lungs. What then is become of it? Surely it is not annihilated. The quantity derived from the air merely by breathing is considerable; but the same physician, to whose experiments I have so frequently referred, and whose ardour in the pursuit of science merits our applause, assures me, that the cuticular absorbents have the same power and perform the same office with the lungs.

It is well known that both mental and muscular exertion, as I have already stated, consume the fat, and it is well ascertained that whenever there is motion or any combination in the system, heat is generated: it is likewise proved by the experiments of Dr. Priestley, that oxygen will pass through the pores of membranes to unite with hydrogen.

Since then we have lost oxygen and hydrogen in great abundance, and acquired both heat and water, is it not probable that the oxygen, which disappeared, has formed a chemical union with hydrogen and produced the water, whilst at the same time heat has been evolved. The water thus continually formed is either taken up incessantly by the lymphatics, and conveyed back to the mass of circulating fluids, or passes out of the system by the exhalant arteries.

Were it my present intention to treat of muscular motion, I should enlarge on the curious texture of the cellular membrane, with which every, even the most minute, fasciculus of muscular fibres is inclosed; but I must leave this for the physiologist, and hasten to a conclusion of this section.

Whatever then becomes of my conjectures respecting the proximate cause of vigilance, it stands confessed, that the occasional causes are such as stimulate the system, and that, from common watchfulness to furious raving, it bears proportion to the degree of excitement in the brain.

What I have here delivered, seems to be confirmed by the case of Mr. T. as related by Dr. THORNTON. The asthma appeared for six weeks to be aggravated by oxygen, when exhibited alone; but a cure was perfected, when the patient took oxygenated air with tonics in the day, and hydrogen gas in respiration, assisted by opium, in the evening. And the experiments of Dr. CARMICHAEL of Birmingham, with the accurate observations of Dr. BEDDOES on inspiration of *carbonated hydrogen*, by which they were able to induce sleep almost at pleasure, throw much light upon this curious subject, and seem to confirm my conjectures.

SECTION VI.

OF DREAMING.

DREAMING is the intermediate state between vigilance and sleep.

It takes place usually towards the morning, and may be at any time excited by irritation in the system.

It is the imperfect exercise of *memory*, and the impression may be either indifferent, or attended with joy, grief, hope, fear, desire, and volition.

The intensity of these affections depends on the degree of excitement in the brain; and this again will be in proportion to the irritability of the system and to the energy of the exciting cause, which cause may be either mental or material.

1. If during the day we have seen any thing uncommonly striking, although not in the least interesting, as producing neither pain, pleasure, hope, nor fear; the image will, unless we sleep profoundly, be renewed by night. *Spinoza* relates of himself, that from the time in which he first saw Brazilians seven feet high with long yellow hair, it made so strong an impression, that he had always the same image in his dreams, and could with difficulty free himself from it during the day.

2. The oftener this image is renewed, the more readily will it be excited in the mind ; and by frequency of recurrence a regular habit will be established.

3. When the passions of joy, sorrow, hope, desire, fear, and terror, have been strongly excited in the day, the attendant images will present themselves in dreams by night. The lady of Montpellier, already mentioned, no sooner closed her eyes to sleep, than the image of her murdered husband, and the assassins sprinkled with his blood, were in the most vivid forms represented to her view.

4. Whatever image is by dreaming presented to the mind, is apt to associate others, between which and it there is either natural or accidental connexion. Thus if a man dreams that he has been guilty of a crime, his imagination will represent constables pursuing, the judge pronouncing sentence, and the executioner fixing the halter on his neck.

There is a curious experiment, which shews a propensity in the system to renew whatever images have made a vivid impression on the sight.

If when the sun shines bright, you look through a window at a landscape, fixing your eyes steadily on one spot, till vision is distressing, and till the view begins to fade, then gently close your eyelids and put a hat before your face ; the representation will alternately appear and vanish, and what is still
more

more remarkable, the image of the window-bars and of the nearest trees will be dark, whilst the sky appears to be either purple or light green : but whenever the hat is removed, and light is transmitted through the eyelids, the bars of the window and the trees become red like fire edged with green, and the sky is dark. Even when the eyes have been for some time opened and engaged with other objects, on being closed again, all these appearances will be renewed.

The student, I trust, recollecting what has been delivered on the accumulation of irritability, will readily comprehend why the darkest objects become the brightest, when light is transmitted by the eyelids. But what I have principally in view is, to shew the recurrence of images, whilst the eyelids are closed, and the attention is not diverted by more powerful sensations.

When debility and irritability prevail in the extreme, the most trifling irritation will be sufficient to produce the recurrence of images, passions, sensations, and association of ideas; but in the more torpid it requires some powerful stimulus; and this may be either in the stomach or the brain itself.

The stomach is commonly the part in which we may seek the occasional cause of dreams; but whatever induces determination to the head, or quickens the circulation in the vessels of the brain, without producing vigilance, will have the same effect. Dr. Lower gives the case of one who slept soundly

foundly whilst his head was inclined forward, yet when his head fell back he was soon awakened with horrid dreams and tremors.

In this patient, after death, water was discovered in the ventricles of the brain.

SECTION VII.

OF THE CAUSES REMOTE AND PROXIMATE OF ONEIRODYNIA ACTIVA.

It may be sufficient to observe, that the predisponent cause, as in *oneirodynia gravans*, is certainly debility, because, not the robust and persons of a rigid fibre, but the delicate, and such as are most irritable, are most liable to this complaint.

The occasional causes may be, as in *oneirodynia gravans*, indigested fordes, viscid mucus, worms, ebriety, and the abuse of laudanum,

As to the proximate cause, nothing certain can be delivered, but I confess myself much inclined to think with Dr. Cullen, that the brain is liable to partial excitements, and that in this affection, as in delirium, we need look no further for the cause. Every faculty seems to be awake, excepting *consciousness*, for the person walking in his sleep, with his eyes open, turns aside to avoid obstacles, and unerringly directs his steps, as if he were awake ;

yes

yet when consciousness returns, he has no recollection of what he did or where he went.

Something similar to this may happen to those who are perfectly awake, but deeply engaged in thought.

I remember formerly having seen a clergyman, much attached to mathematical studies, to whom it frequently happened, even when he was engaged in the solemn service of the church, that having his attention wholly occupied in his favourite pursuits, he did not from the beginning to the end retain the least consciousness of what he was about, and yet he never made mistakes. Had any one recalled his consciousness in the middle of prayers, he would certainly have been confused, and would perhaps have been unable to proceed.

In cases of oneirodynia activa, either strong light, loud sound, or a basin of water dashed in the face, awakens consciousness, yet with manifest hazard to the health and understanding of the patient.

SECTION VIII.

OF THE INDICATIONS OF CURE IN CASES OF ONEIRODYNIA.

THE indications must be taken from the remote causes:

The occasional causes require particular attention. These are to be carefully avoided. Strict temperance is to be enjoined: viscid mucus requires emetics: and worms must be destroyed by anthelmintics.

The predisponent cause calls for tonics and astringents.

Nothing can be more judicious than the curative intention of Etmuller.

In his *incubus accidentalis*, he orders emetics, and forbids eating much at supper.

In his *incubus habitualis*, he recommends the same treatment as for hypochondriasis, that is emetics, volatile fudorifics, gentle aloetics, and above all the martial preparations, to which bark, wine, and opium, as part of the highly tonic regimen, may be sometimes added to advantage.

For an emetic, ipecacuanha, from three to ten grains; with tartarized antimony, from one to three grains, according to the age and irritability of the patient, may be given in the morning fasting.

Gentle cathartics must occasionally follow the emetics, and for this purpose the subsequent pills will be found sufficient.

Rx Pulv. Aloes, cum ferro, dr. i.

—— Calomelanos, gr. 10.

Tinct. Aloes, q. s. f. pill 20.

Capt. Pil. j. o. n. h. s.

Should

Should one pill every night be found insufficient to keep the body reasonably open, the quantity must be increased; but as it will be in vain to evacuate the bowels, unless the tone of the system is restored, five grains either of ferrum tartarifatum, of rubigo ferri, or of limatura ferri, in conserve of roses, should be given twice or three times a day. These may sometimes give place to the Peruvian bark, or both may be united, as occasion may require, according to the formulæ 76, 77, 78, of my Physician's Vade Mecum.

This treatment will be found equally efficacious in both species of oneirodynia.

Genus LIX. *Melancholia*.

Melancholy.

THE pathognomic symptom is erroneous judgment, not merely respecting health, arising from imaginary perceptions or recollections, influencing the conduct, distressing the mind with ill-grounded fears, and not combined with either pyrexia or comatose affections.

INTRODUCTION.

DR. HOME considers melancholia and mania as two species of *insania*, and this he defines permanent *delirium* without fever.

Melancholy then, according to him, is insanity accompanied by sadness: *madness* is insanity attended by rage. In the former, *fear* prevails; *anger* in the latter; but in both we have delirium.

SECTION I.

OF DELIRIUM.

WHEN treating of fevers I had occasion to distinguish delirium, as occurring either in synocha or in typhus, without however staying to consider the proximate cause of these affections.

It will be needful to resume the subject in this place, to which it more immediately belongs.

Delirium, as defined by Dr. Cullen, is, in a person awake, a false judgment arising from perceptions of imagination, or from false recollections, and commonly producing disproportionate emotions.

Of this he very properly distinguishes two species, considering it either as combined with pyrexia and comatose affections; or as totally free from such a combination. He likewise marks the affinity between delirium and dreams, or rather proves that delirium is a waking dream. Whatever then has been suggested respecting dreams is applicable to delirium.

Dr. Cullen imagines it arises from unequal excitement in the brain, and I see no reason to differ
from

from him in opinion. That he is right in his conjecture is probable, because strong excitement, as by any loud or sudden noise, calls back the recollection, and for a short interval restores the senses. Van Swieten in his comment well remarks, *Sed subitanei quid et improvisi ipsis acciderit, pro momento bene respondent; paulo post, deleta hac vivida impressione, relabuntur.* Sect. 700.

In adverting to this subject, we cannot but call to mind the difference between the *delirium* of *synocha* and the *delirium* of *typhus*. In the former we find a pulse full, strong, and vibrating from 90 to 110 strokes in a minute, and the heat much increased. In the latter the pulse is weak, small, and fluttering, with the vibrations almost innumerable. Here is at the same time remarkable prostration of strength, but the heat is moderate.

In the former, substances producing hydrogen, received into the stomach, increase delirium; but acids tend greatly to diminish it. In the latter, no benefit is derived from acids in the stomach, but whatever most abounds with hydrogen removes the symptoms of debility and restores serenity. In the former, to inspire oxygenated air is hurtful: in the latter it is highly beneficial. In the former all is in a blaze: in the latter the lamp of life, for want of pabulum, is well nigh extinguished, and the vital energy is so far exhausted, that, for a considerable time before the dissolution, the iris ceases to contract by the stimulus of light.

Of

Of this distinction every practitioner is sufficiently aware; but it is far from being universally understood, that *delirium* may be occasioned by viscid mucus, and corrupted bile in the first passages. Van Swieten ingenuously confesses, that he is indebted for this information to his master Boerhaave, and adds, *Monitus ab optimo præceptore, frequentem satis DELIRII in febribus causam esse sordes circa præcordia collectas; postea attentus huic rei, vidi sæpius hoc verissimum esse; et unico vomitorio dato, excusâ hac saburrâ recordor plures ilicò resipuisse*, sect. 701. And Dr. Whytt, who studied in the same school, relates the case of a delirium in a boy, who slept well, had a sharp appetite, was not costive, and whose pulse was full and slow. This boy, after having been bled and blistered to no purpose, was cured by calomel and rhubarb, which brought away a great quantity of slime.

I remember a patient, attended by my much lamented friend and fellow student, Dr. Stack, of Bath, who for a length of time was delirious every night, and conceiting, from pain in his bowels, that he was devoured by dogs, thrashed with his cane every one who approached him, or in their absence beat the bed posts, to drive away the furious animals. In this case, when other remedies had failed, his symptoms were relieved by evacuants producing a discharge of viscid mucus and of bile.

Thus we may distinguish three species of *delirium*, as it is found either in the sanguine temperament
or

or in the melancholic, because the former may have either the robust and elastic fibre, which is essential to strength, or the lax and irritable fibre, which accompanies debility. This distinction is important, as having a reference to practice.

Delirium may indeed be occasioned by mental irritation: yet such is the connexion and consent between the mind and body, that what originates altogether in the former is soon communicated to the latter, and then action and reaction proceed continually till the disorder is confirmed, and delirium terminates in madness.

To investigate this matter, as far as we are able, we must consider what are the laws of the animal œconomy.

1. The more vivid the sensation when the image is impressed, the stronger is its disposition to return, and the shorter are the intervals of absence, till by intensity of application the idea becomes permanently fixed. Thus if you look steadily at the sun, so as moderately to fatigue the sight, then retire to a dark room, the image of the sun will alternately vanish and appear for a considerable time; but if you continue gazing for a greater length of time, the image will remain for hours or for days.

2. The more deeply interested we are in any object, that is, the more forcibly it excites either hope or fear, the more frequently will the idea of that object be presented to the mind.

3. Every idea, which has frequently recurred, has a disposition to return, and, by returning often, becomes both permanent and vivid.

4. Whatever ideas have been either usually, or even accidentally, yet powerfully associated, have such a disposition to associate, that any one of these, respecting either hope, fear, time, place, persons, things, or even arbitrary characters, being presented to the mind, excite all the rest either in regular or in confused succession.

5. These ideas commonly return and wanton in the imagination during the silence and darkness of the night, or even by day in the absence of more powerful sensations. In some circumstances closing the eyes may be sufficient to produce them, as the student may recollect in the case of bilious autumnal fever, to which I called his attention in the beginning of this work. Dr. Whytt relates the case of a patient affected with erysipelas, who, when his eyes were open, was free from confusion in his ideas; but no sooner did he close them, although not asleep, than he thought himself carried swiftly through the air to distant regions, or that his head, arms, and legs, separated from his body, were flying off in different directions.

In these cases the irritation is weaker than the usual sensations conveyed by light, for it vanishes like the glow-worm's feeble glimmering at the rising of the sun.

6. When

6. When the image is vivid and forcibly impressed upon the mind by frequent recurrence, or by rivetted attention, and when the passions of hope or fear have been strongly interested by its presence; it will continue undisturbed by new sensations, more permanent than the image of the sun, which Boerhaave had the rashness to receive on his retina from the focus of a convex lens, and which, as he informs us, remained immutable for many days.

7. These ideas with their associated train, although at first excited by mental irritation, may be renewed by irritation in other parts of the system, precisely as I have stated in the case of dreams.

8. When these ideas are renewed by irritation, whether mental or material, the impression will bear proportion to the debility of the system, and to the strength of the irritating cause: or, the degree of irritation being given, it will be directly as the debility. If therefore delirium supervenes, when debility and irritability do not prevail, we may be certain, that there is some powerful stimulus either on the brain, or probably in the first passages of the alimentary canal, as will be explained in the fifth section under mania.

9. When images are permanent and vivid, the mind has no criterion by which it can distinguish such as are excited by irritation in the system, from those that correspond with, and are immediately produced by, external objects.

SECTION II.

OF THE HISTORY AND PROGRESS OF MELANCHOLY.

THE persons most liable to this disease are men of the *melancholic temperament*, particularly those who from active life retire to solitude, and, without employment for either the body or the mind, overcharge the alimentary canal, more especially if the place of their retreat is low and damp, or if, in such circumstances, they meet with keen vexation, and are harassed with anxiety.

It is likewise the disease of studious and sedentary people, who neglect muscular exercise, whilst they exhaust the powers of the mind. With them, however, it does not usually assume the most hideous features of despair, but is often so mild and gentle in its aspect as to claim affinity with a disease between which and it the resemblance is too striking to escape our notice. In both there is erroneous judgment; but whilst in *hypochondriasis* this has respect to health alone, in *melancholia* it is not thus confined.

When the literary man conceits that he is converted into wax; when with Dr. Watts he imagines that his nose is bigger than his chamber door; or, supposing himself a clock, stands upright in the corner of his room, moves his head from side to side,

sider, and clicks to this motion, so as to imitate the sound and vibration of a pendulum, without any other symptom of derangement; we do not hesitate to pronounce him deeply *hypocondriacal*. But when he becomes habitually gloomy, fretful, and suspicious; when his distressing apprehensions are not confined to health, but arise from other sources; more especially if he continues free from dyspepsia; the best physicians are agreed to consider him as attacked by *melancholia*. Yet between these diseases the limits are not in all cases easy to be traced.

The usual progress of melancholy is well described by Boerhaave.

Patients in this disease are pale and bloated; but by degrees they contract a livid hue and grow very thin. They lose their sleep, and commonly their appetite, although many instances are found of astonishing voracity. Respiration and the pulse become weak and slow; the habit costive in the extreme; the whole system torpid. A sullen gloom takes possession of the countenance, anxiety and grief hang heavy on their eyelids, and their imagination is haunted incessantly with fearful apprehensions. The perspiration and all the secretions are diminished, and coldness prevails in the extremities. An obstinate jaundice sometimes supervenes, and when the body is dissected, the gall ducts commonly are found distended with black and stagnant bile, which resembles liquid pitch.

Van Swieten attended a lady in melancholia, who,

after she had often attempted to destroy herself, lay sleepless with her eyes open, for six weeks, during which period she scarcely either eat or drank, and never passed a stool. For the first five weeks she made little water, and in the last week none. Her tongue and mouth were dry, and her extremities cold like marble. After death no effusion was discovered on the brain, but the vessels of the pia mater were distended with black and pitchlike blood. See his Comments, sect. 1010.

Forestus mentions an old man who had no stool for three months.

When nature spontaneously effects a cure, it is either by inflammatory gout in the extremities, as mentioned by Dr. Whytt in his treatise on nervous disorders; by the hæmorrhoidal flux, as stated by Hippocrates, and his commentator Galen; by an irruption on the skin, as particularly noticed by the sagacious Boerhaave; by a diarrhœa, as remarked by Dr. Holme; or by the return of the monthly evacuation, as observed by those who are conversant with this disease.

SECTION III.

OF THE REMOTE CAUSES OF MELANCHOLIA, WITH
CASES.

FROM what has already been delivered, it will appear, that the predisponent cause of melancholia
is

is debility, and it will be seen, that the occasional causes are such as are directly or indirectly sedative, and therefore tend to debilitate the system. Among the latter may be reckoned violent and long continued mental exertions, with intensity of thought and protracted vigilance, as in poets and mathematicians. Of these, some, who are of a peculiar constitution, may escape with impunity, although, like *Francis Vieta*, the algebraist mentioned by Boerhaave, they should pass whole days and nights successively in such profound meditation as neither to eat nor drink, nor see, nor hear; yet in general they are the first to suffer.

The same may be said of the intemperate, whether they indulge themselves in gluttony, drunkenness, the use of opiates, or in that species of intemperance which commits greater ravages in the mental faculties than either of the former.

Excessive heat with immoderate exercise, when exposed to a scorching sun, as in Italy and Spain, will produce the same effect.

Even joy in the extreme, terminates in *melancholy*. It was observed by medical practitioners, A. D. 1720, when the South Sea bubble produced speedy revolutions in the fortunes of the credulous, that by far the greater number of patients were among, not the unsuccessful, but the fortunate adventurers, and such as were suddenly overwhelmed with wealth.

All these causes are directly stimulant, and therefore indirectly sedative.

Others are directly sedative.

Such is *cold* with humidity and stagnant vapour. Such are viscid aliments, which containing little matter fit for nutriment, needlessly oppress the stomach and the bowels.

The same may be said of ill-cured agues, which leave corrupted bile and viscid mucus in the alimentary canal.

The most powerful sedatives are *grief*, *anxiety*, and *fear*. This may be seen in disappointed ambition, the ruined gambler, the perplexed by litigations, and such as are crossed in hopeless love, who immure themselves in cloisters, or wander in the solitary shade, the victims of despair.

Terror, which is sudden fear in the extreme, produces not only the most violent, but the most permanent effects. Van Swieten saw a lady, who having been exceedingly alarmed by thieves at night attempting to break into her chamber, never lost that idea for a moment, but was unremittingly afraid, more particularly towards the evening, when she constantly began to look round with terror, to tremble and turn pale; and although attended by her servants, no sooner had she closed her eyes to sleep, than she started up affrighted, so that she never could procure refreshing sleep. Harassed thus incessantly by fear, she soon became a prey to *melancholy*, and died of that disease.

Fear

Fear renders the pulse weak, flow, small; checks the respiration; lessens the vital heat; relaxes the stomach, and the bowels; impairs digestion; destroys the appetite; disturbs the rest by frightful dreams; brings on paleness; diminishes perspiration, or covers the face with cold drops of sweat; prevents the due secretion of the bile, and produces universal torpor.

Anxiety and *grief* have the same effects, and although slowly, yet certainly destroy by loss of tone and relaxation of the solids. Professor Hoffmann, contrasting the operation of the passions, judiciously observes, that *anger* quickens the circulation, and drives the blood impetuously from the centre to the circumference; *terror* with equal force sends it from the surface to the internal parts, the one producing *fever*, the other *spasm*; but *grief* retards the motion of the blood, and tends to atony.

To exhibit the deleterious effects of fear I shall subjoin some cases.

A poor man in my parish, having lost the writings of his cottage, suspected that they had been stolen, with intention to deprive him of his property, and to turn him out of doors. This idea was for ever present to his mind, and harassed him incessantly. He lost his rest, grew thin, talked incoherently, saw spectres, and had all the symptoms of deep melancholy. Yet he continued to earn his livelihood by spinning, and when his attention was diverted from his cottage, his conversation was rational.

Two sisters, who lived in a lonely cottage, where they attended a decrepit father, being frequently disturbed and terrified by mischievous passengers, or by sportsmen with their guns, became timid, and by degrees so overwhelmed with fear, that they started at the falling of a leaf. When I visited them for the first time, I found them clothed in rags, with haggard looks: yet one of them was carding wool, the other spinning. The moment I entered, the youngest flew at me with an axe, which I fortunately seized, and both of them began earnestly to beg with tears that I would not enlist them for soldiers. This was the subject of their fear, and prevented them from associating with human creatures, excepting once a week, when the youngest carried in their work to get more wool, and purchase in the village a quantity of bread sufficient for a week. When their father died, they concealed his death, endeavoured to dig a grave for him in their own garden; and when his body became so offensive, that they could no longer bear it, the youngest came to request I would assist to bury him. Notwithstanding this derangement, they got their living by their labour, and when their attention was for a few moments diverted from the subject of their dread, they shewed sufficient signs of reason.

A gentleman, who had a lucrative office at the custom-house in London, and had been used to speculate deeply in the funds, met with some considerable loss, by which his spirits were so exceedingly depressed, that he obtained leave of absence for a season, and retired to the country. Here the dread of poverty, which had gained possession of his thoughts, was increased by new apprehensions, for he became afraid lest he should lose his place, and suffer an extent on account of some contraband goods left behind him in his lodgings. After having passed many restless nights,

nights, he obtained the consent of his friend to go and remove these objects of his terror. He went: hid them in a feather-bed, and returned into the country. But here his terrors were increased, for night and day incessantly his imagination represented officers of the customs, with informers, searching his rooms, examining his beds, and discovering what he had so carefully concealed. In this state of perplexity and deep distress, overwhelmed with fear, he watched his opportunity to collect, from time to time, such bits of string as he could find, and at last hanged himself.

As the stomach sympathizes with every part of the system, and is the first to suffer by any passions of the mind, more especially by grief and fear; so every part of the system, more especially the mind, is drawn into consent and suffers by the affections of the stomach. Van Swieten has well described this action and re-action in the case of melancholy. In *Melancholia dum uni et eidem cogitationi inhæret perpetuo mens, nascitur in corpore humorum cacochymia: contra ubi talis humorum degeneratio ab aliis causis nata fuit, uni et eidem cogitationi inhæret homo etiam invitus et repugnans*. Comment. § 1090.

In spasmodic disorders the connexion between every part of the system and the stomach has been clearly demonstrated, as may be seen in the preceding volume; and, whoever has paid attention to melancholic patients, will be satisfied that the seat of this affection is most often in the alimentary canal.

Baglivi,

Baglivi, as quoted by Hoffmann, is decidedly of this opinion, and advises medical practitioners in all mental disorders to pay their first attention to the stomach. To this advice the professor adds; I have frequently observed men, who were before of a cheerful disposition, and of a sanguine temperament, reduced, by distress of mind, to such a state, that, without any manifest and subsisting cause for grief, they have sunk into the deepest *melancholy*, constantly disturbed with apprehensions of impending evil. In these circumstances they complained of flatulence, pain, and distention about the præcordia, want of appetite, and costiveness.

Van Helmont teaches distinctly the same doctrine, and in his quaint manner says, "The archer dwells in the præcordia, and if, in delirium or any species of insanity, he aims his arrows at the head, this should not induce the physician to direct his attention or to apply his remedies immediately to the brain itself; for this would be to resemble one, who should attack the arrows whilst he overlooks the archer." Van Helmont however is mistaken, when he attributes every species of *delirium* to this cause, for, as we have already stated, it sometimes derives its origin from inflammation and mental irritation. The opinion of Galen therefore, when he says that in some cases delirium and melancholy arise from weakness and relaxation of the stomach, "*consentiente principio quod in cerebro et nervis est,*" seems to be more agreeable to truth.

Among

Among the occasional causes of melancholia we have already considered the operation of heat, cold, joy, grief, anxiety, and fear. It remains to enumerate some others, which have been noticed by practitioners.

When atonic gout, as stated by Dr. Whytt, occasions melancholia, the sedative effects are first perceived in the stomach and the bowels. This may be particularly noticed in two cases related by him in his treatise on the nerves, ch. vi. § 17. to which I must refer the student.

The drying up of ulcers stands particularly charged by Amatus Lusitanus, as the occasional cause of melancholy. A case, which occurred to him, has been referred to, and other instances of the same nature have been recorded by practitioners. Obstructed catamenia sometimes brings on melancholia, and, according to Hippocrates and Galen, the same effect has been produced when the hæmorrhoidal flux has been unseasonably suppressed: but they and all the disciples of that school principally accuse their *atrabilis*.

SECTION IV.

OF THE PROXIMATE CAUSE OF MELANCHOLIA.

PROFESSOR Hoffmann, for the proximate cause of melancholy, assigns stagnation of thick blood

in the weak and flaccid vessels of the brain: *Sanguinis crassioris nimius ad imbecille et flaccescens cerebrum appulsus, stagnatio et difficilis progressus.* But although the blood moves flow in this disease, there is no reason to imagine that it either stagnates in the vessels of the brain, or moves slower there, than it does in other parts of the system.

Dr. Cullen, taking no notice of this opinion of his master, seems inclined to attribute melancholia to a præternatural dryness and firmness of texture in some portions of the brain, giving occasion to inequality of excitement. But my valuable friend Gimbernat, first surgeon to the king of Spain, after having dissected more than six hundred heads of wise men, fools, and madmen, assures me, that he never could discover any thing remarkable in either texture or colour to distinguish them. Any præternatural hardness in the texture of the brain must be considered either as accidental, or as the effect, and not the cause, of insanity, for this circumstance will not assist us to account either for its sudden and spontaneous solution, or its cure by medicine, neither could it lead us to any rational indications.

The sagacious Boerhaave, treading in the steps of Hippocrates and Galen, considers *atrabilis* as the cause of *melancholia*, and at the same time states, that *melancholia* is the cause of *atrabilis*. His words are these, *Hic morbus oritur ex illa sanguinis et humorum malignitate, quam BILEMATRAM dixerunt veteres et rursum idem morbus a mente initium ducens, brevi*

in corpore bene sano ipsam bilematram facit. Sect.
1090.

From what symptoms then does he conclude that *atrabilis* prevails in this disease?

1. From black substances, evacuated either by the action of emetics, or by stool, and found after death in the intestines.

2. From the black pitchlike substance frequently discovered in the bilious ducts, and sometimes in the spleen.

3. From the colour of the blood, because in melancholia the crassamentum, if covered and preserved from communication with atmospheric or oxygenated air, is of a dark crimson colour bordering upon black.

The first of these substances must be either corrupted bile or extravasated blood.

Fourcroy informs us that he has sometimes discovered a biliary lining in the small intestines, black, of the consistence of salve, and more than a quarter of an inch in thickness. This, by the action of the absorbents, acquires the toughness and tenacity of glue. See the Memoirs of the Royal Society of Medicine at Paris for the years 1782 and 1783.

The second is certainly corrupted bile inspissated by the action of the absorbents, but by no means
answers

answers to the idea of Hippocrates, who imagined that two species of bile, yellow and black, existed in the healthy body, and that health itself depended on the due admixture of these principles.

That the bile should thus concrete, cannot excite our wonder, when we consider, that it is composed of coagulable lymph, animal gluten, the mineral alkali, and a resinous substance, according to the analysis of Jacquin and the best modern chemists.

As to the colour of the blood, it is now put beyond a doubt by the experiments of Dr. Beddoes, in confirmation of what Dr. Priestley had observed, that blood receives a florid colour from oxygen, and becomes black when deprived of that pabulum of life.

This circumstance may possibly assist us to explain the most interesting symptoms, as stated by Boerhaave, and with some degree of probability to suggest what may be the proximate cause of melancholia. These symptoms are,

1. *Pulse* slow, small, weak, and the balance of the sanguiferous system on the side of the veins. See Cullen's First Lines, § 1589. This proves that the vital energy of the heart is so much diminished, as not to balance the natural elasticity of the arteries. Hence they contract more forcibly than the heart, and protrude the blood into the veins faster than it can return. The slowness, smallness, and weakness,

weakness of the pulse seem to be proportioned to the diminution of oxygen. When this fails, pulsation ceases; and the blood being collected wholly in the veins, the arteries are altogether empty.

2. *Respiration* flow. The respiration seems to be governed by the pulse, as I have already had occasion to explain, when stating the consent between the heart and lungs. It certainly bears proportion to the demand for oxygen, as may be observed in dogs, who have consumed more than their usual quantity when in pursuit of game. The more pure the air, the slower is the respiration; but in proportion as the air is vitiated, either by substances, which are destitute of oxygen, or by those which greedily combine with it, the more laborious is the respiration. This may be proved by the breathing of some asthmatic patients, and their cure by well oxygenated air. This we observed in the account of a bilious autumnal fever, to which I must refer the student. Since then the respiration in melancholia is slow, it is evident that the demand in the system is small. If more were demanded more would be supplied, and respiration would be quickened.

3. *Paleness*. This universally is a symptom of debility, and proves that the balance of the sanguiferous system is on the side of the veins, or, in other words, that the vital energy of the heart is much diminished. This may be clearly proved by the paleness of syncope and death.

4. *Perspiration* and all the *secretions* much diminished. These effects naturally follow the weakened energy of the heart, but they do not altogether depend upon that cause, for the secretions are promoted by oxygen, and suffer loss by its deficiency.

5. *Coldness* of the extremities. That vital heat depends on oxygen, is put beyond a doubt by the experiments of Drs. CRAWFORD, BEDDOES, and THORNTON, which prove that it bears proportion to the quantity of this received into the lungs. Heat however is not generated merely in the lungs, but throughout the system, wherever there is either muscular motion or animal secretion. The pulsation of the arteries, and the oscillatory motion of the extreme vessels, with the secretions, being, as already stated, all diminished, the vital heat must consequently be diminished to the same degree, and this diminution will be therefore most perceptible in the extremities, where the quantity of blood is least and its circulation slowest.

6. *Digestion* much impaired. This effect seems to arise from the diminution of the vital heat, for by the experiments of JOHN HUNTER on various animals, which sleep through the winter, it appears, that the digestive process is quickened by heat, and checked, or totally suppressed, by cold. But if the student recollects what has been delivered in the first volume of this work, on respiration and digestion, he will be, I trust, inclined to think that digestion

gestion is promoted by the inspiration of oxygen, and impeded by vitiated air received into the lungs. Digestion however is not produced by either heat or oxygen, but by the gastric juice. We have reason therefore to conclude, that for want of oxygen the gastric juice is either deficient in quantity, as we may be the more inclined to think, when we consider, that all the secretions are diminished, or vitiated in quality, as may be readily conceived, when we reflect, what changes in the whole system are produced by air and heat.

7. *Loss of appetite.* This naturally follows from the deficiency of gastric juice. But when the appetite, instead of being impaired, is exceedingly voracious, this may arise from the stimulus of indigested fordes.

8. *Costiveness.* This likewise may be attributed to want of oxygen, for when Dr. THORNTON, as he informs me, made his dyspeptic patients breathe super-oxygenated air, they not only acquired appetite and spirits, but became more regular in their bowels. Oxygen increases the secretions in general, and therefore may increase the quantity of bile, which is the natural cathartic of the body, and at the same time, giving tone and vigour to the secreting vessels, it is probable that it may improve the quality of the secreted fluid. But independently on this we may observe, that the perspiration being diminished, the determination is naturally increased

to the internal surface, where at the same time, the glands being much relaxed, a superabundant quantity of mucus, of viscid mucus, is collected, so as to separate between the bile and the animated fibre, and thereby prevent the operation of that natural cathartic. It is not however an universal symptom, or constantly present in melancholic patients.

9. *Spirits depressed.* I have already had occasion to speak of well oxygenated air as raising the spirits, and have related the case of Mr. Ruffel; but since that period we are favoured with many still more interesting cases, in which the same effect is frequently remarked. The case I chiefly refer to is, that of Mr. Atwood, communicated to Dr. BEDDOES, and by him presented to the public in the second edition of his inestimable work, entitled, *Considerations on the Medical Use and on the Production of Factitious Airs*; printed for Johnson, in St. Paul's church-yard. As I very often saw Mr. Atwood during the progress of his cure, I feel highly interested in his journal, where I am happy to observe the same energetic expressions, which I heard him utter, whilst he was under the care of Dr. Thornton. If then the spirits are elated by a plentiful supply of oxygen, are we not warranted in our conclusion, that depression of spirits may be caused by its deficiency? Should we enquire how it happens, that the lungs do not derive a proper supply from atmospheric air; I might simply appeal to

to facts, leaving others to assign the cause and to account for this effect. But I shall rather make the attempt myself, and at the same time remind the student of the hints, which I ventured to throw out in the first volume of my work.

Every process in nature seems to depend on either attraction or repulsion.

Of attraction, we distinguish various kinds; the attraction of gravitation; magnetic attraction; the attraction of electricity; and chemical attraction. But beside these we observe another, which may be called *vital attraction*. On this depends the growth of the living fibre.

Vegetables attract their nutriment, both by their leaves and by their roots, which in extent are proportioned to each other. Animals go in search of food; but after they have swallowed and the stomach has digested this, the lacteals make their selection, and absorb such parts as are best suited to nutrition. In them the absorbents of the alimentary canal, at the different periods of their growth, and the pulmonary air vessels, bear proportion to each other, and I have already stated a relative proportion between the oxygen attracted by the lungs, and the quantity of food digested by the stomach. If therefore the process of digestion is impeded, the attraction for oxygen and its separation from azot, with which it is combined or blended according to Jacquin, in atmospheric air, will be diminished. But when the air is overcharged

with oxygen, the quantity separated by the lungs in respiration, even in the most unfavourable circumstances, will be increased.

Thus we see in the burning of a culinary fire, when it is almost extinguished; let the atmospheric air be overcharged with oxygen, or give it nitre, and the effect immediately produced will be rapid combustion with vehement heat and vivid flame; or supposing the air to have only its usual proportion of oxygen, let more combustible matter, such as sulphur, ether, ardent spirits, or even oil, be added to the fuel, and the effect will be the same. In some cases it may be sufficient merely to blow away the dust which separates between the combustible and oxygen.

These attractions and combinations are governed by the laws of relative affinity, some of which, accurately determined by the sagacious and most laborious Kirwan, he has been so fortunate as to express by numbers.

In accounting for the costiveness, I mentioned my opinion, that it might arise from viscid mucus in the alimentary canal. This cause, as I am inclined to think, will at the same time prevent nutrition, and lessen, in the system, the demand for oxygen, and then we must not wonder that the lamp should emit a feeble light. With a plentiful supply of oxygen and hydrogen, the flame is bright; but a single drop of water floating on the surface of the melted wax, will be sufficient to cut off

off the communication and prevent their combination; and such appears to me the effect of viscid mucus in the alimentary canal.

10. *Faundice*. This will be considered largely in its proper place.

11. *Vigilance*. Of this I have already treated in section V.

From all that has been suggested, I am inclined to think with Dr. Cullen, that in melancholia there is torpor in the motion of the nervous power both with respect to sensation and volition (see his First Lines, § 1589); and this in my opinion seems to depend on viscid mucus lining the intestines; for no sooner is it, by a judicious treatment, cleared away, than vital heat increases, the pulse acquires strength, torpor is relieved, and the spirits rise.

This perfectly agrees with what I have stated respecting the remote causes of melancholia, all which relax the glands of the intestines, and produce accumulation of their mucus. And upon this principle, Hoffmann in melancholia approves of antimonials, *Quod si enim tenaces, viscidi et biliosi in duodeno stabulantes humores vomitu evocandi sunt; flores antimonii egregium pollicentur fructum*. Vol. III. p. 261.

SECTION V.

OF THE INDICATIONS OF CURE IN MELANCHOLIA.

FROM what has been delivered, warranted by experience, it will be found that our indications must be,

1. To free the intestines from indigested fordes and from viscid mucus.
2. To excite the vital energy by stimulating tonics, and to brace the relaxed fibre by astringents.

THE FIRST INTENTION may be answered by

a. Emetics, and for this purpose we may order,

℞ Pulv. Ipec. gr. 6. Antimon. tartarifat. gr. 3.
M. f. Pulv. Emet. mane sumend. & repet. omni horâ usque ad vomitionem.

The young practitioner must not be surpris'd if he should be obliged to give four or five emetics, before he obtains an operation. Dr. Pellet, of St. Alban, whose practice in this line is so extensive as to occupy much of his attention, informs me, that for one patient he ordered twenty-four grains of tartar emetic in the space of four and twenty hours, before he could procure an evacuation. At last the operation,

operation, which was by stool, was moderate, and he recovered. Others have given nearly twice that quantity before they could obtain any visible effect.

These emetics must be repeated every morning for some considerable time, then twice a week, or seldomer, according to the slime evacuated. In this disease, timidity, if combined with ignorance in the medical practitioner, is most injurious to the patient; for if after the first or second emetic he stops short, the glands will be soon overcharged with viscid mucus, and he will have lost his labour. On this practice Dr. Monro placed his chief dependance.

b. Cathartics. These must not be drastic, because they would defeat our purpose in more ways than one; for they would not only increase debility, but by powerfully stimulating the mucous glands produce a plentiful secretion, and consequently aggravate the symptoms they were intended to relieve. The best cathartic for our purpose is, soluble tartar, as prescribed by Dr. Whytt.

℞ Kali Tartarifat. ʒiij. Solve in aq. font. ℥viiij. Cui adde Aq. Cinnamom. Syr. Violar. aa. ℥j. M. f. H. m. s.

That is,

Soluble tartar three drams, dissolved in eight ounces of spring water, with cinnamon water, and syrup of violets, of each one ounce. In the morning.

This

This must be frequently repeated for weeks or months, if needful; or instead of this,

℞ Kali ppt. ʒij.

Aq. Cinnamom. ʒj.

Syr. Ros. Rub. ʒj.

Aq. font. ʒij. M. f. H. bis vel ter die sum.

That is,

Salt of tartar two scruples; cinnamon water one ounce; syrup of red roses one scruple; spring water two ounces. To be repeated twice or thrice a day.

This practice has been taken from the Germans.

Calomel, in doses of two to ten grains, given at night, avoiding acids and every kind of medicine which can quicken its operation, is excellent. It commonly lies quiet in the bowels all the night, and when the patient rises, brings a stool, not watery, but of due consistence with fæces, black bile, and viscid mucus. This in the morning may be assisted by any of the preceding formulæ. It must not, however, be exhibited too often, lest it should either affect the mouth, debilitate the system, or stimulate too frequently the mucous glands.

For the use of emetics and mercurial laxatives in melancholia we have the authority of Boerhaave.

Van Swieten very properly recommends plenty of detergent vegetables, such as are commonly used for fallads at our table, particularly endive, lettuce, cellery, spinnage, and dandelion; to which he
adds,

adds, with equal commendation, gooseberries, currants, raspberries, strawberries, and cherries. In support of his recommendation he assures us, that he has seen patients in the most distressing cases of melancholia, perfectly restored to health by cherries and strawberries alone; of which, refusing all other food, they devoured more than twenty pounds a day, and that for many weeks together. It is true this enormous quantity of fruit brought on a *diarrhœa*, but then he adds, *per alvum exibat soluta FÆX ATRA-BILARIA*, that is, undoubtedly they passed stools of corrupted bile and viscid mucus, after which they speedily recovered; a healthy appetite returned, and, although much weakened by this discipline, they soon regained their strength. He adduces likewise the testimony of Hoffmann in favour of a detergent diet, and forbidding the use of drastic purges, he adds most judiciously, *cum autem picea fere tenacitate visceribus hæreat atrabilarius humor, non facile purgantibus obedit*. Let the student consult the passage at large in § 1100 of this learned professor's commentary, and he will comprehend the dilemma, which has perplexed practitioners from the time of Hippocrates to this day. *Si malum perseverat, fit incurabile: si evacuantibus pugnatur, sani et facile mobiles humores expelluntur, TENACES malique hærent, unde peior morbus*. In this dilemma are involved all the drastic purges, distinguished by the name of *hydragogue*, because they evacuate, not always the natural fæces, but chiefly lymph, and that in great abundance,

abundance, so as to increase debility. Such are hellebore, scammony, colocynth, jalap, gamboge, and aloes, and I have frequently had occasion to observe, when these cathartics have been given, that the stools resembled the washing of a tub, whilst the hardened scybala have been left behind.

A tepid bath, recommended by Boërhaave and Hoffmann, may be used with safety and advantage.

THE SECOND INTENTION may be answered by bark and bitters, but more especially by chalybeates assisted in their operation by the inspiration of well oxygenated air.

The myrrh and steel, as recommended by Dr. Griffith, may be here usefully applied. It will be found in page 207 of the preceding volume, where it was prescribed for phthisis, but the doctor himself informs us, that he had given it in *melancholia*. To the myrrh and steel, bark may be added in this form, which may be varied as occasion shall require.

℞ Cinchon. ʒj. Limat ferri. Myrrh. aa ʒij. Syr.
Cor. Aurant. q. s. M. f. Elect. c. c. M. N. M.
i. o. 8. h.

That is,

Bark one ounce ; myrrh and steel of each two drams ;
syrup of orange peel sufficient to make an electuary. Dose the size of a nutmeg three times a day.

Or

Or the following may be adopted.

℞ Cinchon. ferri. rubig. aa ℥j. Pulv. Aromat. ℥ij.
 Conf. Cort. Aurant. ℥ij. Syr. Zinzib. q. s. f
 Elect. cujus M. N. M. ter in die fumend.

That is,

Bark and rust of iron of each one ounce ; aromatic powder two drams ; conserve of orange-peel two ounces ; syrup of ginger sufficient to make an electuary. Dose as in the former.

In addition to the bark and steel, Dr. THORNTON makes his patients respire well oxygenated air, and informs me that he has found it efficacious in a great variety of cases, many of which were more distressing than that of Mr. Ruffel recorded in page 292, in the first volume of this work.

Mr. Windy having been for some time indisposed, became at length perfectly insane. He was placed in a mad-house at Chelsea, where for the first five months he raved, and after that for four months he scarcely ever uttered a single word. When he was removed from this place to be under Dr. THORNTON'S care he was gloomy, sullen, and silent, or muttered only expressions which evinced what were the terrors of his disturbed imagination. He had no recollection of his wife or children, and the only notice he took of his attendants, was to manifest suspicion that they meant to injure him. He was costive, and had remarkable coldness of the extremities.

As Dr. Thornton had succeeded with the *vital air* in a case of hypochondriasis, he determined to give this air a fair trial in the present instance. He began therefore with

with giving four quarts of vital air to ten quarts of common air, which produced no change.

He then gave ether and brandy, hoping thereby to increase the vital heat, but without the least effect, for his hands continued cold as clay.

Thus disappointed in his first effort to relieve his patient, he gave an emetic in the evening, which brought up a vast quantity of viscid mucus. At bed-time he ordered a calomel pill, which was worked off in the morning with rhubarb, and *sal polychrest*. Having thus cleansed the alimentary canal, he gave the day following ether and brandy as before, and caused his patient to inhale the same quantity of vital air, which instantly produced a genial warmth extending to his fingers ends. Nor was this a transitory effect, for it continued all the time he was under Dr. Thornton's care.

In ten days from this time he became conscious of the presence of his wife and children, whom he called by their proper names, walked out and returned home, and, before the month was concluded, recollected the fortune he was possessed of, sent for the guardian of his wife and family (Mr. Ledeker, who lives in Greek-street, Soho), entered minutely into the state of his affairs, and manifested other tokens of sound intellect. His disposition however was depraved by this disease; no persuasions could induce him to continue his remedies; and he ceased to be under the influence of fear. He has continued in this way, it is now above eighteen months; but though the injured understanding does not recover its full power, it nevertheless serves him for all the common purposes of life. In two other cases of melancholia the *vital air* has been employed by Dr. THORNTON with nearly similar success.

Some physicians have recommended opium as the most powerful in this disease, and have given it in large doses to remove anxiety, and to bring on sleep: but the misfortune is, that when the stimulant effect is over, the sedative effect takes place, and the patients sink lower than before they took this cordial soporific. The dose must be then increased, perhaps to ten or fifteen grains, and a constipation of the bowels is produced. At best it palliates one symptom, but strengthens the disease.

It is said that in some cases of melancholia we must depend chiefly upon tonics and astringents; but these I apprehend do not very frequently occur. When they do, the preceding evacuants must be used with caution.

Exercise in the open air, cheerful society, change of scene and agreeable pursuits, are the most efficacious tonics. Hence nothing in the cure of melancholia is more to be recommended than travelling, which quickens the circulation, sharpens the appetite, promotes perspiration, increases all the secretions, procures refreshing sleep, and, completely changing all habits and associations of ideas, puts an end to the delirium. Dr. Mead relates a case, which clearly proves the benefit to be received from exercise. A fellow of a college, in the last extremity of melancholy, ordered his passing-bell to toll, and listened to the knell with deep attention. Perceiving, however, that the sexton was a novice in his art, he lost all patience, rose from his bed, and crept
away

away to church, where he gave instructions how to toll the bell and how to ring a peal. From verbal instruction he proceeded to set the sexton an example, and having fatigued himself effectually, he returned to his chamber and went again to bed. Here he slept profoundly, sweat freely, and, when he awoke, forgot that he was ill.

When this disease is symptomatic of atonic gout, obstructed catamenia, or the hæmorrhoidal flux suppressed, attention must be paid to the primary disease.

Hitherto I have mentioned only what is to be prescribed by the physician; but he is not the only person who is to contribute towards the cure. The friends of the melancholic patient must lend their assistance to the medical adviser.

If the disease originates in grief, in anxiety, in fear, moral arguments must not be forgotten.

If some idle fancy, having possession of the mind, prevents refreshing sleep, restrains from change of air and exercise, or keeps the patient from taking wholesome food; his friends must counteract this fancy, not openly and directly, but secretly and with much address.

Boerhaave tells us of a melancholic patient, a counsellor at Paris, who retained his urine, lest he should deluge the whole city, till his friends raised a cry of fire, and prevailed on him to lend his assistance towards extinguishing the flames.

His commentator, Van Swieten, mentions a patient,

tient, who, by immoderate application to his studies becoming deeply melancholic; conceited that his legs were made of glass, and therefore caused himself to be carried from his bed to an armed chair, in which he sat perpetually before the fire: till the maid-servant threw a block of wood upon his shins, which excited pain, and with it such indignation, that he forgot the transmutation of his limbs, and pursued her in a rage to take revenge. Thus convinced, the imagination left him, and by proper exercise he perfectly recovered.

Genus LX. *Mania.*

THE symptoms are, an erroneous judgment arising from imaginary perceptions, or false associations, and producing disproportionate emotions, with a hurry of mind in pursuing a train of thought, or in running from one train of thought to another, attended with incoherent speech, called raving, and violent impatience of either contradiction or restraint.

SECTION I.

THE HISTORY OF MANIA.

THIS disease is commonly preceded by redness in the eyes, headach, quickness of hearing, noise and
 VOL. II. K finging

tinging in the ears, absence of sleep, with more than common irritability, manifested either by unseasonable laughter or by unprovoked displeasure. Its approach may be apprehended when we discover unusual suspiciousness of temper with pride and haughtiness of carriage, strong selfwill, eagerness and impatience of contradiction, with capricious likings and dislikes. Women sometimes discover blood collected in their nipples.

During the paroxysms of rage and fury, the force of the animal functions is prodigiously increased, so as sometimes to require four or five strong men to restrain its violence, whilst the vital functions, as appears by the pulse, are little altered. Persons in this disease are remarkable for bearing hunger, vigilance, and cold, without apparent inconvenience. When they refuse all kinds of food, it is frequently under apprehension of treachery and poison. Their nearest relations and best friends, the objects of their former attachment and affection, are usually those to whom they manifest the most indignant hatred. The unhappy sufferers, in addition to these distressing symptoms, however before distinguished for purity and piety, are apt to discover the most libidinous desires, and to utter incessantly their obscene and blasphemous expressions. Their eyes seldom harmonise with the other features of their countenance, but are either fixed, fierce, malicious, or unmeaning. They excel in artifice and conceal their mischievous designs, when they are contriving

to indulge their brutal rage. They are conscious of their own actions, and perfectly sensible to every thing about them of which they retain the recollection.

Mania is either continued or periodical, either without perfect intermissions, although it may frequently remit, or returning only by intervals, which may be either solstitial, equinoctial, or lunar.

On the decline of the paroxysm maniacs remain quiet, exhausted, stupid, inoffensive, gloomy.

It is worthy of our observation, that mania has a tendency to cure all other diseases, excepting those which immediately affect the brain: and that persons suffering by this, are not liable to receive infection during the prevalence of any epidemical disease.

The natural and spontaneous solution of mania merits our attention and may direct our practice. It has been known to terminate by a copious bleeding of the nose, by the menstrual or by the hæmorrhoidal flux, by diarrhœa and dysentery, by cuticular eruptions, and by the breaking out of ulcers. Intermittent fevers have produced the same benign effect. It has given place to dropsy, for these two diseases can scarcely subsist together. Pregnancy is favourable according to the axiom of Hippocrates, *Si conceperint, sanæ fiunt*. When mania terminates fatally, it is by *phrenitis* commonly, sometimes by *epilepsy*, or should it be protracted, after repeated paroxysms, the patient loses both understanding and memory, and becomes an idiot.

SECTION II.

OF THE SPECIES OF MANIA.

HOFFMANN was of opinion, that there is but one species of mania, and that this differs only in degree from its parent melancholia.

Boerhaave partly agreed with him, and asserted in general terms, *Si melancholia eousque increfcit, ut tanta accedat agitatio liquidi cerebrosi, qua in furorem agantur, seivum mania vocatur. Quæ gradu modo differt a melancholia trifti; hujus proles est; ex iisdem caufis oritur; iisdem fere remediis curari folet.* § 1118, 1119. Yet he afterwards distinguishes three species of mania, requiring different indications of cure.

These eminent professors are wrong in stating mania and melancholia to be one of the same disease, differing only in degree. Certain it is, that melancholia very frequently, as I shall have occasion to shew, runs up into mania; yet we have instances of mania, wholly and permanently distinct from melancholia.

Dr. Cullen has made this distinction, and has at the same time suggested an idea of two species of mania, according as it appears in the melancholic, or in the sanguine temperament. § 1574.

His idea is certainly well founded, and leads to practical improvements in the usual treatment of
maniacs;

maniacs; yet we cannot help expressing our surprise, that he should have discovered any hesitation in making this distinction, when he found it so clearly marked in the aphorisms of Boerhaave.

In his nosology, Dr. Cullen has three species,

1. *Mania mentalis* omnino a pathemate mentis.
2. *Mania corporea* a vitio, corporis evidente.
3. *Mania obscura* prægresso nullo vel pathemate mentis vel vitio corporis evidente.

And for these distinctions likewise there is some foundation; but as my plan is to assist the young practitioner, I shall in my arrangement fix upon such species only as require medical distinction. These are to be found in Boerhaave; but as it will be needful at all hazards to give them names, I shall venture to call them,

1. *Mania melancholica*,
2. *Mania phrenitoides*,
3. *Mania hysterica*,

MANIA MELANCHOLICA essentially agrees with Hoffmann's *delirium melancholicum et maniacum*, and with the first species of mania described and treated of by Boerhaave in his aphorisms, from § 1119 to § 1124. It also perfectly coincides with Cullen's idea in his First Lines, § 1574.

My two other species are comprehended in what he would have denominated *mania sanguinea*; but if, in deference to his suggestion, I had adopted that appellation, there still would have been room for a distinction. This distinction of two species, both belonging to the sanguine temperament, is marked, as I shall prove, by Sydenham, by Boerhaave, and by his learned commentator. In the mean time I must request the student to recollect what I have delivered on the *sanguine temperament* in the third section of the order spasmi, where it appears that, in proportion to the tension or laxity of the simple solids, we may in this temperament expect either *inflammatory* or *spasmodic affections*. The student may likewise recollect that, in my observations on *apoplexia*, a disease which has some affinity to mania, because in it there is a determination to the head, he had a glimpse of the same distinction in the *apoplexia spasmodica* of HOFFMANN, which, as I stated, strictly speaking, is a species of *apoplexia sanguinea*.

These therefore are the species I shall labour to establish, as requiring each of them a distinct mode of treatment. For the *mania mentalis* of CULLEN I shall reserve a separate section. His species of insanity, which he describes in § 1576 to 1581, and for which he was unable to find a generic term under his order of VESANIÆ, can scarcely be considered as a disease. Sauvage has called it *melancholia moria*; but,

but, as it is attended with agreeable impressions, the man when cured may say to his physicians,

Pol me occiditis, amici,

Cui sic extorta voluptas,

Et demptus per vim mentis gratissimus error.

I once saw an instance of this, I was going to call it delightful melancholy, in a reverend divine, who took to a sedentary, solitary life, and fared sumptuously every day. He was perfectly rational in his discourse, unless when you asked him how he did; but then he felt fatigued after hunting with the king, or he had rather drank too much Burgundy whilst dining with the prince, or was somewhat troubled with the colic after feasting on the most delicious melons sent him by the empress: in a word, he was always overwhelmed with some felicity.

SECTION III.

OF MANIA MELANCHOLICA.

THIS species of *mania* is commonly preceded by and alternates with *melancholia*. For the general symptoms, therefore, we must refer to what has been already stated as *the symptoms in both those diseases*. But in addition to these we may observe with Boerhaave, that in this species of mania, all the secretions and excretions fail or become exceed-

ingly diminished. Such patients obstinately refuse both meat and drink for a considerable time; their mouth is dry, their urine is little in quantity, and, if they take nourishment, it moves slowly through the intestinal canal, where the absorbents take up all that is fluid. Hence the fæces are small and hardened scybala, and remain collected in the greater guts. Vide § 1122 of Boerhaave's aphorisms. Sauvage attended one in this disease who refused every kind of sustenance, except tobacco, for forty days, and consequently had little or nothing to pass by the excretions.

The predisponent cause is debility, increased by indolence; and the occasional causes are commonly anxiety and grief, intemperance, deep study, violent passions and emotions, with disappointed love, and wounded pride. But the most usual cause is fear, for, as SAUVAGE has well expressed himself, *Maniaci, utcunque audaces sint, reapse metu maximo quodam ad insaniam fere omnes ducuntur.*

As to the proximate cause of mania, various opinions have been delivered; but those of the best masters essentially agree. Hoffmann conceives it to be a vehement and impetuous circulation of dense and melancholic blood through the weakened and flaccid vessels of the brain. Dr. Cullen is inclined to think it is increased and unequal excitement in the brain.

That in mania there is a preternatural determination to the head, is evident by the redness of the eyes,

eyes, and may be put beyond a doubt by pressing the carotid arteries of a maniac in the way first communicated to the public by my ingenious friend Dr. Parry of Bath. This operation requires some dexterity, but I have known it tried by many, and particularly by a distinguished surgeon, Mr. Hill, of Great Russell-street. The mania instantly ceases, and for the time reason resumes her empire.

Whence then arises the preternatural excitement in the brain? Certainly from this undue determination of blood to the superior regions, and from its impetuous circulation in the vessels of that organ. Should the student again inquire what causes this determination of blood to the superior regions; I can answer with confidence, that in *mania melancholica* it arises from affections of the alimentary canal. In confirmation of this opinion, I must request the student, who wishes to have clear and distinct ideas of the cause, before he attempts to cure this deplorable disease, to consider what I have said in the section on delirium, and in that which treats of the remote causes of melancholia, all which agrees with ARETÆUS, who says that the principal seat of mania and melancholia is in the intestinal canal.

Boerhaave has distinctly marked a connexion between mania, melancholica, apoplexia, and epilepsia, as relates to their occasional cause, *Si melancholia diu perseverat, producit dementia* EPILEPSIAM, APOPLESIAM, MANIAM, *convulsionem, cecitatem, &c.* § 1109. Now if the student will take the trouble to consult

consult what I have delivered on the proximate and occasional causes of apoplexy and of epilepsy, or if he will consult what Hoffmann has written on those most interesting subjects; he will be satisfied, that although in *mania melancholica* the archer has directed his arrows to the head, he himself, as I shall endeavour to explain in the fifth section, has taken his station in the alimentary canal.

In practice it is frequently curious to observe, when flushing of the face with heat, pulsation of the arteries felt by the patient in his brain, and a sense of coldness in his feet, all proving a strong determination to the head; how soon these symptoms are relieved, and the equilibrium in the circulation is restored, sometimes by a gentle emetic, and at other times by one dose of calomel, producing copious evacuation of fæces, of viscid mucus, and of bile.

It is of this species of mania in particular that Boerhaave says, *Frustra tentatæ per omnia remedia, varix, hæmorrhoids, dysenteria, hydrops, hæmorrhagia magna spontanea, febres tertianæ, quartanæ, accedentes, salutaria fuerunt.*

From all that I have stated, it will follow that the indications of cure must be,

1. *To lessen the determination to the brain, and thereby to moderate the preternatural excitement of that organ.*

2. *To remove the material and occasional cause of that determination by restoring the natural secretions.*

3. *To*

3. *To strengthen the whole system, more especially the alimentary canal and the vessels of the brain.*

These indications coincide with those of professor Hoffmann, and I am happy to find that they agree with those also of the most distinguished practitioner in this line, Dr. FOART SIMMONS, physician to St. Luke's.

To answer the two first intentions, we begin with emetics and cathartics, precisely as recommended in melancholia, to which I must beg the attention of the student. In this all the best practitioners, ancient and modern, are agreed. Dr. Monro assures us, that the evacuation by vomiting is infinitely preferable to any other. The prodigious quantity of phlegm, with which patients in this disease abound, he says, is not to be got the better of but by repeated emetics. Nor have purgative medicines their right effect, till the phlegm is broken and attenuated by frequent emetics. He mentions instances of inveterate cases cured wholly by emetics and a proper regimen. Dr. Marryat of Bristol, who was remarkably successful in his extensive practice, gave powerful emetics every morning.

The *emetic* must be administered with a liberal hand; for, whether it be, that a more powerful irritation in the brain diminishes the irritability of the alimentary canal, or that a viscid and tenacious mucus lining the stomach and the bowels is interposed between the medicine and the animated fibre, certain

certain it is, that these maniacs require the strongest doses of emetics to procure an operation. Hence it happens frequently that six or seven grains of tartarised antimony must be repeated five or six times, at short intervals, to produce effect.

When I was last winter at Southampton, a Guernsey merchant was brought by his keepers to be confined in a madhouse, but fortunately for him and for his friends, a young apothecary of my acquaintance, who, on his being landed in a furious state, was consulted where to place him, gave him before night twenty-nine grains of tartarised antimony, which brought up a great quantity of viscid mucus, and the next morning he was calm and recollected. What became of him afterwards I was not informed.

Dr. Cox relates a case, in which after tartarised antimony, he had administered a decoction of digitalis, made from the dried leaves, in the proportion of one ounce to three half pints of water, giving three spoonfuls every three hours. This brought up a great quantity of viscid phlegm, and the subsequent nausea continued for two days, when a second exhibition produced the same effect; after which a third, with the assistance of opium at night, in nine days effected a cure.

The *cathartics* must be gentle; as the intention is not to procure a copious discharge by drastic purges, but to evacuate quietly the hardened *fæces*, and the tough offending mucus. The usual cathartics are, as already stated in melancholia, either kali ppt.

or

or kali tartarifatum. These may be given in the manner there prescribed. Calomel is excellent, but the cautions suggested in melancholia merit attention in its exhibition.

Sir Clifton Wintringham recommends the following:

℞ Rad. Helleb. nigri. Kali tartarifat. aa dr. 2. Fol. Sennæ, un. $\frac{1}{2}$. Aq. font. ℥j. Coque & adde Oxym. Scillæ, dr. 3. Syr. e. Spin. Cervin. dr. 6. M. c. c. o. 4. h. q. s. ad nauseam ciendam.

That is,

Black hellebore and tartartised kali, of each two drams; senna half an ounce; water a pint; boil and add oxymel of squills three drams; with syrup of buckthorn six drams. Mix. Take of this every four hours sufficient to keep up a nausea.

This proves cathartic, and evacuates the viscid mucus. Every night he gives half a dram of camphor.

The tepid bath is strongly recommended, and may be usefully applied to the feet and legs, if the heat is not too much increased, for the heat of 96 is usually sedative, relaxes the extreme vessels, consequently the whole system, and produces a derivation from the head. With this degree neither the heat of the body nor the frequency of the pulse are changed, but the urine and perspiration are increased. When the heat rises up above this degree, it is stimulant, quickens the pulse, and produces a
determination

determination to the head. In some experiments, recorded by the ingenious Dr. Duncan in his Medical Commentaries, a heat of 102° raised the pulse from 60 to 92, and the heat of the body from 96° to 100° , producing at the same time a flushing of the face at 106° , the pulse became quicker, the face was more flushed, the veins were swelled, and in five minutes vertigo came on.

In a case of mania melancholica, in which I was lately consulted, the patient suffered when the heat of the bath rose above 95; when it was at 97 she had strong flushing in her face and became very furious, and with a higher degree of temperature, although she only put her feet in water, her face flushed, and from being reasonable, she became violent in less than a quarter of an hour.

Galen asserts, that he has effected many cures both in mania and melancholia, merely by means of the tepid bath; and no one can entertain a doubt of its utility in promoting a derivation from the head.

In this species of mania Boerhaave recommends sudden and long continued submersion in the sea. *Precipitatio in mare, submersio in eo continuata, quamdiu ferri potest, princeps remedium est.* This practice was suggested by an accident, when the carpenter of Antwerp, who was raving mad, broke his bonds, and threw himself into a deep pool; but, being taken out again to all appearance dead, not only revived, but recovered instantly the use of reason, which

which he enjoyed to the day of his death at the distance of eighteen years. From the propitious event in the case before us, Van Helmont derived his practice of keeping his patients under water whilst he repeated the *miserere*, and Boerhaave after him advises to have the maniac kept in that situation till he is almost drowned, availing himself thus of three powers, all strongly sedative, fear, continued cold, and the exclusion of vital air from the lungs.

To answer the third intention we must have recourse to bitters, bark, and steel, precisely as recommended in melancholia. To these must be added exercise in the open air and change of scene, which may be best procured by travelling. By these means we shall restore tension and tone to the relaxed solids, more especially in the stomach, and in the whole of the alimentary canal.

Dr. Cullen recommends restraining the angry passions by fear, and preventing the effects of them by force: but my observations on this subject will be found in the sixth section by themselves.

To render what I have delivered more useful to the student, I shall here subjoin two cases from the inestimable works of Hoffmann.

CASE I.

An ecclesiastic, aged 37, of the melancholic temperament, for many years had every month the hæmorrhoidal flux, during which time he enjoyed his health. But when, neglecting exercise, he pursued his studies even beyond the
middle

middle of the night, and in addition to this, met with domestic trouble; the hæmorrhoidal flux diminished and ultimately failed. Soon after this he became hypochondriacal, and was troubled with flatulence, obstinate costiveness, and dyspeptic symptoms. By degrees he became timid, when he had no cause to fear, suspicious, fond of solitude, wakeful in the night, or disturbed with frightful dreams, and continued almost incessantly muttering to himself. At times he became violent. This man was cured by tepid pediluvia, and the use of neutral salts, given in the following form.

℞ Pulv. ex lapid. Cacr. Kali vitriolat. Cremor
Tart. Nitri, aa dr. 2. Cinnab. ppt. dr. $\frac{1}{2}$. Ol.
Cumin. gtt. 6. Liquor. Anodyn. Mineral. gtt.
20. Aq. font. un. 8. M: alternis diebus sum.

That is,

Crab's claws, vitriolated tartar, cream of tartar, nitre, of each two drams; cinnabar ppt. half a dram; oil of cummin six drops; Hoffmann's anodyne twenty drops; spring water eight ounces. To be given every other day.

CASE II.

A Jew of the melancholic temperament, aged 40, studious and given to a sedentary life, hearing suddenly of the death of his son, became gloomy, affected solitude, and was so costive as to have stools only once a week. His lower extremities were cold, and his rest was exceedingly disturbed. At the end of six months, being terrified, he became furious, and refused both food and medicine, but by venesection his mania was subdued, and melancholy alone remained. This
man

man was restored to health chiefly by the vegetable salts and the tepid pediluvium, with exercise, fresh animal food, and generous wine.

If the student will take the trouble to look at the *examinations* on a case in which the whole nation felt deeply interested, he will see, that the cure was effected by copious evacuations, after which tonics and astringents were prescribed to restore the strength.

In all the cases, with which Dr. Pellet of St. Alban's has been pleased to favour me, the cures were conducted on the same plan, and confirm the system I have endeavoured to establish. These, however, although highly interesting, are not reported sufficiently in detail for the public eye. His well approved integrity, humanity, and skill, must continually increase his practice in this line, and should he have leisure to report his cases, they will be a valuable acquisition to the medical practitioner.

SECTION IV.

OF MANIA PHRENITOIDES.

THE persons most subject to this species of mania, are not, as in the preceding, of the melancholic, but of the sanguine temperament. It may be readily distinguished by symptoms of plethora, by firmness and fulness of the pulse, by increase of heat,

especially in the superior regions, by flushing of face with redness of eyes, by strong pulsation in the temporal and carotid arteries, and by the occasional causes being such as either produce sudden rarefaction of the blood, or strongly promote its determination to the head.

This species, which with the preceding and the subsequent, although distinguished by Boerhaave, have never yet been named, I have ventured to denominate *mania phrenitoides*, because from an attentive consideration of the symptoms, of the remote causes of its natural termination, and of the means which are most effectual for its relief, I am inclined to think that there is local inflammation, although not sufficient to draw the system into consent, and produce a fever with delirium as in the true phrenitis. In the delirium of phrenitis, the patient does not distinguish persons, nor is conscious of external objects, unless excited by some powerful sensation, and then he soon relapses; but in mania he is perfectly sensible of every thing around him, and retains both consciousness and recollection: yet the affinity between the disease in question and phrenitis will appear from hence, that they very frequently run into each other; phrenitis produces mania; and mania, when fatal, terminates in phrenitis. I am supported in my opinion by Van Swieten, who informs us, that he has often observed a slight fever and delirium succeeded by the most furious mania; and this effect he attributes to inflammation

inflammation of the meninges, and of the cortical substance of the brain. See his Comment. § 774, and the *phrenitis apyreta* of Sauvage.

The occasional causes of this mania may be suppressed evacuations and eruptions, pregnancy, poisons, and heat, with violent passions and emotions in plethoric habits.

For the proximate cause I would assign a preternatural determination of blood to the vessels of the brain.

According to this view of the subject our indications must be to lessen the determination to the brain, and to moderate the preternatural excitement of that organ. To answer these intentions,

1. We must diminish the general tension and tone of the arterial system, which may be accomplished by the antiphlogistic regimen; by venesection and a vegetable diet, assisted by evacuants, such as emetics, cathartics, diaphoretics, and diuretics.

In this we are supported by the authority of Boerhaave, who says, *Mania vero enata in robustis, vegetis, floridæ ætatis, plethoricis, calidis, sanatur missione sanguinis iterata; purgatione forti inter singulas interposita; dein, impetrata sedatione, opiatis et cardiacis.* Aphorisms, § 1127.

In bleeding, the blood may be taken either from the temporal artery, as strongly recommended by Hildanus, who assures us that he has seen many speedy cures performed by this alone, or it may be

drawn from a vein, according to the usual practice of the present day. In this case Dr. Cullen advises us to take such a quantity of blood as may nearly bring on a deliquium animi.

The emetics should be frequently repeated, more especially when, by the evacuation, it is evident that the mucous glands are loaded. This may be composed of tartarised antimony with ipecacuanha in sufficient quantities, or to these may be added oxymel of squills; or any of the formulæ, from No. 1 to No. 5, of my Physician's Vade Mecum, may serve the purpose.

Bernard Huet, a celebrated practitioner, whose method of cure is recorded by Wepfer, and highly approved of by Van Swieten, was fond of the more drastic cathartics, such as are denominated hydragogue. These he exhibited once a week, and this practice, although perhaps not the best, is frequently adopted. Among the hydragogue cathartics we may reckon senna, aloes, jalap, scammony, colocynth, gamboge, which are given either separately in appropriate doses, or variously combined. To these, either calomel or tartarised tartar are occasionally added. The former, when given, should be exhibited at night alone, in the dose of three to ten grains, and may be the next morning assisted in its operation by the following.

R Tinct. Aloe. c. un. $\frac{1}{2}$. Infus. Sen. un. 1. Kali
Tart. dr. 2. M.

Or,

Or,

R Extract. Colocynth. comp. gr. 6. f. Pill. m. s.

Or,

R Scammon. G. Guaiac. aa scr. i. Aq. Cinnam.

Syr. Rosæ aa dr. 2. M. f. haust. m. s.

But the neutral salts appear to me most suitable to this disease.

As a diuretic in this species of mania, digitalis has high pretensions, because no medicine so rapidly evacuates water, or so speedily as a sedative sinks the pulse. We have already seen it given by Dr. Cox as an emetic, but as a diuretic we must moderate the dose, and be contented with one or two grains of the powdered leaves twice a day.

Diaphoretics are strongly recommended, and should the practitioner have recourse to them, he may either give Dover's powder, or the composition recommended by Doctor Whytt.

R Tinct. Opii. gtt. 40. Tinct. Ipecacuan. gtt. 45.

Ammoniac acetat. un. $\frac{1}{2}$. Aq. Rosar. unc. i.

Sacch. Alb. dr. 2. M. m. h. s. s.

Doctor Locker, of Vienna, assures us that he cured eight patients by distilled vinegar given to the quantity of an ounce and an half every day, for three months, which acted as a diaphoretic, and the more it sweated the sooner they were cured. I have not heard, whether this practice has been

adopted in England; but I am inclined to think favourably of it, where the vital heat is preternaturally increased.

Doctor Cullen informs us that some maniacs have been cured by being compelled to hard and constant labour. This does more than divert the attention, for it exhausts the irritability and induces *sleep*.

2. When mania is occasioned by obstructed catamenia, emmenagogues must be resorted to; but in this species recourse must be had, in the first instance, to those which are evacuant; in the second to such as are antispasmodic; and in the last place, only to the tonic and astringent. The hæmorrhoidal flux may be assisted by aloetics and by leeches.

3. To promote a derivation from the head, some have depended on cold induced either by a bag of snow, by cold water falling from a height directly on the head, or by a moist clay cap; but CELSUS made an improvement on this plan, and caused his patients to sit in a warm bath of oil whilst they had cold water poured upon their heads. This operation seldom fails to procure sleep, which in many cases has continued more than thirty hours.

4. Some practitioners place their chief dependence on sedatives to diminish the preternatural excitement of the brain.

At the head of this last, as the most natural sedative,

dative, stands hard labour. Bernard Huet was accustomed to rely on opium, of which he gave two grains twice a day, and if by this dose he failed to bring on sleep, he increased it gradually, even as far as fifteen grains, till he obtained his end in the cessation of the furious fit. Sydenham followed his example, for after repeated venæsection, he gave once a week a drastic purge, and in the intermediate space, Venice treacle (*theriacā andromache*) in considerable doses. This practice has been pushed to the greatest length by Drs. Brandreth, Binns, and Currie; the latter of whom is said to have given, with remarkable success, two scruples of solid opium at one dose, and at the distance of four hours one scruple more. The patients, who took this enormous quantity of opium, are reported, from the most violent furor, to have been rendered thereby in a few hours perfectly calm and rational.

The celebrated Dr. DOBSON in one case gave a scruple of *camphor* every three hours, which in twenty-four reduced the pulse from 80 to 70. The next day he gave three drams in twelve hours, which brought on profuse sweating, sunk the pulse to 55, and cured the disorder.

Encouraged by this successful use of camphor, Dr. OLIVER gave two scruples for a dose. In a quarter of an hour the *maniac* fell down insensible; but from that time recovered so as to attend his duty in parliament. At the end however of about eighteen months he became *hypocondriacal*, and

soon after sunk into *melancholia*. He then repeated the same dose, and in ten minutes became pale, and sick, reeled into the arms of his physician, drooped his head and discharged by his mouth a quantity of thick viscid rheum: his respiration became laborious, his pulse weak and intermitting, till he broke into a sweat. He got no rest till the next day, when a sleep of eight and forty hours commenced, accompanied by sweat. The camphor was then continued in doses of ten grains twice a day, till the patient was well enough to go into the country.

This interesting case may be seen at large in the fifth volume of the medical journal. Sennertus and Riverius combined nitre in a large proportion with the camphor. Some patients are said to have been cured by mercurial salivation, but this method has been seldom resorted to.

It is in this species of mania that my valuable friend Dr. THORNTON has proposed to try the inspiration of hydrogen, of carbonated hydrogen, or of azotic air. These are certainly the most powerful *sedatives*, and as such may be fairly subjected to trial.

5. After the disease has been subdued, it will be proper to give Peruvian bark and bitters to strengthen the system, but as to chalybeates, I should exhibit them with caution. For the formulæ I may refer to *melancholia*.

To elucidate this most interesting subject, and that I may render the distinctions I have made familiar to the student, I shall subjoin some cases.

CASE I.

A military prefect of the sanguine temperament, and a hard drinker from his youth, when he was turned of forty lost his wife, who was beautiful and much beloved. Such, on this occasion, was his distress, that he could neither eat nor sleep, but soon lost his senses, and became furious in the extreme. Having been however copiously bled three times within the month, and taken nitre, some remission of his disorder, but no perfect intermission, was obtained. In this situation, with constipation of bowels, flushing of face and fulness of its vessels, to which were added incessant vigilance and raving, Hoffmann was consulted.

This eminent professor, with a view of making a derivation from the distended vessels of the brain, in the first instance evacuated the alvine fæces by gentle laxatives, for, as he most judiciously observes, *a determination to the head never fails to be supported by constipation of the bowels. In curatione eo potissimum respeximus, UT SANGUINIS IMPETUS A CAPITE DIVERTATUR; QUI VERO QUUM AB ALVI OBSTRUCTIONE NUNQUAM NON SUSTENTETUR, primo omnium præscripsi laxans mannatum & lac recens emulsum. Quod in præsentî ægroto insignem alvum laxandi exseruit efficaciam.* Nitre was given frequently during the day, and before he went to bed his feet were put into a tepid bath. For his common drink he had spring water, and his head was kept moist by the subsequent composition.

℞ Aq. Rosar. Aceti Rosar. aa un. 2. Nitri purificati dr. 2. Ol. lig. Rhodii, gtt. 12. M. f. Epithem.

Within the month this patient was perfectly recovered.

CASE

CASE II.

A young man aged seventeen, of the sanguine temperament, had for twelve months, by intense and unremitted application of mind, laboured to discover the perpetual motion, when being restrained by parental authority from his favourite pursuit, he gave way to silent grief. In this situation he was suddenly alarmed by fire and went raving mad. His pulse was frequent, yet his bowels were regular, and his appetite was good.

Hoffman ordered blood to be taken from his feet and from the sublingual vein, gave him nitre with camphor, and made him bathe his feet in tepid water, all which soon produced such a wonderful effect, that the professor soon perfected a cure.

CASE III.

D. M. of the sanguine temperament, aged thirty-seven, was seized in the winter of 1790 with mania, and raved night and day incessantly for eight days. Pulse full and strong, tongue clean, eyes wild and staring, his strength so much increased, that even when he had the strait waistcoat on, three men could scarcely restrain his violence, and his mental exertions, though erroneous, were extremely vigorous. What occasioned this derangement, his physician, Dr. Nankivell, of Cannon-street, London, could not conjecture, except that probably young Bacchus might have had an hand in it, for D. M. at times had no mercy on the bottle.

The antiphlogistic regimen to its fullest extent was immediately adopted. He was bled plentifully. The blood exhibited no sign of inflammation. His head was shaved and cupped and blistered. His bowels were kept freely open with

with neutral salts. He had no food, but bread, tea, and gruel, with cold water for his only drink. He was lashed down in a strait waistcoat on a mattrafs with very little covering, and no other companion but his keeper, who never spoke to him, unless when absolutely needful. His room was darkened. From the beginning Dr. Nankivell strongly impressed his mind with fear, both for the sake of its sedative effects and to secure obedience.

In this plan he persevered for seven days without perceptible alteration in the symptoms. On the eighth day the scalp was covered with a moist clay cap, whilst the feet were bathed in tepid water. This application was continued more than half an hour, when the cap being removed, he was replaced in his cool hard bed, where he fell immediately asleep, and slept profoundly for three and thirty hours.

When he awoke he was clearly convalescent, but still raved. On the evening of the tenth day, recourse was had again to the cold clay cap, and warm pediluvium; but in about four minutes he was seized with an *hysteric fit*, which being noticed by his sagacious physician, the strait waistcoat was ordered to be taken off, and he was pronounced to be, what the event proved, free from *mania*. The clay cap was instantly removed, and the patient being put into his bed, slept soundly for many hours. When he awoke he was perfectly calm, recollected, and restored to the exercise of reason, and from that time he has constantly enjoyed the *mens sana in corpore sano*.

SECTION V.

OF MANIA HYSTERICA.

THIS species may be distinguished from the two former by its common symptoms of debility, irritability, and spasmodic affection, and not unfrequently by vividness of imagination.

The persons most liable to it are those of an irritable fibre and of a relaxed habit, that is, scrophulous and hysterical subjects, more especially if they have been previously weakened by disease. It has the same affinity to the delirium of typhus, as *mania phrenitoides* has to the delirium of synocha, for it is the disease not of the sthenic, but of the asthenic diathesis, and is more nearly related to *hysteria* than to *hypochondriasis*. This idea is suggested by Van Swieten, § 1125, for, describing the remote causes of this species of mania, he observes, *hæc autem obtinent in hystericis dictis mulieribus*.

For the predisponent cause, therefore, we may assign debility with morbid irritability.

The occasional causes are,

1. Debilitating diseases, particularly protracted intermittents, chiefly of the *quartan* type, with profuse evacuations, whether natural or artificial, and whatever tends greatly to debilitate the system.

2. Strong

2. Strong mental passions, emotions, and exertions.

Sydenham, who was the first to distinguish this species of mania, describes it as *peculiaris quædam ac sui generis mania, intermittentes diuturniores, QUARTANAS PRÆCIPUE, nonnunquam excipiens*: and Boerhaave, who himself learnt from Sydenham this and many other distinctions of the last importance, repeats the same expressions, § 1125. They both agree that repeated venæsections and copious evacuations, injudiciously prescribed in quartans, bring on this disease and cause it to return. To what they delivered, Van Swieten adds, *Tales manias aliquoties natas vidi in puerperis, si validâ excandescent irâ primis diebus puerperii*; and he might have extended this observation not merely to the period of the lochial, but also to the time of the menstrual discharge, for in both violent passions of the mind occasion either mania or a fatal *apoplexy*.

3. Whatever induces spasmodic affection.

The proximate cause therefore, as it appears to me, is preternatural determination to the brain induced by spasm.

Van Swieten attributes this determination, 1. To the spasmodic constriction of the arteries themselves; *spasmodicæ vasorum constrictiones possunt efficere, ut nimia plenitudo fiat in vasis cerebri*; because they act not simply as elastic tubes, but have muscular fibres,
by

by whose constriction their diameters may be readily diminished. § 1010.

2. To spasmodic constriction in the abdominal viscera, such as *hysterical* women frequently experience. *Si etiam in aliis partibus corporis nascatur impedimentum sanguini per vasa moto; poterit versus caput majori impetu & copia derivari: spasmodicas tales constrictiones in visceribus abdominalibus HYSTERICÆ toties experiuntur, uti notum est.* § 1125. His observations are accurate; but it is to the immortal Hoffmann that we must give the credit of this inestimable remark.

In addition to these causes of determination to the brain, assigned by Sauvage and Hoffmann, I shall venture to suggest a third, which I am inclined to think both more common and more powerful than either of the former.

It is spasmodic constriction of the diaphragm compressing the aorta.

To explain this effect, I must call to the recollection of the student the anatomical structure of the parts in question.

The aorta descends from the thorax into the abdomen, between the two tendinous productions of the inferior muscle of the diaphragm, which are attached to the vertebræ. It is therefore evident that it must be subject to compression, whenever there is strong spasmodic contraction of these tendons, and it is equally clear that such compression must

prevent a free descent of the blood. The consequence of this will be a preternatural determination to the brain.

This spasmodic constriction of the diaphragm may be occasioned either by mental passions, or by morbid affections of the stomach. The consent between the stomach and the diaphragm has been already noticed in my first volume, and may be observed in hiccough and in the act of vomiting; but to account for this consent, we need only call to mind the nervous communication between these sympathizing organs.

1. The stomach is supplied with nerves from the par vagum, many ramifications of which are lost in the plexus solaris and the femilunar plexus.

2. The diaphragm derives its two diaphragmatic or phrenic nerves from the cervicales, and receives branches both from the intercostal, and more particularly from the par vagum.

Hence arises the wonderful consent between these organs, constantly maintained by means of the par vagum and the intercostal or great sympathetic nerve united in the *solar plexus*, which Fabre denominated *centre des sensations*.

That strong action of the diaphragm, whether in vomiting, coughing, or immoderate laughter, the *γελως ασβετος* of Artæus, in the expulsion of the fæces, parturition, or straining to raise great weights, causes

causes a determination of blood to the head, is not only rendered at all times visible by redness of face protrusion of the eyes, and distention of the vessels, but is sometimes evinced by apoplexy, as noticed by Aretæus, Boerhaave, and Van Swieten. For although these effects have been attributed to stagnation of venous blood in the right side of the heart; this circumstance alone will not account for a preternatural proportion of arterial blood being either sent towards the head or accumulating there.

From what I have delivered it will appear that the *phrenitis inanitorum* of Sauvage is precisely the disease I have been describing, and the attentive reader will discover that the same may be affirmed of his *paraphrosyne a pathemate*. His subsequent species *paraphrosyne puerperarum*, *paraphrosyne calentura*, *paraphrosyne febricosa*, *paraphrosyne critica*, et *paraphrosyne HYSTERICA*, all throw light upon the disease in question.

If the student will look back to the delirium of typhus, which is the *paraphrosyne febrilis* of Sauvage, or if he will consult my third section of the order spasmi; he will be satisfied, that what I have been stating has some claim to his attention.

My ideas of this disease are confirmed by a very judicious remark of Dr. Ferriar, who in his late publication says, *hysteria* is not unfrequently converted into epilepsy and insanity by the continued action of its remote causes. I have seen the discriminating

criminating symptoms of both diseases so intermixed in the paroxysms, that it was impossible to determine which of them predominated. In one case of this sort, a conversion into mania took place, but the change was perhaps decided by the violence of the passions; in another instance, after a long struggle, hysteria prevailed. See Medical Histories, p. 9.

From this view of the subject our indications of cure may be :

1. *To procure a derivation from the head.*
2. *To diminish the preternatural irritability of the system.*
3. *To remove morbid stimulants.*
4. *To divert the attention from the prevailing idea which has got possession of the mind.*

Of this species of mania our Sydenham remarks, *Illud autem peculiaris quædam et sui generis mania communem medicandi rationem aspernatur* : and Boerhaave after Sydenham informs us in his aphorisms, *Hæc species solis reficientibus, replentibus, cardiacis, roborantibus, diu continuatis, sanatur. It si evacuando tentatur atrophiam, debilitatem, insuperabilem fatuitatem infert.*

To answer the first intention therefore, the only practice to be recommended, is the tepid pediluvium, that is, a bath for the feet, heated to about 96° of Fahrenheit's thermometer. M. Pomme, in

this disease kept his patients in the warm bath from ten to twenty-four hours without intermission.

The second intention may be answered by tonics, such as a generous diet, cool air, cordial stimulants, bitters with astringents, and exercise in proportion to the strength. Sydenham depended chiefly on wine and Venice treacle, which last he gave three times a day: Boerhaave to these added the Peruvian bark, and cordial stimulants, as in the subsequent prescriptions.

℞ Cinchon. dr. 2. Winteran. dr. 3. Conserv. Rorismarin, un. 1. Syr. Kermes. Pharm. Edin. q. s. M. f. Elect. c. dr. $\frac{1}{4}$. o. 3. h.

Or,

℞ Elect. c Scord. dr. 1. Elæosacchar. ex Ol. Citri. dr. 2. Enulæ. un. 7. Syr. 5 Rad. aperient. q. s. M. f. Elect. c. dr. $\frac{1}{2}$. o. 3. h.

Or,

℞ Zinzib. condit. un. 3. Cort. Aurant. condit. un. 2. Nucis Mosch. dr. 4. Syr. Artemis. q. s. M. f. Elect. c. dr. $\frac{1}{2}$. o. 3. h.

Or,

℞ Theriac Androm. Pulv. Diatesaron. Pharm. Ed. aa un. 1. Conserv. Absinth. dr. 4. Rad. Angelic. dr. 2. Syr. Caryophyll. Rub. q. s. M. f. Elect. dr. 1. o. 6. h.

℞ Cinchon. Cort. Winteran. Cort. Citrei. Cort. Aurant. Cinnam. aa un. 1. Sumit. Serpill. Thymi,

Thymi, Mari, aa dr. 4. Fl. Stæchad. Arab.
 Fl. Lavand. Fl. Tanacet aa un. 1. Ligni. Agal-
 loch. L. Sassafr. aa dr. 6. Vin. Hispan. ꝥ6. M.
 f. s. A. Vinum medicatum Cardiacum Calidum,
 Roborans. c. un. 2. o. 6. h.

These prescriptions are worthy of the great prac-
 titioner from whom they came, and perfectly an-
 swer the intention by giving vigour to the system.
 For the same purpose the following by way of change
 may be occasionally ordered.

℞ Cinchon. Confect. Aromat. aa scr. 1. Aq. Cin-
 nam. dr. 12. Sp. Cinnam. Syr. Cort. Aurant.
 aa dr. 1. M. f. H. o. 8. h. s.

Or, should the bark in substance disagree, the sub-
 sequent may be adopted in its stead.

℞ Cinchon. un. 1. Cascar. dr. 2. Coq. in Aq.
 font. un. 20. Ad un. 16. Cola.

℞ Decoct. Prescript. un. 2. Tinct. Cinchon. Hux.
 Cojparv. Confect. Aromat. gr. x. Aq. Cinnam.
 dr. 4. Syr. Cort. Aurant. dr. 1. M. f. H. o.
 8. h. s.

To these may be added from five to ten or fifteen drops
 of Tinctura Opii, when it shall be thought expedient.

To answer the third intention, should acrid bile, or
 viscid mucus, be collected in the first passages, these
 must be evacuated by emetics. It is most astonishing
 to see the effects produced by the passions of the
 mind, more especially by anger, grief, and fear, in

the whole extent of the alimentary canal. Anger promotes a sudden and plentiful discharge of bile, which stimulates the first passages, and brings on spasmodic constriction. Grief and fear relax the mucous glands; and although the latter, in the first instance, quickens the peristaltic motion of the bowels, they both terminate in costiveness. But if the mucous glands are not relaxed, and if the food is well digested in the stomach; little benefit can be expected from the action of emetics. Should a load of fæces in the bowels prove the cause of irritation, these must be removed by gentle cathartics, such as manna, cassia, tamarinds, soluble tartar, rhubarb and senna, by lenitive electuary, or by the subsequent composition.

℞ Tamarind. un. $\frac{1}{2}$. Fol. Sennæ. dr. 2. Rhei. gr. 10—20. Aq. font. un. 4. Coq. et Colaturæ, un. 3. Dissolve Mann. et Syr. Ros. Solut. aa un. 1. M. f. H. m. s.

This was a favourite prescription of our Sydenham, when the most lenitive cathartic was required. But should this fail of its effect; calomel from one grain to three, according to the irritability of the bowels, may be given the preceding night, with twenty grains of assafoetida and five drops Ol. Carui. This may be followed in the morning by some gentle evacuants.

In a case, in which I visited a patient after Dr. C.
WILLIS

WILLIS had left her, he had prescribed as follows:

℞ Antim. Tart. gr. iij. Kali. Tartarifat. ℥j. Suc.
Cicut. ℥iss. Gum. Ammon. Ammon. ppt. aa.
℥j. Aq. Distil. ℥xiiij. Sp. Nucis Mosch. Syr.
Crocī aa ℥j. Terendo. M. f. H. Cap. ℥xiv.
Statim et rep. 6^h. horis et con,

That is,

Take tartar emetic three grains; soluble tartar one ounce; juice of cicuta a dram and a half; gum ammoniac and spirit of sal ammoniac of each one dram; distilled water thirteen ounces; nutmeg water and syrup of saffron of each one ounce. The dose fourteen drams every six hours.

Here the dose of soluble tartar is about one dram four times a day, and is quickened in its operation by other powerful detergents. The prescription is certainly a good one, but as it was continued only for three days, there was no opportunity in that case to judge of its effects.

Should there be symptoms of worms these must be destroyed by anthelmintics, keeping clear however of the more powerful cathartics; and the catamenia, if obstructed, must be restored by emmenagogues of the antispasmodic or of the astringent orders.

To answer the fourth intention, change of scene, cheerful society, and agreeable pursuits, are the only remedies. Hence it is that some have been cured

in the course of a long journey. I shall here subjoin some cases.

CASE I.

A lady of an irritable habit, being alarmed at the piercing and long continued cries of her child, into whose flesh a pin had penetrated, was seized with an hysteric fit. Dr. THORNTON being present gave her peppermint water, spirits, and magnesia, which discharged much wind, but the globus hystericus continued. Her teeth were closed, her jaw was locked, her eyes were fixed and much inflamed, and convulsion of the limbs succeeded. She snapped at her attendants, scratched them with her nails, and tore the pillow-case with violence.

When this fit, after continuing for six hours, was aggravated by cordial stimulants, Dr. THORNTON ordered an emetic of ipecacuanha, seven grains with one grain of tartarised antimony. This aggravated the maniacal symptoms, and made her violent in the extreme: she seized the pillow with her teeth, and the spasm of the œsophagus was distressingly increased: but a repetition of the emetic above mentioned produced the desired effect, and a whole basin full of viscid slime came up, when the patient instantly recovered the use of reason, called for her child, and the next day felt herself only to a slight degree indisposed.

This appears to be the *paraphrosyne a pathemate* of Sauvage, and resembles the case of CHARLES VI. of France, excepting only its speedy termination by a judicious treatment.

The case of M. P. mentioned by Dr. FERRIAR, vol. ii. p. 95, seems to have been similar to these.

At

At least it shews similar benefit received by one emetic in a case of recent insanity.

CASE II.

An amiable lady, aged 41, of an irritable habit, renouncing air and exercise, employed herself unremittingly in reading, writing, and conversing on religious subjects. To clear her head, when she wished to express her thoughts with energy, she drank a quantity of strong green tea, after which she wrote or talked incessantly, but lost her rest at night. Her appetite diminished and became depraved. Her strength and spirits failed. Her feet and hands were dry and cold as ice, yet she had frequent flushing of face, more especially after eating. She became extremely costive, and when she took cathartics, they brought away stools like water, yet offensive and smelling like cats urine, with which were evacuated a few small, hardened scybala. Even without the aid of medicine she had sometimes five or six motions in a day, each time voiding with difficulty a few of these compacted buttons. When she passed her urine, the flow was frequently interrupted, yet she had no symptoms of the stone. The urine was mostly limpid, and in great quantity. Her rest was much disturbed for three days before the appearance of her catamenia, and during that period she was always more than commonly fretful. Her spirits being depressed, she usually drank eight glasses of strong wine every day, but the exhilarating effect was soon exhausted, and she constantly sunk lower than before.

As the summer advanced her principal article of diet was green pea soup with fried bread; and in the autumn she eat peaches in great abundance; her courses gradually diminished, and when the time of their appearance was at hand, she became mentally deranged; yet in about ten

days after they were passed, she was perfectly reasonable again. The last time of their appearance they continued only for one day and she was rational: but putting her feet in hot water for a quarter of an hour, she had flushing of face and became outrageous: her courses stopped, and have not since returned.

The subject of her raving regards her spiritual estate, concerning which she seems to entertain unfavourable apprehensions. Yet her attention is readily recalled for short intervals to rational discourse, in which she discovers a perfect recollection and remarkable vivacity of imagination. Her hearing, taste, and smell, are uncommonly acute. Her pulse is small and frequent, her tongue is clean, and her appetite now is ravenous. She has had emetics, cathartics, and a variety of antispasmodics, and has been confined chiefly to her room and to her bed.

Opium, which she has taken for a long time in considerable quantities, never fails to bring on flushing of face, to lessen her appetite, to increase her costiveness, to give a wildness to her eyes, to make her more violent, and to deprive her totally of rest, till its operation as a stimulant is over, after which sleep, but not refreshing sleep, succeeds, followed by languor in the extreme. For a few days she has omitted opium, and been confined to the following composition.

R Castor, gr. 15. Gum. Ammon. gr. 12. Mist.
Camph. un. $1\frac{1}{2}$. Sp. Ammon. comp. gtt. 30.
M. f. H. om. sexta horâ repet.

Since she has taken this her rest has been more natural.

The tepid pediluvium, with the heat at 97° , brings on strong flushing of her face, and makes her furious.

Cathartics, such as jalap, scammony, and colocyath, act as
6 hydtragogues,

hydragogues, but do not clear away the fæces, and magnesia gripes her much.

Emetics remain long inactive in her stomach, and then come up unchanged, with strong convulsions, followed by numerous and copious stools, consisting of fæces with much viscid mucus.

CASE III.

A man aged 50, of an irritable temper, full of blood, and a hard drinker from his youth, having been for sixteen years accustomed to lose blood twice a year, omitted this practice, yet continued to drink hard. In these circumstances he was provoked to anger, and to such a degree, that he was instantly seized with violent vomiting and purging, and lost his appetite for food. Soon after this he became restless and watchful, and, by his countenance and gestures, shewed evident tokens of insanity. Sometimes he was violent, at other times he was gloomy and fled from society; yet frequently his sorrow was suddenly turned to joy, when being more than commonly affable, his raving was incessant. These fits of insanity were never of long continuance, yet returned on the slightest mental disturbance, and were readily induced by the most trifling error in his diet.

Hoffmann, being consulted, was of opinion that the determination to the head was occasioned by spasmodic affection of the intestines induced by effusion of bile, and this effect he attributed to mental perturbation. He therefore ordered only antispasmodics and tonics, with a diet consisting of such articles as are easy of digestion, which, with the assistance of the tepid pediluvium, in a few months perfected a cure.

CASE IV.

A lady aged 30, of the sanguine melancholic temperament, having met with poignant vexation at the early period of her pregnancy, became oppressed with grief. To relieve this distress she drank brandy both freely and frequently, which soon produced a furious *mania*. This during the first months of gestation was violent in the extreme, for without the least provocation she spit at every one that passed. She tore her clothes, and could find no rest in any place. But when she had completed half the time of pregnancy, her mental derangement began to diminish gradually, and continued diminishing to the time of her delivery, when she was in perfect health.

From this time, however, she had no return of the menstrual discharge, in consequence of which retention she relapsed into her insanity.

Hoffmann, being consulted, ordered the tepid pediluvium every night before she went to bed, and gave her, about the times when the catamenia should have appeared, a dose of some balsamic pills every night, and the subsequent morning a dram of his aperitive salts, composed of stastaceous powder, nitre, and vitriolated tartar, to be washed down with his *antispasmodic* infusion of lime-tree, rosemary, and primrose flowers, with orange peel. By these means he soon perfected a cure.

CASE V.

A woman of a choleric disposition, aged 42, being seized with a violent paroxysm of anger, whilst her courses were upon her, became suddenly insane. This fit of mania continued for six weeks, then left her, but returned every

six or seven months. On its approach, which was always at a menstrual period, she found a pain in her breast and right hypochondrium, which drew the head and teeth into consent. She slept ill, and with nausea; she frequently threw up in the day a watery and frothy liquid of a yellow colour. As soon as her courses began to flow, the maniacal symptoms made their appearance. Sometimes she began with singing, dancing, and laughing immoderately, or raved with an astonishing volubility of tongue: then stood silent and sad, looking for a great length of time pensive on the ground, at the same time sullenly refusing every kind of sustenance. At other times she complained of thirst, and became so furious as to require strict coercion. Her sleep, when she could sleep, was disturbed by frightful dreams. She was so costive that she passed only, and with difficulty, hardened scybala once in three or four days. The pulsations of the artery were strong and rapid in the extreme.

After some days of interval, the fits became stronger in the evenings, and gave notice of their approach by coldness of the extremities, by universal tense pains, and by sublivid spots on the arms and legs. These were followed by languor and weariness of all the joints, but the understanding and memory perfectly returned during the intermissions.

After her physicians had tried in vain what could be done by emetics, by cathartics, and by venesection, Hoffmann recommended air and exercise, with light food in moderation; barley water with lemon-peel for her common beverage, and every morning balm-tea with flowers of the lime tree (*Tilia Europæa*), and lemon-peel, to drink.

He ordered tepid bathing every night at the approach of the monthly periods, with his balsamic pills; and, both during the paroxysms, and at the changes of the moon, he
gave

gave the following antispasmodic composition twice a day, either alone or with what he calls his antispasmodic powder.

℞ Liquor. Anodyn. dr. 2. Castor. dr. 1. Spirit. Sal. Ammon. dr. $\frac{1}{2}$. M. c. gtt. 40. Quam in paroxysmo pariter ac extra ipsum sub lunæ mutationibus.

His antispasmodic powder contained nitre, cinnabar, burnt hartshorn, amber, and a certain powder, the composition of which he has not explained, called by him *pulvis marchionis*.

By the use of these medicines the paroxysms became less frequent and more moderate, and he had no doubt of perfecting a cure.

The lime-tree flowers, I observe, are a favourite remedy with him in spasmodic affections, and although now neglected, he assures us, that by these alone he cured a chronic epilepsy. His *pulvis marchionis* seems with him to be in equal estimation,

CASE VI.

Dr. Ferriar in his medical histories gives a very interesting case, which, as it appears to me, comes under *mania hysterica*. A lady of a domestic, industrious disposition, and of a full habit, fell by degrees into a maniacal state, which discovered itself chiefly by uncommon levity in her conversation and behaviour. She could recollect, but never wholly restrain herself; was noisy, familiar, and constantly disposed to run and jump about. Her perceptions were quick, but not false. Small doses of mercury, usually half a grain, operated as strong cathartics. These were continued for three weeks,

weeks, when a spontaneous diarrhoea supervened. She had then two grains of opium every night; the diarrhoea gradually ceased, and she remained free from every maniacal symptom.

SECTION VI.

OF THE MANIA MENTALIS OF DR. CULLEN.

If any species of mania existed in the mind, without affecting the general system of the body, and were to be cured by moral arguments alone; this might with propriety be named *mania mentalis*. But as no such disease has been discovered by nosologists, this distinction is inadmissible.

Certain however it is, that vehement and ungratified desires, the indulgence of evil tempers, such as envy, pride, self-will, and malice, with silent and wilful emotions of the mind by anger or by joy, and protracted grief, not only occasion mental derangement, but contribute to support it through its several stages, till it terminates in death. These therefore in every species of insanity must be corrected or restrained, and it remains only to consider by what means.

1. In cases of debility we must invigorate the system, and remove, if possible, all the occasional causes of irritation, whether mental or material.

We

We know that people of a relaxed and irritable fibre, are the first to be distressed by their appetites and passions. Weakly children are commonly fretful, and all people in typhus are impatient, if they meet with either contradiction or delay; whilst the healthy and the hardy rustic, working perpetually in the open air, has so little irritability, that it is sometimes difficult to say which are most blunt, his mental or his bodily sensations. He is patient of hunger, of cold, of labour, and if he has met with any loss or contradiction, it makes but a faint impression and is soon forgotten.

In all cases, therefore, of morbid irritability, the legitimate offspring of debility, we must have recourse to tonics and astringents: we must invigorate the system by a generous diet, by fresh air, exercise, and agreeable society, and, if need be, we must call in the aid of bitters, bark and steel, or, in the language of modern chymistry, we must supply the lungs with *oxygen*, and the stomach with both *hydrogen* and *carbon*, which last, as I apprehend, is to be derived abundantly from mineral waters and from the Peruvian bark.

But whilst we are engaged in giving strength to the general habit, we must not forget to remove, as far as possible, the occasional causes of irritation, among which may be reckoned indigested fordes, acrid bile, worms, and viscid mucus, accumulated in the first passages, for all these, as we may frequently observe, render children and weakly people peevish,

peevish, fretful, and discontented. The same effect is produced by that anxiety which is usually felt, when nature is preparing for some effort to relieve herself, as in cutaneous eruptions and in hæmorrhage. Mental anxiety likewise must be, if possible, relieved, and we must be careful not to recall those ideas which excite distress.

2. In lucid intervals, and the moments of calmness and tranquillity, we may try the force of moral arguments, for as Sauvage on this subject has very judiciously observed, at such seasons,

Sunt verba et voces quibus hunc depellere morbum possit qui sapiens est.

Resignation to the will of heaven, arising from confidence in the wisdom, power, and goodness, of the Supreme, with a firm persuasion that all events are subject to his providence, is the best preservative, and in lucid intervals the most powerful restorative, in all cases of insanity, which depend on mental irritation.

3. Strict coercion, when the patient is inclined to violence, is required, not merely to prevent mischief, but as a remedy; because the desire to hurt, like every other passion, is strengthened by indulgence. The most effectual coercion is by the strait waistcoat, for when the miserable sufferer knows that his efforts will be vain, he will be the less inclined to make them.

4. The

4. The most powerful restraint is fear.

It may without due consideration appear absurd to suppose, that madmen are under the influence of hope and fear; but this supposition is well established, as perfectly agreeable to facts.

The subject is curious, and merits some discussion.

LINNÆUS, in tracing the analogy which reigns through nature, has conducted us from stones to vegetables, and from these to animals. The *analogy* between animals and vegetables is strikingly exact, and will, I doubt not, be accurately traced by my ingenious and most laborious friend Dr. THORNTON in his Botanic work, a work which, from its magnificence, will do credit to himself, and be an honour to the age.

The *same analogy* subsists between the several classes of animals themselves, from the worm to insects, fish, the amphibia, birds, bats, monkies, man. To trace this progress belongs to the comparative anatomist, and if well executed, must be highly interesting. This subject however, for the present, I must leave, to be resumed hereafter, should I live to finish other works in which I am engaged. It is sufficient for our purpose to remark, that animals possess the vegetable nature, and that man, the most perfect of the animals, has completely all the natural properties, with the instinct of the brutes.

All animals with locomotive power possess the faculties of understanding, memory, and appetite,

tence, but to distinguish the noble from the ignoble, it may be observed that in brutes motion and volition are instinctive, whilst man, who has the moral sense, and superior intellectual powers, governs or should govern all his actions and volitions by the use of reason. But as every faculty is strengthened by exercise, and for want of exertion may be gradually weakened till it is wholly lost; hence it is that by inveterate habit, either reason establishes an absolute dominion over instinct, or instinct over reason, rendering a person either perfect as a man, or perfectly a brute.

Besides, when any faculty lies dormant, the rest, by the accumulation of vital energy, gain strength: and when on the other hand any faculty is exerted with intensity, it is commonly at the expence of all the rest.

If, then, a person has acquired the habit of being moved, without deliberation or the control of reason, by his appetites and volitions; if these, by being gratified, have gained the ascendancy and are for every present to his mind; and if, in such circumstances, *anger* is excited by real or supposed opposition to his vehement desires; the man will not consider what is just, honourable, or ultimately safe, but without hesitation, precisely like the brutes, will rush forward to revenge some insult, to seize the good which he desires, or to avert the evil which he dreads.

Every thing in these unfortunate sufferers de-

monstrates that they are degraded to the condition of the brutes, for in both we observe the same ferocious strength, the same disregard for cleanliness, the same want of decency and of shame, and the same impatience of restraint, till they are perfectly subdued.

It is not consciousness, which is wanting in maniacs, for after their recovery they recollect what has passed; it is not the defect of understanding, which is to be lamented in the insane, for their intellects are often brightened by disease; it is not inability to feel the influence of hope and fear, which leaves them at the mercy of their passions, but it is their impetuosity of temper, it is the vehemence of their volitions which hurries them away. Yet whilst in this respect they have a striking resemblance to the brutes, it is happy that, like the brutes, they are extremely susceptible of fear.

Of this affection then we may avail ourselves not only to secure obedience, but to restrain their impetuosity, and to stifle the passion of anger in its birth, till the habit of patient submission is acquired, and by degrees the empire of reason is restored.

Van Swieten informs us that in Holland there was a celebrated practitioner, who frequently cured maniacs by rewards and punishments. When they were furious he had them dragged along by chains like wild beasts, and either followed them with stripes, or incessantly dashed cold water in their faces; and when that was insufficient, he tamed them by hunger and by thirst; but when they were subdued,

subdued, when they became calm and submissive to his orders, he treated them with kindness, and granted them every suitable indulgence.

When however the authority of the physician is established, such severities are not only needless and cruel, but extremely detrimental. My friend Dr. Nankivell, whose abundant success must vindicate his practice, finds universally, that stern looks and an authoritative tone of voice are sufficient for the purpose. Should this fail, hunger will tame the most ferocious animals; and in aid of this, darkness and solitude may be resorted to without reproach. At all events, every ray of hope, that they may escape with impunity after having transgressed, must be precluded. For this reason they must be committed to the care of strangers, that they may never be encouraged to indulge their evil tempers and volitions, under the expectation of meeting with false tenderness and compassion from their friends.

As a part of their punishment, when they have deserved it by malicious violence and outrage, they may be subjected to some hard labour, which if sufficiently prolonged, will not only subdue their ferocious temper, but by fatigue will induce the most salutary sleep. And when this bodily exertion is such as to require, in any degree, the attention of the mind, its good effects will be more certainly insured.

Genus LXI. *Amentia*.

THIS character is, imbecility of intellect, by which the relations of things are either not perceived or not recollected.

1. This frequently depends on some organic affection of the brain beyond the reach of medicine. Such is the *amentia congenita* of Dr. Cullen, and such is *amentia senilis*, which is the attendant of decrepitude.

2. It is the legitimate offspring of mania; for this, unless phrenitis supervenes and terminates in death, never fails, after long continuance, to produce *fatuity*. It sometimes originates in melancholia, and is more especially derived from these diseases, when they have been injudiciously treated by profuse evacuations, whether by venæsection or cathartics. Sydenham particularly complains of this in his observations on the species of mania, which succeeds to ill treated quartans. If, says he, we attack this disease by repeated venæsection and cathartics, we may indeed subdue the ferocity of mania, but we shall certainly induce fatuity, and that without a possibility of cure.

3. *Amentia* very frequently remains as the consequence of fevers.

4. Sometimes

4. Sometimes it derives its origin from intemperance. Hence we have in Sauvage *amentia à temulentiâ*, *amentia à venere*, et *amentia febrifuga*.

5. It has likewise been traced up to somnolence too much indulged.

6. But the most common source from which it springs is *epilepsy*, being a species of fatuity unnoticed either by Cullen or Sauvage.

The only hope of relief in this humiliating disease must be derived from a generous diet, cordial stimulants, air, exercise, and the most powerful tonics. Indeed several instances have been recorded of patients, who, after having been reduced to idiotism, have by these means perfectly recovered all their mental powers.

Mr. BELL of Edinburgh particularly mentions one, who having lost both memory and intellect by epilepsy, in four months recovered both by flowers of zink, of which he took from one grain morning and evening to twelve grains three times a day,

Class III. CACHEXIÆ.

CACHEXIES.

THE distinctive character of this class is,

A depraved habit of body, without PYREXIA, and independent of NEUROSES, as original diseases.

The orders of this class are three :

I. MARCORES.

II. INTUMESCENTIÆ.

III. IMPETIGINES,

Of which the pathognomic symptoms follow :

I. MARCORES, universal emaciation.

II. INTUMESCENTIÆ, general swellings.

III. IMPETIGINES, deformity of the external surface, by tumours, eruptions, and other preternatural affections of the skin.

INTRODUCTION.

WE have considered the diseases affecting principally the *heart* and the ARTERIAL SYSTEM, comprehended in the class PYREXIÆ.

We

We have dwelt largely on the disorders of the *brain* and of the NERVOUS SYSTEM, included in our class NEUROSES.

I now proceed to the discussion of those diseases, which more immediately arise from morbid action of the *stomach*, and of the LYMPHATIC SYSTEM. These will occupy our class CACHEXIÆ.

But whilst we thus survey detached portions of the animal economy, and examine the disorders to which each part is principally subject, it must be confessed, that nature has not left them independent of each other. Nay, so far is she from having established an empire within an empire, that with most astonishing contrivance and unity of design, she has made each power subordinate to the rest, and from hence it is, that if one is principally affected, the others sympathize and are drawn into action by consent.

This idea is beautifully expressed by Hippocrates, when he compares the body to a circle in which we can find neither the beginning nor the end, and then remarks, that the same observation will hold good respecting its diseases.

Yet, notwithstanding the efforts of nature to relieve herself are thus combined, they require, for the sake of distinctness, to be separately viewed; and, to cure diseases, the attention must be turned towards the system chiefly affected, whether the *arterial*, the *nervous*, or the *lymphatic*.

SECTION I.

OF THE ABSORBENTS AND THEIR USE,

THE absorbents, strictly speaking, are either lacteal or lymphatic; but, with greater latitude, we might consider all the secretory and excretory vessels as belonging to the same system, because they possess the same vital action and are governed by the same laws.

The *lacteals*, first discovered by Asellius, an Italian, A. D. 1622, are innumerable pellucid tubes, arising from all the intestines, chiefly from the villi of the smaller, and invisible, unless when distended with chyle, that is with the milky fluid, which they select by animal attraction from the digested aliment. Their mouths, which are numerous in every villus, are so small as not to be discerned unless by the microscope, and at their commencement, after having left their villi, they are capillary; but as they unite in their progress towards the mesenteric glands, into which, by numerous ramifications, they empty their contents, they become larger. After their departure from those glands, which is by several ramifications, they diminish in number and increase in bulk, till they terminate in the receptacle, from whence the chyle ascends through the thoracic duct, and passing the semilunar valves, is discharged into the left subclavian vein.

These

These serve the double purpose of lacteals and lymphatics, for they absorb not only chyle, but the lymph of capillary arteries and aqueous fluids from the intestines.

The *lymphatics*, for the knowledge of which we are indebted to RUDBECK, BARTHOLIN, HUNTER, HEWSON, MONRO, and CRUIKSHANK, are small pellucid tubes, furnished, like the lacteals and thoracic duct, with valves. They open their mouths into the cavities and cells, and upon all surfaces, as well external as internal, of the body, to collect the lymph poured forth by the excretory vessels, to imbibe it from arteries and veins, and to take in both oxygen and water from the surrounding atmosphere, which they convey to the receptacle of chyle and to the thoracic duct. In their progress they discharge their contents into lymphatic glands, and in their whole extent they frequently inosculate, so as to keep up the communication without any hazard of interruption.

Nothing in nature can be more worthy of admiration than the vital action of the absorbents; and it is curious to observe, that their activity continues unimpaired whilst sensation and the animal functions are perfectly suspended. This will be evident if we consider, that during sleep the bronchial mucus is much thickened, and that both the urine and the faeces shew the continued progress of absorption.

In our wonderful machine, to prevent friction

and adhesions, it is required that vapour should be interposed between contiguous parts, more especially if either of them is designed for motion. This the excretories provide, but as it must be frequently renewed, absorbents are incessantly at work, to convey it back into the mass of circulating fluids. Dr. MUSGRAVE injected 24 ounces of water into the thorax of a dog, and in five days the whole was taken up by the absorbents, for the breathing became as free as it had been before this water was introduced into the chest.

In case of dropsy, nature, by means of the absorbent system, makes wonderful efforts to relieve herself.

JOHN HUNTER relates the case of a lady with swelled legs, who made little or no urine, and was so weak that she could scarcely articulate. She dozed incessantly, and had no desire for food. Her pulse was hardly to be felt, her feet and all her extremities were cold, yet within thirty-six hours of her death, the whole water in her legs and thighs was absorbed, her urine was increased, and about ten hours before she died her legs and thighs were as small as ever. HOFFMANN, in confirmation of what is said by Aretæus, assures us, that he has seen many perfectly cured by a spontaneous and long continued diarrhoea. But what is most surprising is, a case recorded by Fernelius, Pathol. lib. 6. in which ascites was relieved at the approach of the menstrual period by a profuse discharge

charge of water, which continued for two days; and when, in the interval of menstruation, the serous fluid had again collected, it was the next month entirely discharged by the uterus.

Some kind of vessels, as I have stated, are employed to take up the roscid lymph from the ventricles of the brain; but the office assigned to the common cellular absorbents is twofold, for they not only imbibe the aqueous fluid from the reticular part of the cellular membrane, but, when it is needful, they absorb the animal oil from the little bags in which it is deposited, and convey it wherever it is wanted for the purposes of life.

When there is any extravasation either of lymph, of serum, or of blood, they remove it; and when extraneous matter gets into the system, if this proves injurious, they quickly go to work; or if any part is either dead or useless, it proves a sufficient stimulus to excite their action.

1. In cases of gangrene, both sloughing and exfoliation are produced by the absorbents, and thus a separation is made between the living and the dead.

2. When whole parts are to be removed, as useless, without producing solution of continuity in the surrounding parts; this can be accomplished only by the action of the absorbents. It is thus the thymus gland, the ductus arteriosus, the membrana pupillaris, are obliterated, and thus also the
fangs

fangs of diseased teeth, with their sockets, are quietly destroyed. It is by this process that aged women lose their breasts, when these are no longer needful. When the cataract has been extracted, the absorbents take up the capsule, and frequently, more especially after couching, they carry off the cataract itself. The diseased testicle is removed by them, and sometimes in cases of necrosis they devour the bone itself. It is by this process that scirrhus tumours are removed.

3. DU HAMÉL has demonstrated by his experiments, that the earthly parts of bones, on which they depend for solidity and strength, are unremittingly renewed, whilst the absorbents carry off, and exhalant arteries as constantly deposit, calcareous matter. This discovery he made by feeding animals alternately with common food, and with this strongly tinged by *rubia tinctorum*; in consequence of which their bones were variegated red and white. But when he had ceased to give the madder for six weeks this redness vanished.

4. When either extraneous bodies or dead parts, which cannot be absorbed, cause irritation in the system, the absorbents destroy the intermediate living parts between the offending matter and the nearest external surface of the body. It is by this process that nature frequently relieves herself in cases of necrosis and of extra uterine conceptions, as I have stated in my former volume, when treating of these

these efforts. And it is thus that pus, when produced internally, exfoliated bones, and all extraneous matters, are discharged. But sometimes it happens, that whilst the ulcerative process is destroying the inside of a bone, the ossifying process makes addition to its outside, and the bone increases to a prodigious size; but in the end, the ulceration on the inside gets the better, and the matter makes its escape. Whenever incysted tumours are formed in the cellular membrane, the whole substance between them and the skin is in process of time taken up by the absorbents, and then inflammation commences to produce a quicker absorption, which borders often upon ulceration. It is thus that the tumour is exposed. John Hunter mentions a case, which came under his inspection, in which a tumour, formed upon the brain, excited, to such a degree, the action of the absorbents, that without ulceration they carried off the opposing portions of the dura mater, of the scull, and of the scalp.

5. When the exhalants are at work in floating off offending matters from the system, as in *diarrhœa*, the absorbents become active by consent, and should it ever be proved that they invert their motion, as it has been ingeniously, but I fear not justly, supposed in *diabetes*, it must be still with the same intention of assisting to get rid of something highly stimulant.

6. When

6. When there is offending matter in the system, which cannot be expelled by the usual outlets, the absorbents convey it back into the mass of circulating fluids to be thrown out by the emunctories. Thus it is evidently in jaundice, for the bile being prevented from passing by the common duct into the intestines, is taken up by the absorbents and secreted by the kidneys. And when mania and melancholia are relieved by cuticular eruptions, I am inclined to think, that we are indebted to the absorbents; for upon all occasions they are ready to assist nature in her efforts to relieve herself. JOHN HUNTER mentions a young man, who had a large bubo in the bottom of his belly, which having suppurated and being on the point of breaking, was suddenly absorbed. While this process was going on, he observed his urine wheyish and thick, as it was coming from him; but this went off entirely when the bubo had subsided.

SECTION II.

OF MORBID ACTION IN THE ABSORBENTS.

SINCE the absorbents act, not by capillary attraction, but with vital energy, which is liable to increase and diminution; it is evident that their activity may be either deficient or excessive. But

whatever produces either direct or indirect debility lessens the action of the absorbents, because the vital energy is injured equally by both.

I. *Direct debility* is induced, *A.* By deficiency of wholesome nutriment, when it fails either in quantity or quality. This we observe among people who live chiefly on the legumina, peas and beans, or on other unfermented vegetables, with dried, smoked, and salted flesh, as in Holland; on cucumbers, melons, pompions, and other vapid fruits, as in the watered provinces of Spain; or on bread, water, tea, as in some parts of England. *B.* By deficiency of exercise, more especially when the indolent and inactive spend most of their time in sleep, as already sufficiently explained. *C.* By sudden and profuse evacuations. *D.* By impure air with excess of humidity, as I have remarked more particularly in the Asturians on the northern coast of Spain. *E.* By such poisons as are directly sedative, among which I am inclined to reckon bile and the menstrual blood retained.

II. *Indirect debility* is induced by excitement either violent or long continued, and therefore by such poisons as are indirectly sedative, that is, whose first operation is stimulant. We have seen, by the experiments of the reverend Dr. *Hales* on vegetables, that their vital energy constantly accumulated during the night, and is to a certain degree

gree exhausted by the stimulus of light and heat before the middle of the day. And we observe, not here particularly to mention heat, that *wine, spises, spirits*, have precisely the same effect on the absorbents as may be seen in gluttons, and in drunkards whose spleen, pancreas, and liver, are frequently discovered to be schirrous.

The consequence of defective action in the absorbents must be disease, such as obesity, indolent tumours, aqueous accumulation, and herpetic eruptions, as will be explained when we proceed to the genera included in this class.

Excessive action of the absorbents produces atrophy, and may arise from either general excitement, as in acute fevers, or partial stimulants, as we shall see in the local diseases. The stimuli may be irritating substances, such as tears, passing constantly over the cheeks; or *pressure*, whether by external objects, by indolent tumours, by pus, or by aneurisms, all which cause the lymphatics to absorb, not only membranes and muscular fibres, but the bones. Thus in case of a large aneurism of the aorta pressing against the back-bone, the artery is first absorbed where it comes in contact with the bone, and continues to waste till the whole is taken up, after which the bone itself is soon consumed; but as the surrounding parts unite by adhesive inflammation, a cavity of some strength for the circulating blood is always kept entire, and no extravasation can take place, nor can the parts readily give way.

way. Thus also, when in palpitations of the heart repeated pressure is made upon the ribs, they likewise are absorbed. We must suppose not only excessive, but mistaken action of the absorbents, when from external inflammation in the eye, they take up both the crystalline and the vitreous humours, leaving only a bag of water. When this happens to cataracts produced by contusion, and therefore by inflammation, we must attribute it, not to morbid action, but to the well directed efforts of nature to relieve herself.

It is *excessive* action of the absorbents, or perhaps rather deficient action of the exhalants, that produces *mollities ossium*, in which the bones being deprived of all their calcareous earth by the absorbents, and not receiving a fresh supply from the exhalant arteries, become soft and pliable.

One species of morbid action in the absorbents is not easily reconciled with the general laws of the animal economy, but the effect is too readily discovered, which is when they convey poisons into the system, such as the variolous, syphilitic, cancerous, canine, and others. Nor can we understand for what reason they translate matter from cancers and scrophulous tumours to distant, and sometimes to more noble parts, than those which suffer. This however, like many spasmodic affections, seems to be merely an effort of impatience, whilst the ordinary efforts appear to follow the most calm de-

liberation, and to be directed always by the best intention.

SECTION I.

OF THE GENERAL INDICATIONS OF CURE IN MOR- BID ACTION OF THE ABSORBENTS.

These must be derived from a consideration of the causes which produce morbid action, whether it be deficient or excessive.

In cases of defective action of the absorbents, the first attention must be paid to *diet*, which should be mild, yet generous, consisting of such articles as are most easy of digestion, with a moderate quantity of spice and wine. Further to assist the digestive powers of the stomach and the general action of the absorbent system, recourse must be had to air and exercise. It is BOERHAAVE who has left us this direction.

Tum ut optime digeri queant, condimentis, potu vinoso, exercitio, aire, procurandum, § 1176.

By experience, all medical practitioners have been convinced, that health and vigour depend upon the *air* we breathe: but no one, till Dr. BEDDOES wrote upon the subject, was ever able to explain what the air contributed towards heat and life. They had observed, that the blood acquires a florid

rid colour by passing through the lungs, precisely as when venal blood is exposed to the open air. They had remarked that the blood of those people was most florid who used most exercise, and that even the blood of horses after a long journey was more florid, than when they had been confined without exercise in stables. They saw clearly that the blood of a cachectic woman is watery and of an obscure red: but that by increasing the blood's motion with frictions, exercise, and medicines, it recovers its bright colour. This change they attributed to its passage through the lungs, where, according to *GALEN and the ancients, it received some spirit from the air imparting vital energy to the arterial blood.* *BOERHAAVE*, from whose institutes I have derived these quotations, also asserts that the lungs receive *something* from the *air*, the nature of which he confesses himself unable to discover; but, in order to account for the red blood of fish, and the redness of the punctum saliens in an egg, he observes, that the gills of fish supply the office of lungs, and that air penetrates the egg to support the life and growth of the included chick, § 200—202.

It is at present universally understood, that vital energy is derived from the *oxygen* of *atmospheric air*: and, from the observations I have had frequently an opportunity of making on the practice of my friend Dr. THORNTON, I am inclined to think, that *oxygenated air* quickens the action of the absorb-

ents: but of this medical practitioners must judge after a careful examination of cases submitted to their view.

Baron VAN SWIETEN in his comment on the aphorism of his master BOERHAAVE, wherein *air* is recommended, has remarked, that prisoners excluded from the air, and patients long confined to hospitals, become cachectic, that in such situations it is very difficult to cure them, and that from hence we may understand, why atrophy attends affections of the lungs, even when little is discharged by spitting, or lost by sensible evacuations. § 1174, § 1176.

Exercise increases respiration and promotes the oxygenation of the blood; and by this it gives vigour to the system, and excites the action of the absorbents. I have already spoken upon this subject; but, as patients pay too little attention to this most important part of regimen, I shall enlarge upon it.

It is the circulation of the blood which distributes vital energy to every part, for in syncope, and even in death, when it is a consequence of suffocation, all the vital organs remain perfect and entire; but for want of distribution of vital energy by the circulation of blood, neither the heart, the lungs, the stomach, nor the brain, can perform their office; there is neither secretion nor excretion; and all action, both vital and voluntary, ceases.

In those cachectic diseases, in which the circulation of the blood is languid, in vain will you pour in nutriment, unless at the same time by air,
by

by exercise, and proper medicines, you promote the circulation, and consequently the secretion, with the vital energy of the absorbents.

Muscular motion, by compressing the veins, sends the blood with increasing vigour to the heart, which strongly stimulates that organ; the respiration is much quickened, the blood becomes highly *oxygenated* in its passage through the lungs, and in its return excites the heart to more powerful exertion, by which the whole arterial system is distended. This stimulates the vessels to contract with vital energy; the action and reaction are great; the contractions strong; all is activity, all is vigour.

Hence it is that if, of two brothers, one takes to a sedentary life, and the other is constantly engaged in hunting, shooting, fishing, or in the cultivation of the earth: this with a ruddy countenance and rigid fibre, will enjoy high health, whilst the other pale, bloated, and relaxed, will be incessantly consulting his physician.

Of the different kinds of exercise, none is to be preferred to riding, because it agitates every part of the machine, and most powerfully promotes the action both of the exhalants and absorbents. SYDENHAM relates the case of a friend, who, by neglect of exercise, had brought himself into so deplorable condition, that he was dying of a colliquative diarrhoea, which no medicines could relieve. This man, by the advice of his sagacious physician, mounted his horse, defied all weather, paid no at-

tention to his diet, but rode, at first short distances in proportion to his strength, and continuing this practice without interruption for many months, he came at last to ride his twenty or thirty miles a day without fatigue, and was restored to perfect health and strength.

My friend Dr. STACK was consulted by the relations of a young nobleman then dying of atrophy, as it was thought in Paris, to whom he recommended the Bath waters. The young nobleman was driven to despair by this advice, because he could not walk across his room, and was confined chiefly to his bed. But the marchioness his mother, a lady distinguished for spirit and resolution, prevailed on him to rise, supported him in his carriage, revived him with cordials when he fainted, and by short stages at first, in less than six weeks brought him to my friend at Bath in perfect health.

In a very ancient history of Cornwall mention is made of M. Atwel, a clerical physician, who infallibly cured all diseases; and so great was his celebrity, that patients travelled to him from every part of the island west of London, to know what quantity of apples and milk, for, excepting manna christi, and such like cordials, that was the only medicine he prescribed, would be good for them. Few of these, if they came from a *great distance*, consulted him in vain, before they got home they were restored to health. Carew's Survey of Cornwall, p. 60.

SYDENHAM

SYDENHAM assures us, that he has frequently cured both tabes and phthisis by horse exercise and long journies, when all medicines had been given in vain, and this not merely in the incipient stages, but when night sweats and diarrhœa, usually the concluding symptoms, had appeared. MORTON expresses in most energetic language some sentiments respecting the benefits to be derived from air and exercise, and we may venture to affirm, that most kinds of cachexy may be cured by these alone, even without the aid of a physician.

Frictions, in some degree, answer the end of exercise, by diffusing vital heat and promoting the circulation of the blood. The benefit to be derived from hence is evident in horses, who never enjoy high health when confined to stables, unless they are well combed and brushed.

Bandages, by pressure, assist weak vessels and promote absorption. It is for this reason that BOERHAAVE recommends compression in diseases of the weak relaxed fibre, because when either fibres or vessels are distended beyond their tones, their vital action will be weakened till it is wholly lost. And JOHN HUNTER has admirably stated that the best exciting power is pressure, which, if urged beyond the point of ease, sets the absorbents of the part to work, for the purpose of removing either the substance pressing or the part which is pressed. These therefore, in some cases, may be usefully applied.

In cachectic patients, attention must be paid to the organs of digestion, which are usually deranged, and loaded either with indigested fœces, corrupted bile, or phlegm. If the stomach is affected, an emetic must be given, or if the smaller intestines require to be cleansed, gentle cathartics will be required, which in most cases may be followed by tonics and astringents. This the incomparable *Boerhaave* has enjoined.

Ut vero organa primarum coctionum itidem bene disponantur, leni digestivo, vomitivo, purgante roborante, prospiciendum, § 1177.

But whilst *emetics* prepare the digestive organs for tonics and astringents, they in many cases serve another useful purpose, by promoting absorption in every part of the system. *Cathartics* have the same effect, and among these none is more powerful than mercury, whether externally or internally applied. Indeed every increased evacuation excites absorption from distant parts, but independent of this effect, mercury stimulates the absorbents, and thereby excites their action.

Diaphoretics and *diuretics* will find their place when we proceed to treat of the several genera comprehended in this class.

But the most effectual stimulant in all cachectic cases, attended by diminished excitement, is *steel*. This was the favourite remedy of SYDENHAM and BOERHAAVE, and it has continued to maintain its credit in the hands of all the most successful prac-

titioners

tioners to the present day. To this Dr. SMITH owed his celebrity, and, from the experience of thirty years, I can venture to assure the student, that in few cachectic diseases will it ever fail to cure. Professor VAN SWIETEN says, " In practice I have met
" with innumerable cases in which cachexy has been
" cured by this remedy alone joined with grateful
" aromatics, after mild evacuants had cleared the first
" passages from mucus, filth, and indigested food;
" and he particularly assures us, that by steel filings he never failed perfectly to cure cachectic
" virgins, provided they consented to take air and
" exercise, and to avoid warm liquids."

Chalybeates have certainly a two-fold effect, for, as the natural vehicle of oxygen, and the constituent principle of red blood, they strengthen the digestive organs and they excite the absorbents. Indeed all the metallic oxyds, excepting the mercurial, act in the same manner, only in a superlative, and therefore in a less manageable degree. For this reason *iron* has maintained its empire, and whilst we have one oxyd, which, when conjoined with the inhalation of *vital air*, in these cases may be regarded as infallible, we need be less solicitous about the rest.

I cannot conclude this article without making mention of *electricity*, which, as a powerful stimulant, has not only reduced swellings from sprains, and promoted the speedy absorption of considerable glandular and scrophulous tumours; but is known to attenuate fluids, and to excite strong action in the
animated

animated fibre, by which, among other remarkable effects, it quickens vegetation, increases perspiration, and restores the menstrual flux.

The symptoms and diseases produced by excessive action of the absorbents belong to other classes, either to the PYREXIÆ, or to the LOCALES, as we have seen in Section II. and therefore will not be considered here: yet, from what I have already said, it will not be difficult for the student to comprehend both their nature and their cure.

In cases of inverted action of the absorbents, supposing such cases to exist, we must naturally look to tonics, because every kind of irregular motion in the system has for its predisponent cause morbid irritability, attended by debility, or, as JOHN HUNTER has beautifully expressed himself, "increased disposition to act without power to act with."

Class III. CACHEXIÆ.

Order I. MARCORES.

DISTINGUISHED BY UNIVERSAL EMACIATION.

IN this order Dr. CULLEN in his nosology supposed two genera, *atrophia* and *tabes*, but in his practice he considers them as one. Might he not with propriety have placed DIARRHŒA and DIABETES here? They certainly would look better than where he left them.

Genus LXII. *Tabes*.*Emaciation and Debility with Hætic.*

SECTION I.

OF NUTRITION.

THE articles of diet are : 1. Animal substances ; 2. Vegetables ; 3. Wine with fermented liquors ; 4. Water. Let us consider these in order, and examine chemically of what nutritive ingredients they are composed.

1. *Animal*

1. *Animal substances* contain,

a. *Hydrogen*, which, when combined with the matter of heat, is *inflammable gas*; with oxygen is *water*; and with azot constitutes *ammonia*.

b. *Carbon*, which, with oxygen and the matter of heat, is *carbonic acid gas*, commonly called fixed air, and with hydrogen is the *hydro-carbonate*, on which with oxygen and iron depends the florid colour of the blood.

c. *Azot*, which, with oxygen in the proportion of two of the former to one of the latter mechanically mixed, is *atmospheric air*; but when the proportion of oxygen is increased, this combination by chemical union makes the *nitrous* and the *nitric acids*.

d. *Sulphur*, which, when combined with oxygen in the proportion of 72 to 28, is *sulphuric acid*, or if united with hydrogen and the matter of heat is *hepatic gas*, that is *sulphurated hydrogen*.

e. *Phosphorus*, of which, when $28\frac{1}{2}$ is united by combustion with $71\frac{1}{2}$ of oxygen, 100 of *phosphoric acid* is produced, whilst the whole of their light and heat are

are disengaged, for in this operation there is no smoke, no vapour, to lessen the sensible quantity of either. With hydrogen it takes fire spontaneously in air, but much better in oxygen gas.

f. Iron constituting the red particles of blood.

Together with these combustible ingredients, animal substances contain a certain quantity of oxygen, of which fat has a much less proportion than the muscular parts, and is therefore more nutritious. The bones contain, with animal gluten, a considerable portion of calcareous earth and phosphoric acid.

2. *Vegetables* contain chiefly hydrogen and carbon with a quantity of oxygen in a triple combination, which continues till caloric, that is, the matter of heat, disturbs the balance of affinities: but with the heat of boiling water, the oxygen and part of the hydrogen become water, the rest of the hydrogen with part of the carbon becomes essential oil, and what remains at the bottom of the still is carbon. With a greater degree of heat different combinations are formed, for neither oil nor water are produced.

Some vegetable substances abound with *oil*, others with *sugar*, all contain salts, magnesia, calcareous earth and iron, with a small portion of azot.

Oil

Oil contains nearly 79 of carbon to 21 of hydrogen.

Sugar has, in 100 parts, 28 of carbon, 8 of hydrogen, and 64 of oxygen.

Fruits, unripe, contain a greater proportion of oxygen; but being exposed to the sun, they part with a portion of their oxygen, and when ripe retain very little.

3. *Wine* contains hydrogen and carbon in different proportions according to its strength or weakness. In fermentation it takes oxygen from the atmospheric air and becomes *vinegar*; but by distillation it yields alcohol or pure spirit, which contains about one fifth of hydrogen, for 16 ounces of alcohol by combustion, uniting with oxygen from the atmospheric air, produces 18 ounces of water.

4. *Water*, as we have just observed, is not a simple element, but a compound of hydrogen 15 to 85 of oxygen.

This analysis, adopted from LAVOISIER and JACQUIN being premised, I proceed to state, that aliments, whether taken from the animal or vegetable kingdoms, are nutritive in proportion to the combustible matter they contain. Hence it is, that of all the articles of diet, the fat of animals and vegetables, abounding either with oleaginous or saccharine matter, for nourishment, command the preference.

I have

I have frequently had occasion to observe in the South of France, and in some parts of Spain, that during the vintage children grow plump, and it is well known that negroes in the sugar islands fatten quickly on the cane juice. Dates have nearly the same effect, and in Greece the peasants thrive remarkably on figs, which, as we are informed, was anciently the food of wrestlers. In many parts of England, the farmers formerly grew fat with ale, which, being extracted from malt, consequently contains, like all the preceding articles, much sugar.

It is now understood, that poulterers supply their fattening coops, not merely with barley and oats as formerly, but with hempseed, which contains oil in great abundance, and with a considerable quantity of suet.

All the substances above enumerated being properly blended give vigour to the system, but there is scarcely any combustible, but what contributes to the support of life. Some tribes have lived wholly upon fish, others upon flesh; whilst numerous hordes have been confined to milk and vegetables. I knew one gentleman at Edinburgh, a medical student, who for a considerable time supported life by sugar; another who supplied the vital flame for many days with opium; and it is well known that veteran sots take scarcely any other food but gin or brandy. All nations covet the substances which are most inflammable. In temperate and humid
I climates,

climates, where pastures abound with herbage, butter is a part of the daily aliment; but in sultry and frozen regions oil must supply its place. In the latter, for this purpose, they catch some sorts of fish; in the former they cultivate the olive.

It is not, however, in these articles alone that combustible matter constitutes a part of diet; for ardent spirit, either pure or disguised under a variety of forms, is the daily beverage of all who can procure it. The sugar-cane, the maple wheat, barley, oats, and rice, supply it to nations who never cultivate the vine; and even the wandering hordes of Tartars have contrived to extract it from their koumiss, the toilsome produce of mares' milk. It has been supposed, that water itself is decomposed by the organized fibre to furnish oxygen for the purpose of irritability and life. It is certainly decomposed by plants, from the leaves of which the oxygen, united to the solar ray, or at least by the solar ray combined with caloric, flies off in the form of vital air, whilst the hydrogen remains. The same may be said of fish, for RONDELET, in his work *de piscium nutritione*, cites a great number of examples of marine animals, which by the very constitution of their organs can derive nourishment from no other source but water; and he particularly mentions his having kept a fish three years in a vessel of pure water without other nourishment, and that during this time it continued to increase in size till it had completely filled the vessel. Every
one

one knows, that frogs and toads have been discovered in rocks and trees, where they could have nothing to support them but pure water, and that gold fish thrive by that alone. Hence it seems to be evident, that some animals, like plants, decompose water to form new combinations ; but that water, as such, and not merely as a solvent or vehicle, contributes generally to animal nutrition has not yet been satisfactorily proved.

I have endeavoured in my first volume to explain the process of digestion.

From the stomach the aliment passes to the small intestines, where, as in the stomach, numerous lacteals absorb that part, which has been previously digested, and convert it into chyle. This they convey through the thoracic duct into the system to augment the common mass of circulating fluids.

During the course of circulation, the chemical operations are continued, and new combinations incessantly take place. Of these one of the most remarkable is, that in which the lungs assist by the plentiful supply of *oxygen*, as the universal pabulum of life and flame, whilst they emit the superabundant carbon and hydrogen, which united with caloric and oxygen escape in the form of air and water. Thus the stomach is constantly providing the inflammable principle, whilst the lungs incessantly contribute what is wanting to feed the vital flame. We may therefore be permitted to remark, that no images could have been more agreeable to nature,

than those adopted by the ancients, when they compared life to the burning of a lamp, and represented death by the inverted torch.

Thus far I have taken notice only of the hydrogen; but now the other component parts of animal substance call for our attention.

CARBON seems to be the basis of the bond of union to connect the several principles which constitute the animated fabric. When caustic alkali or quicklime deprives animal substances of their carbon, this union is dissolved. In carbonic acid air flesh remains unchanged; in hydrogen it is preserved; but in oxygen gas it putrefies, quickly; the balance of affinities is disturbed and new combinations take place; the oxygen disappears, and with it water, and carbonic acid gas, are formed. It is a well known experiment, that hanging fresh meat in a fig-tree exposed to the sun and air makes it quickly tender: and since the experiments of Dr. INGENHOUSZ, we can understand this process, for the green leaves yield their oxygen to the solar beams: but if hung over fermenting beer it continues tough.

By the late very valuable publication of Dr. BEDDOES on factitious air, it may be seen, that poultices in the act of fermentation stop the progress of mortification, that is, whilst they emit carbon, for charcoal in powder has the same effect. It appears likewise, that oak bark, which contains carbon in the greatest abundance, has the same benign effect
on

on scrophulous ulcers, restoring tone and tension to the relaxed vessels and disposing them to heal.

If I am not much mistaken, it is for the purpose of obtaining a greater quantity of carbon than the stomach can derive from animal substances alone, that nature calls aloud for vegetables, as I shall more particularly notice when I proceed to treat of scurvy. And I am not only inclined, with many eminent professors, to attribute much to carbonic acid gas, whether combined in mineral waters or detached, and in a state of fermentation, when given internally in cases of debility with a relaxed condition of the solids and dissolved state of the blood, as in typhus; but to this also I would ascribe the superior efficacy of the peruvian and other barks, because they abound with carbon. I must here observe, that both hydrogen and carbon, although deleterious in the extreme, when applied directly to the lungs, are most grateful to the stomach, and contribute both to life and health.

Azot seems to be derived from atmospheric air, but whether it be so, or whether it was originally of animal production, it is not easy to determine. All animal substances, by putrefactive fermentation, produce it in abundance, and either in this way, or by distillation, it unites with hydrogen to form ammonia, which may be procured either from urine or from blood; but it is usually obtained from the horns and hoofs of quadrupeds. It is the *azot* which promotes the putrefactive process, for flesh

being confined in azotic gas, quickly turns black, and is corrupted sooner than in any other air. It is a perfect conductor of electricity; but what purpose it answers in the animal economy has not been yet discovered.

SULPHUR is said to be a component part of animal substance, but in what proportion, or for what end, has never been ascertained; neither has it been demonstrated from whence we are to derive its origin. We find it saturated with oxygen, and combined with vegetable alkali, in plants, particularly in the tamarisk (*tamarix*); and M. DEYEUX has communicated several processes, by which it may be obtained pure uncombined with oxygen, and crystallized, from the roots of plants. We obtain it from pyrites and from alum, but then it must be observed, that neither alum nor pyrites are discovered either in granite, or in the clay that is derived from the granite, for these substances are found only, as far as my observations go, in that species of clay which seems to have been produced by the dissolution of organized bodies, the clay which accompanies calcareous earth and chalk. And although the latter contains some masses of pyrites; yet we have no reason to consider this as an objection, for pyrites itself is produced from vegetables, and therefore it confirms my conjecture, that sulphur is originally derived from organized bodies. When I was last in Paris, M. SAGE gave me some beautiful octaedral crystals of sulphur, found by him
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near the gate St. Antoine, in the common receptacle of human ordure, and which he conceived to be derived from the vitriolic acid of the gypsum with which it was blended, for this was partly decomposed, and therefore fermented with vitriolic acid. His opinion seems to me well founded; but still this sulphur appears to have been derived from animals, because the calcareous basis of the gypsum claims that origin, and in a state of chalk most probably contained pyrites, or perhaps sulphur, and in either case with oxygen it would furnish vitriolic acid for the gypsum. The process by which this sulphur was produced may be readily understood, by considering what passes in a somewhat similar operation, for if either aluminous schist or gypsum with charcoal are subjected to a red heat, carbonic acid escapes in the form of gas, and sulphur remains with clay or lime, according as either of these was employed in the state of combination with the vitriolic acid.

That sulphur may be taken into the system, and pass both by perspiration and by urine, is most notorious; but even when no sulphur has been taken, hepatic gas is frequently discharged, and therefore seems to have been generated in the body.

PHOSPHORUS is decidedly an animal production, but all the purposes it answers in the animal œconomy will not be easily determined. We know that it combines with calcareous earth to give solidity and firmness to the bones, and that it is discharged

in great abundance in the urine; but how it is generated, in what way it contributes to general health, or in what proportion, according to the several actions or morbid affections of the system, it is secreted by the kidneys, does not appear, nor have practitioners the power either to increase or to diminish the quantity produced.

IRON is contained in blood, in which it is the natural vehicle of oxygen, and being oxygenated gives the florid colour.

This metal appears to me to have derived its origin from animals and vegetables. At least we may remark, that it is universally found in vegetables and in the red blooded animals. It is a constituent part of limestone, often in great proportion, more especially in spathous iron ore, and it abounds in the clays which attend the secondary mountains, both which circumstances have been produced by the dissolution of organized bodies. Iron ore contains nearly one fourth manganese, but then manganese likewise is found in all vegetable ashes.

This wonderful metal, according to its degree of oxygenation, assumes all the colours of the rainbow, as may be easily seen by putting a bright poker in the fire, and with different acids it appears either red, yellow, blue, or the intermediate colours; but with vegetable astringents it is black.

Iron is found not only in the red globules of the blood, but in the bile; and here it may be remarked

marked not only that the strongest animals have most red globules, but that their vigour bears proportion to the red globules. This observation agrees with what has been said of oxygen, as contributing to vital energy; because iron is a proper vehicle of that invigorating principle. None of the perfect metals so powerfully attracts it, for the slightest degree of humidity calcines it quickly. The use of iron in the system will appear from hence, that when given for thirty or forty days to a pale, bloated, languid, chlorotic virgin, who, with coldness of the extremities, low spirits, loss of appetite, feeble pulse, palpitation, and other symptoms of debility, is scarcely able to walk, the vital heat increases and is universally diffused, her pulse acquires strength, the pale and fallow countenance is painted like the rose, her appetite returns, her spirits rise, and by access to vital air, with proper exercise, she perfectly recovers her activity and health.

SLEEP, if not too long protracted, contributes to nutrition, for it seems to be in this quiescent state, when every muscular fibre is relaxed, that the solids are repaired, the fat is deposited in its proper cells, the digestive process is promoted, the animal spirits are renewed, and the vital energy, expended and exhausted during the day, is again accumulated during the repose, the darkness, and the silence of the night.

SECTION II.

OF THE OCCASIONAL CAUSES OF EMACIATION AND
DEBILITY.

Emaciation and debility are occasioned by a variety of causes.

1. *By deficiency of food*, which may respect either quantity or quality: for should even the quantity be as much as the stomach can digest, yet if the aliment does not sufficiently abound with hydrogen and azot, as well as with carbon, the consequence will be a loss of strength and flesh. If the vegetable man, eating herbs, and drinking only water, were compelled to work, like one who eats heartily of flesh, and drinks fermented liquors, he would be soon emaciated, and die perfectly exhausted. What a miserable figure would a Gentoo from India make among our fire-men, sugar-bakers, coal-heavers, or common London porters! His flesh, such as it is, scarcely hangs upon his bones, and is little suited to powerful exertions; whilst their tense and turgid muscles are employed in unremitted labour, and scarcely know what it is to feel fatigue.

2. *By indigestion*, when the food is either rejected by the stomach, or not well concocted there. To understand this the student may consult what has
been

been said of digestion and dyspepsia under the genera 1 and 39, vol. i.

3. By *viscid mucus* lining the stomach and small intestines, as in *hypochondriasis* and *tussis stomachalis*, treated of in the former volume. This prevents the entrance of the digested aliment into the lacteals, and at the same time both impedes and depraves digestion.

4. By *Poisons*, which either destroy, as caustics, the very texture of the absorbents, or produce in them, by violence of stimulus, either palsy or spasmodic action; and in either case prevent nutrition.

5. By *scrophulous mesenteric glands* intercepting the chyle in its passage through the lacteals to the thoracic duct. This however is not the only way in which they produce emaciation, for they are certainly more than channels to convey the chyle, and therefore, when they are themselves diseased, they cannot perform their proper office of concoction.

6. By *profuse evacuations*, whether by diarrhœa, by diabetes, by ulcers, by hæmorrhage, by leucorrhœa, by the cutaneous pores in perspiration, by the femoral vessels, by the breasts in nurses, or by the salivary glands. In all animals the adipose membrane is a reservoir from which the vital lamp is occasionally supplied with oil, either for long journies, sickness, or protracted sleep. Hence it is, that birds of passage on their first arrival, men recovering from fever,

fever, and the various tribes of animals who remain torpid in the winter, having consumed their store, are remarkable for want of fat.

By *old age*. This seems to arise chiefly from the obliteration of vessels as we advance in years; but it may depend likewise on other causes. For from the weakened energy of the heart venous plethora succeeds, and the blood moves slowly in the vessels. Hence it derives less *oxygen* from the atmosphere, for it is astonishing to observe what a quantity of air children vitiate and consume when compared with old age.

As the force of the heart diminishes, the fluids are protruded less forcibly into the minuter vessels, and as the quantity of oxygen decreases in the system the vital energy is lessened continually till it is wholly lost.

But whether it be, that the aged fibre loses its attraction for the principle of irritability; or whether it be, that it pertinaciously retains it; certain it is that with increasing years the irritability of the moving fibre, and the activity of the vascular system as well as the sensibility of the nerves, are gradually, regularly, and constantly diminishing from infancy to old age. Hence it is, that tension and tone, as we advance towards the decline of life, are so much impaired, that emaciation and debility become the never failing attendants on decrepitude.

These are the circumstances which distinguish the several species of this genus.

SECTION III.

OF HECTIC.

THE hectic pyrexia has remissions and exacerbations twice a day, with evening chills clearly marked, followed by morning sweats. In this affection the appetite is various, thirst moderate, heat and dryness of the skin prevail, the tongue is clean, and increases constantly in redness; the urine is high coloured, and lets fall a branlike sediment; pulse hard, weak, and frequent, more especially after eating towards the evening; the countenance is pale, but has a circumscribed red spot on one or both the cheeks, more especially during the exacerbation; the eyes have a pearly whiteness; costiveness at first prevails, but towards the close a diarrhoea supervenes; emaciation and debility increase continually, the legs become œdematose, and delirium closes the scene.

It may thus be readily distinguished from both synocha and typhus. The system chiefly affected is, in synocha, the arterial with strong vascular excitement; in typhus, the nervous system with considerable increase both of sensibility and irritability; in hectic, the absorbent system without either strong vascular excitement, remarkable increase of sensibility, or any tendency to spasm.

This

This affection attends morbid emaciation like its shadow. It is likewise the common symptom of dropsy, of chlorosis, of rachitis, of worms and poisons eroding the intestines. It attends cancerous, scrophulous, and syphilitic ulcers, arising however not from absorption of either pus or matter, as JOHN HUNTER has demonstrated, because till the stimulus for restoring a part is given, that is, till the abscess is opened and proper inflammation follows, hectic does not take place, nor even then if the parts are well disposed to heal. But when nature is harassed by ineffectual efforts to relieve herself from some incurable disease, whether produced by the scrophulous, cancerous, or by the syphilitic virus; then hectic commences, always more speedily in proportion as the part affected is important to the purposes of life; and no sooner is the irritating cause removed, as in the extirpation of the cancerous breast, or the separation of a scrophulous joint, than hectic ceases.

SAUVAGE, who, like most nosologists, seems to have been perplexed where to arrange his hectic, has made it a genus under *febres*, and has included in it thirteen species, all which, coinciding with the correspondent species of his atrophy and tabes, need not to be particularly mentioned.

SECTION IV.

OF THE SPECIES OF TABES.

DR. CULLEN in his nosology, following SAUVAGE, has considered atrophica and tabes as two distinct diseases, but he has not adopted all his species, for Sauvage enumerated no less than sixteen of the former, which Cullen reduced to four, and seventeen of the latter, which Cullen in his nosology reduced to three; but in his First Lines, dropping *atrophica cacochymica*, in its place he substituted his own *tabes scrophulosa*.

This he was the more inclined to do, because he felt, and indeed acknowledged, the impropriety of separating atrophy from tabes, since the former may fairly be considered merely as a symptom of the latter.

From what has been delivered on the occasional causes of emaciation, debility, and hectic, it will appear, that *tabes* may claim seven species.

1. *Tabes famelicorum*, arising from deficiency of food, as in the case of infants sent out to nurse, when perhaps three children hang upon the breast, which was designed for one.

2. *Tabes dyspeptica*, arising from indigestion, when from morbid irritability the food is instantly reject-

ed by the stomach, or from any cause is badly concocted there.

3. *Tabes hypochondriaca*. In this species the nutriment is intercepted by viscid mucus in the first passages, as happens frequently to rickety children, to wormy patients, and to drunkards, in whom the mucous glands are much relaxed. With regard to wormy patients, no one doubts the existence of phlegm in the intestines giving harbour to those vermin. Of rickets I shall speak hereafter; and with respect to the hectic atrophy of his bibulous heroes, HOFFMANN has most judiciously remarked, *Sæpe hecticum hoc malum in principio a sola atonia pendet*. Vol. II. p. 182.

4. *Tabes venenata*. This corresponds with the *hectica stomachica et intestinalis* of Hoffmann, which he attributes to acrid bile, violent cathartics, and corrosive substances.

5. *Tabes scrophulosa*. This species comprehends all cases in which diseased glands occasion atrophy. It takes in therefore the *tabes glandularis*, *tabes mesenterica*, *atrophia infantilis*, with the *atrophia rachitica* of Sauvage, and the tabes, to which inebriates are subject from schirrhous glands, whether of the liver, spleen, pancreas, or mesentery, and from tubercles seated in the lungs.

6. *Tabes inanitorum* occasioned by profuse evacuations. This includes the *atrophia a sanguifluxu*; *atrophia*

atrophia a leucorrhœa; atrophia ab alvi fluxu; atrophia a ptyalismo, tabes ulcerosa, tabes sudatoria, tabes nutricum, et tabes dorsalis of Sauvage, of which the last is perhaps the most deplorable of all diseases. I have met with two cases of it, and hope I shall never be witness to a third. It is the scourge of unrestrained libidinous desire, and renders life a most intolerable burthen. The wretched victim to his own imprudence is tormented from head to foot with pain, burnt up with hectic, wasted to a skeleton, and racked in every joint with spasms. His limbs tremble; he has a loathing for his food; his sight gradually fails him, and he becomes at last quite blind. He is conscious that he brings all this evil on himself; yet his desires increase, and he feels that he has not power to restrain them. The night brings him no relief: he sleeps, but his desires are awake; he dreams of happiness, but he awakes to misery; and it is in death only that he can hope for rest; yet such is the gloom that hangs heavy on his mind, that he is haunted incessantly with terrors, and is afraid to die.

7. *Tabes senilis*. This must not be confounded with the *atrophia senilis* of Sauvage, because that has merely emaciation and debility, but is free from hectic. The disease in question is the *marasmus senum* of Hoffmann, and is described by him as "a common and fatal *hectic* of old age. The body wastes, appetite decays, the strength is gradually consumed; all the bones are visible through the parched

parched and rigid skin; the vital heat forfakes the circumference of the body, and is collected in the centre; the pulse is hard and frequent, refpiration labours, the voice is hoarfe, the tongue is dry, fleep is deficient in quantity and not refreshing, coftivenefs prevails, and at the end of fix months the patient dies.

SECTION V.

OF THE INDICATIONS OF CURE IN TABES.

THESE will vary according to the fpecies, yet in general we may obferve with Dr. CULLEN, that when tabes is purely fymptomatic, the cure muft be that of the primary difeafe; but when it is idiopathic, it will in fome cafes be fufficient to remove the remote caufes, which, after what has been delivered, can fcarcely efcape our notice.

It is obvious that in *tabes famelicorum* attention muft be paid to the nutriment, yet with this caution, that in point of quantity and quality united it muft not be rapidly changed from bad to better. The reafon for this caution has been fufficiently explained at the commencement of this work. The change therefore muft be gradual, and the moft nutritive aliment muft have the preference, becaufe the load will be the lefs on the weakened organs of digeftion.

Of

Of *tabes dyspeptica*, *tabes hypochondriaca*, and *tabes scrophulosa*, I need only say, that what has been delivered, either in this work or by the best medical authors on these diseases, must be consulted.

In *tabes venenata* the directions of Professor HOFFMANN are excellent. Avoid, says he, every thing acid, saline, and stimulant, with such articles of diet as readily ferment. Take the food that is most easy of digestion; and for medicine be contented with demulcents, the milder tonics, and the most gentle of the vegetable astringents. There may be a decoction either of saffraas and cascarrilla, or of chamomile flowers and the summits of milfoil in milk: good broth with althæa root and rice; and gum tragacanth dissolved in mint water. Clysters, if required, may be made of milk with yolk of egg, turpentine, honey, and syrup of althæa; and in case of spasmodic pain in the bowels he recommends his antispasmodic pills, composed of the extracts of chamomile, milfoil, and saffron, with castor and oil of nutmegs.

Tabes inanitorum requires particular attention to prevent the profuse evacuation, whatever it may be, whether by *hæmorrhage*, *diarrhœa*, *diabetes*, or by *menorrhagia alba*; in all which cases the primary disease must be consulted.

In cases of immoderate salivation, brought on by mercury, the ingenious Dr. GARNET of Harrogate gives *kali sulphuratum*, which never fails to abate the evacuation in 24, or at most in 48 hours.

For this effect he very judiciously accounts by supposing, that on the decomposition of water, in which the medicine is given, by the kali sulphuratum, sulphurated hydrogen gas is produced and conveyed into the blood, where the hydrogen unites with the oxygen of the acid menstruum of the mercury, and forms water; whilst the sulphur converts the mercury into an ethiops, which is very inert. See his letter to Dr. BEDDOES in observation on factitious air, published by Johnson in St. Paul's Churchyard:

Should a nurse prove unequal to the drain of milk made by her tender charge, no medicine will relieve her from the distressing symptoms, till she has weaned the infant. How many, from a fond and foolish affection, have given suck to a lusty child for months after it has been upon its legs! And how many, from the pressure of distress and poverty, have undertaken to rear two sucklings, when from poverty they have not had milk enough for one! In this case nothing effectual can be done till she has removed the occasional cause of the disease. The same may be said of any other drain, which nature is unable to support.

Tabes senilis, were it considered merely as the consequence of increasing years or of decrepitude, would call for patience and resignation, not for medicines. But this is not the light in which it must be viewed. As a disease, it requires medical assistance, and Hoffmann, to whom we are indebted for

for an accurate enumeration of its symptoms, has given us directions for its cure. For this purpose he recommends temperance, exercise, and diluents, with the ass's milk and gentle laxatives.

In every species of tabes, attention must be paid to the alimentary canal, and if the first passages are loaded, they must be cleared by emetics, after which, generally speaking, myrrh and steel may be exhibited in the manner practised by Dr. GRIFFITH in hectic, and as mentioned in page 207 of my first volume.

Or,

From three to ten grains of steel filings may be given three times a day, in conserve of roses, with a few grains of aromatic powder.

Or,

R G. Myrrh, dr. 1. Tinct. Cort. Peruv. unc. 1.
Solve Terendo et adde Aq. unc. 8. Sal. Martis,
scr. 1. Salis Nitri, scr. 1½. Syr. Balf. dr. 6.
M. c. c. unc. 2. bis die.

That is,

Take myrrh one dram; tincture of the bark an ounce;
grind it in a mortar, and add eight ounces of water;
salt of steel a scruple; nitre half a dram; balsamic
syrup six drams. Mix, and take two ounces twice
a day.

Or,

In place of these either 77, 78, or 82, of my
Physician's Vade Mecum may be adopted.

The various preparations of milk, mentioned in page 35 and 36 of my first volume, are excellent in every species of *tabes*, and may in some measure prove a substitute for *koumifs*, the celebrated invention of the Tartars.

To make *koumifs*, they put new mare's milk in a wooden vessel, with one sixth of water, and one eighth of four cow's milk. This they cover with a thick cloth and keep it moderately warm for 24 hours; then with a churn-staff they beat it till the whole is intimately blended. At the end of 24 hours more they pour it into a narrow vessel, and churn it till it is perfectly and uniformly mixed. In a close vessel, if not exposed to heat, it keeps three months.

Dr. GRIEVE, to whom we are indebted for this information, assures us, that *koumifs* proves a wonderful restorative in *hectic atrophy*, that is, in *tabes*, and he recommends six quarts of it to be taken every day.

Horse exercise is strictly to be enjoined in all cases in which either the glands are obstructed, or the stomach is relaxed, and therefore more particularly in Species 2, 3, 5, and 6. SYDENHAM, whose high expectations from horse exercise has been already stated, ventures to affirm, that riding for hectic is equal in efficacy to mercury for syphilis, and the Peruvian bark for intermittents. And MORTON, than whom no one ever wrote better on hectic atrophy, strongly recommends the
same

same practice to excite moderate perspiration, to strengthen the digestive organs, and to shake off the tough and viscid mucus obstructing the absorbents of the stomach, and of the small intestines, *ex ventriculi et intestinorum saburrâ acidâ, lentâ simul et viscidâ, meatus obstruente, &c.* p. 26.

Class III. CACHEXIÆ.

Order II. INTUMESCENTIÆ.

DISTINGUISHED BY GENERAL SWELLINGS.

IN this order we have thirteen genera; polyfarcia, pneumatosis, tympanites, physometra, anafarca, hydrocephalus, hydrorachitis, hydrothorax, ascites, hydrometra, hydrocele, physconia, rachitis.

Genus LXIII. *Polyfarcia.*

OBESITY.

FROM what has been delivered on nutrition and emaciation, under the preceding genus, the nature and the cure of obesity may be clearly understood. It has been universally observed, that people who

eat heartily of animal food, and drink freely, more especially of strong beer, who take little exercise, and by sleep give long respites to the fatigue of thought, usually accumulate a great quantity of fat, and it is upon these principles that poultry, pigs, and oxen, are fatted for the market.

For the cure of this disease no medicines must be had recourse to, because no remedy is to be expected but from temperance, a vegetable diet, pure air, exercise, and early rising. A young gentleman having applied to BOERHAAVE for his advice, when oppressed by corpulency, was ordered to keep his eyes always open, and his mouth always shut.

It has been common for young people, when apprehensive of being corpulent, to drink *vinegar*. By this practice they have indeed obtained their end; but they have destroyed their health. At this effect we cannot be surprised, because they invert the order of nature, by making the stomach supply that oxygen which should have been transmitted by the lungs. The more rational practice, most undoubtedly, is to limit the quantity of hydrogen received into the stomach, and to increase the quantity of oxygen respired, that is, with little nutriment to take much exercise, and that in the purest air. It is by such means that the Newmarket jockies reduce themselves to a standard weight, and by such means monsters for bulk have, with perfect safety, brought themselves to a reasonable size.

The

The subject of obesity has been ingeniously treated on by Dr. BEDDOES; and my friend Dr. THORNTON has observed, that when fat people inhale *super-oxygenated air*, they eat less, grow thinner, and yet find no deficiency of strength.

Genus LXIV. *Pneumatosis.*

AN elastic swelling of the body, crepitating under the touch.

It is caused by air in the cellular texture, which communicating over the body, by its expansion renders the skin tense and elastic, as may be seen when butchers introduce it to make their meat look plump.

When the weight of the atmosphere is taken off from animals, as in the exhausted receiver, this effect is speedily produced; but no sooner is the equilibrium restored between the external and internal pressure, than the animal returns to his accustomed size.

Dr. CULLEN has four species of pneumatosis:

Pneumatosis spontanea without manifest cause.

Pneumatosis traumatica from wounds in the thorax.

Pneumatosis venenata from poison.

Pneumatosis hysterica from hysteric affection.

In case of wounds and violence we can easily account for this effect. Thus in the soldier mentioned by SAUVAGE, who fell into the hands of a banditti, we see him wounded in the groin, and a tube thrust by these wretches into the wound; and, from the communication of the cellular texture, we readily comprehend, how the air forced into one part extended over the whole body excepting his hands and feet. Nor do we find more difficulty when we are to explain, how the same effect is produced by wounds in the thorax, whether by a sword, or by a fractured rib. But all the other species of pneumatosis are exceedingly perplexing. I shall therefore be satisfied with stating facts, without attempting to account for them.

Pneumatosis has frequently happened in consequence of fever. SAUVAGE makes mention of a boy aged only eighteen months, whose body was suddenly inflated, and whose brother died of the same disease. This boy was cured by copious evacuations both by urine and by stool. He saw likewise a surgeon, who, after a protracted intermittent, swelled universally, in some parts dropically; but in his face, breast, hands, and thighs, the swelling was elastic. After this patient had for two years sought relief in vain, he was suddenly restored to perfect health by electricity. Baron HALLER has collected many instances of pneumatosis occasioned by gangrene, small pox, rickets, hysteria, scurvy, and even by

by the suppression of the lochia, and in oxen particularly by dysentery.

SYDENHAM considers *pneumatosis* as a common symptom of hysteric affection. His description is accurately just. He observes, this disease attacks almost every part internal and external; it seizes on the muscles and occupies the jaws, the shoulders, the hands, the thighs, but particularly the legs and ancles, sometimes with pain, at other times with swellings; the latter is the most remarkable, because it neither increases towards the evening, nor pits like dropfy, but is elastic and greatest in the morning. It generally affects one leg more than the other. Yet the resemblance deceives the patient, and he is firmly persuaded that it is hydropic. RAULIN remarks, that this species of pneumatosis alternates sometimes with diabetes, that is, I suppose, with a copious discharge of hysteric water.

I had a patient in whom this symptom of hysteria very frequently appeared and continued for some days; but whether she had pain and swelling, or only swelling, she never failed to be instantly relieved whenever either spontaneously, or by the assistance of an emetic, she brought up a quantity of viscid mucus from the stomach. I have been so often a witness of this effect, that I can have no doubt of the accuracy of the observation.

Poisons, according to some naturalists and medical practitioners, produce elastic swellings of the whole body,

body, as an example of which, Linnæus mentions persons who have been bitten by the serpent *asping*, and Willis on tympanites refers to other poisons.

As to the indications of cure, it must be confessed that scarifications, compresses, and in some cases, the paracentesis, are the only remedies on which we can rely. When pneumatic chemistry shall have made a progress in the world, and when philosophic practitioners are able to explain how poisons produce their wonderful effect, we may then hope to cure without the assistance of a surgeon. Vide MEDICAL EXTRACTS, Vol. III. page 376 to 385.

Genus LXV. *Tympanites*.

THE symptoms are elastic distension of the abdomen, not readily yielding to pressure, and sounding like a drum, with costiveness and emaciation, but no fluctuation.

In the beginning we observe flatulence and borborygmi, that is, hollow rumbling of the bowels. Thirst and loss of appetite, pain in the loins, and dyspœna, with frequency of pulse, succeed, and atrophy brings up the rear.

Dr. CULLEN has two species, *tympanites intestinalis*, and *tympanites abdominalis*; but I shall confine my

my observations to the former, because the latter is a species of pneumatosis. The persons most liable to this disease are chiefly those of a relaxed and irritable habit, such as have been debilitated by profuse evacuations, by intermittents, or by typhus fever, patients who have recently suffered by spasmodic and inflammatory affections of the bowels, and particularly women after childbirth.

It is occasioned sometimes by *ascites* and morbid affections of the liver; at other times by biliary or renal calculi; frequently by worms; and in one most curious case, reported by Van Swieten, it arose from hæmorrhagic effort after suppression of the catamenia, and of the hæmorrhoidal flux.

It may likewise be induced by poisons, when they occasion flatulence and spasmodic constriction in the bowels.

From what has been said, we cannot be at a loss for the proximate cause of this disease. There is evidently a preternatural distension of the intestines by air, producing loss of tone in the muscular fibres of the part distended, and, from what has been suggested on the process of digestion, it must appear that the extrication of this air, or gas, in the stomach or the bowels, is to be attributed to some defect either in quantity or quality of the several fluids, the **saliva**, pancreatic juice, and bile, which are mixed with our aliment to assist in the reduction of it into chyle, and to restrain the progress of fermentation in the fæces, whilst they are passing

passing the intestines. But this alone cannot be the proximate cause of tympanites; for with this must be united spasmodic stricture in some part of the intestines, which prevents the escape of wind, and this spasmodic stricture must be occasioned by some irritation in the system.

This view of the proximate cause is confirmed by anatomical observations, particularly by those of PLATERUS, LITTRE, and DE HAEN. These celebrated physiologists discovered the colon distended to the size of a man's thigh, and the stomach with small intestines three times their usual bulk. These distensions were observed in different parts of the alimentary canal, sometimes in the stomach, at other times in portions either of the large or of the small intestines forming constricted cells, and sometimes in all of them together. With air, they discovered likewise an amazing quantity of hardened fæces. We cannot therefore entertain a doubt as to the nature of this disease. HEISTER, in his extensive practice during the space of six and forty years, never found air as the cause of tympanites in the cavity of the abdomen, till RUYSCH shewed him one case in which that cause was evident.

Agreeable to this idea of the proximate cause, the indications of cure must be,

1. To relieve the spasm.
2. To restore the tone of the intestines.

These

These intentions may be answered by opiates, bitters, bark, and steel, with aromatics: but as in some cases either worms, acrid bile, or viscid mucus, which is the *materia verminosa* of SAUVAGE, may contribute to the support of the disease; these must be evacuated, and the best medicines for this purpose are, calomel, rhubarb, fenna, squills, soluble tartar, and the fossil alkali, which last may be made into pills with soap. Carminative clysters must be frequently injected. For BOERHAAVE very judiciously remarks, if the bowels are cleansed before they have lost their tone by excessive distention, the disease is cured.

The cathartic may be calomel from two to five grains at night, to be carried off in the morning by rhubarb and soluble tartar, of each fifteen grains, with ten grains of either ginger or aromatic powder, made into a bolus with syrup of orange peel. Or at the commencement might not castor oil (ol. ricini) be tried with a probability of success?

For the opiate we may take either of the following, as occasion may require, to be repeated every night.

℞ Aq. Menth. un. i. Sp. Ammon. comp. gtt. 20.
Tinct. Opii, gtt. 15 ad gtt. 30. Sach. Alb.
dr. i. M. f. H. h. s. s.

℞ Aq. Menth. un. i. Acet. Scillæ, dr. i. Tinct.
Opii, gtt. 15—30. M. f. H. h. s. s.

Twenty

Twenty drops of vitriolic tartar may be added to the opiate.

The astringent may be;

R Cinchon. Rad. Calam. Aromat. aa \bar{z} ss. Ferri Vi-
triat. \bar{z} j. Conf. Ros. \bar{z} j. Syr. Cort. Aurant.
q. s. M. f. Elect. c. c. M. N. M. bis die.

That is,

Peruvian bark and calamus aromaticus, of each half an ounce; salt of steel, one dram; conserve of roses, one ounce; syrup of orange peel, sufficient for an electuary. Take the size of a nutmeg in the morning and at noon.

We find a practice recommended by Sauvage which merits attention on account of its singular effects in the cases in which it has been tried.

That is, to foment with water, just above the freezing point, at the same time giving ice internally to condense the gas, or absorb it if it be fixed air; and he particularly states, that in the species of tympanites, which he denominates *spasmodic*, this practice perfected a cure, with this remarkable circumstance, that in both the cases specified a bilious diarrhoea, producing an abundant discharge of flatulence, was ultimately the means of removing the disease. This effect is rendered the more striking by what he adds respecting the practice of HIPPOCRATES, *triginta urceos aquæ frigidae effundi jussit*

supra corpus mulieris robustæ, quæ a sumpto medicamine ventre intumuerat cum dolore, dyspnœa, animi consternatione, hinc vomitu ex aqua frigida nec dolor nec dyspnœa remiserant, quinquies mortua visa fuerat; hac affusione frigidæ sublevata est, bilem copiosam dein ejecit, et vixit.

Here we have the same appearance of bile, as the stimulating cause of this spasmodic affection in the alimentary canal.

HOFFMAN has left us six valuable cases of tympanites.

The first occasioned by worms, and cured by anthelmintics, by tansy, wormseed, gum ammoniac, aloes, rhubarb, and calomel.

The second, occasioned by indolence, improper food, and an ill-cured intermittent. This was cured by carminative clysters, by moderate aperients, and by gentle tonics, which last were composed of balsam of amber, orange peel, zedoary, and Hoffmann's anodyne, in equal parts.

The third, occasioned by *menorrhagia alba* being suddenly stopped by means of alum locally applied, and cured by moderate aperients, balsamic pills, and by what he calls his visceral elixir, continued for four days. After which period for four days, she sat every evening one hour in a decoction of the aromatic herbs with laurel and juniper berries. By this process the young lady discharged from the uterus a great quantity of glutinous and viscid matter, the flatulent symptoms were

were removed, and she was restored to health. Galen reports a case similar to this, and many such have been recorded.

The fourth was merely distension of the cæcum in a young man of a phlegmatic habit, of a sedentary life, and accustomed to a gross diet. He was cured by gentle evacuants, carminatives, and tonics, as in the two preceding cases, with the assistance of a plaister to the side affected. This was made with Venice turpentine, Mastich wax, and Peruvian balsam; and was renewed twice a week.

The fifth case was of a Jew, aged 60, who was reduced to a state of debility by grief, which brought on hypochondriasis. In these circumstances, being exposed at once to cold, vexation, and fatigue, he became tympanitic. As the case was tedious, he grew weary, changed his physician, and then took the following :

℞ Cinnab. Antimon. Diaph. aa ʒiij. Liq. vol. Cornu Cervi. Croci, Castorei, aa ʒj. M. c. ʒj. o. 4. h.

This aggravated his symptoms, and brought on at the fourth dose a salivation, which continued for three weeks, and killed him.

The sixth case was of a clergyman in Holland, aged 30, exceedingly studious, sedentary, and accustomed to a gross diet, that is, to dried flesh, fish, legumina, milk, and tea. This patient, at the end of three years intense application, became pale, emaciated,

emaciated, tympanic, and ascitic. Hoffman being consulted, put him upon a generous regimen ; made him take exercise ; and, *to cleanse the first passages from viscid mucus, which he considered as the occasional cause of flatulence*, he ordered a mineral water, and twice a week gave balsamic and cathartic pills.

I shall relate one case more, which was reported by my old friend Dr. MONRO, and which may be seen in the Edinburgh Medical Observations.

Margaret Dog, aged 22, having a tertian ague, drank great quantities of brandy and pepper in warm ale, by which the intermittent was converted into continued fever. When this was removed, an irregular intermittent returned and continued more than seven months, till some doses of the bark were given her, after which she was attacked with sharp pains in her loins and belly, attended by gripes, borborygmi, and most enormous swelling of the whole abdomen. This distention sometimes rose suddenly, and as suddenly subsided without evacuation of any kind, but always continued more than ordinary. When winter came she was almost free from her complaints, but towards the advance of spring her pains and swelling again became exceedingly distressing, with dyspnœa and hard protuberant balls in the sides of the abdomen. She was constive, and the catamenia were irregular in the periods of their return. Her appetite was good: she had no thirst; her urine was in proportion to her drink, and she had no swellings in her legs. Being admitted to the hospital, she took a variety of medicines without relief. But at the end of two months during the menstrual discharge, the distention lessened. When this flux ceased, the swelling

VOL. II. R increased

increased again to such a degree as to threaten the bursting of her skin.

June 25. When she had menstruated a second time and this discharge had disappeared, *borborygmi* were for the first time perceived since the original attack; and taking tinctura sacra, (vinum aloes), the next morning she passed some blood by stool. Here it must be noticed that she had been subject to the hæmorrhoidal flux, but that this for a length of time had ceased to flow.

The two following days, whilst she continued her usual medicines, assa foetida, spirit of hartshorn, ginger, and horse-raddish, which had been before inert; she had such explosions up and down, that none of the other patients would remain in the same room, nay, scarcely on the same floor with her. Her belly became soft; the distention lessened continually; her flatulent discharge went on successfully, and by the help of steel she was soon strong enough to return to service, where she worked hard, fared badly, and walked barefooted, without any return of her complaint.

They, who are well acquainted with spasmodic affections, will not be surprised to see, as in the case before us, what confusion the hæmorrhagic effort creates, when it occurs in weak and irritable habits. Many such instances are produced by Dr. WHYT, in his incomparable treatise on the diseases of the nerves, and merit the attention of the student, particularly those which appear in his fourth chapter on the retention of accustomed evacuation, such as the menses and hæmorrhoidal flux.

With respect to the *borborygmi*, I must remind the student

student of an axiom of HIPPOCRATES: *Dolores ex hypochondriis et tumores, si recentes sunt, et sine inflammatione, solvit borborygmus in hypochondrio excitatus et maxime exiens cum stercore, urina et flatu.*

Genus LXVI. *Physometra.*

A permanent elastic swelling in the hypogastrium, arising from flatulent distention of the womb.

This frequently deceives the barren female with the hope of pregnancy, till nature explains the mystery, and her expectation vanishes in air.

Genus LXVII. *Anasarca.*

Universal Dropsy.

SWELLING on the surface of the body, not elastic, but pitting by pressure of the finger, and rising slowly to its former fulness.

It is a preternatural collection of serous fluid in the cellular membrane, immediately under the skin, and usually appears first in the lower extremities towards night, but disperses before the morning. The urine is diminished in quantity. Thirst in-

creases and becomes intense. Atrophy attends, and all the fat with the oily portion of the marrow is carried off by the absorbents.

SECTION I.

OF THE CAUSES REMOTE AND PROXIMATE OF DROPSY.

A preternatural collection of serous fluid, whether in the cellular membrane, or in the cavities of the body, is caused by absorption, falling short of exhalation in these cells and cavities; and this effect may be produced either by increased effusion from the exhalant arteries, or from diminished action of the absorbents. But as in dropsy the lymphatics and thoracic duct are much enlarged; it is clear, that absorption is increased, although not in proportion to the exhalation, and that therefore the cause of dropsy is in the exhalants.

Increased effusion from the exhalants may arise,

1. From their relaxation, which may be occasioned by fevers, whether typhus or protracted intermittents; by continued grief; by excessive evacuations of any kind; by the several species of intemperance; by indolence and inactivity; or by drinking only stagnant water, as in Holland.

2. From

2. From superabundance of serum in the blood, which may be occasioned by all the above-mentioned causes; by a penurious diet; by profuse hæmorrhage and repeated venæsection; by weakened powers of digestion, defective chilification, and diminished energy of the lacteals; by interruption of the watery excretions, whether of urine, or of perspiration; by jaundice, and perhaps by absorption from a humid atmosphere. It might be thought, that the superabundant serum would more readily pass by the kidneys, as aqueous fluids do in healthy subjects, than by the exhalant arteries. But when the stimulus of well *oxygenated blood* is wanting, as we see in pale, languid, and hydropic habits; the kidneys become torpid, their vital action ceases, and the quantity of urine is diminished. This we have seen exemplified in the beautiful experiments of Hales, who produced an artificial dropsey in dogs, by pouring abundance of warm water into their arteries through a tube of such a height, that the pressure of the column equalled the force of the heart, yet none of the warm water passed through the kidneys.

3. From continued pressure on the veins, as in pregnancy, obstinate flatulence, and scirrhus tumors, increasing the determination of blood to the exhalant arteries, in which cases dropsey is merely symptomatic, for when the obstruction is removed the dropsey ceases.

4. From the stimulus of inflammation. A blow on the testicles produces inflammation, of which the consequence may be dropsy of the tunica vaginalis. A child's brain inflames, and hydrocephalus ensues. Pleuritis frequently terminates in hydrothorax, and peritoneal inflammation in ascites. It is in this way that cold water drank by dancers or by reapers, when heated by exercise, produces dropsy. Mr. CRUIKSHANK has often taken away fifty or sixty pints of water from a patient, which had collected in the abdomen, in the few days the peritoneal inflammation lasted, during the usual species of puerperal fever. He very properly remarks, that when the arteries of the part have once got a habit of increasing their secretions, they commonly go on for a long time, or the lymphatics may be so altered by the inflammation, as not to absorb in proportion to the discharge by the exhalants.

The proximate cause therefore of dropsy is not as Sydenham conceives, the serous fluid itself as collected in the cells, but diminished tone in the system, as more accurately stated by Dr. Cullen,

SECTION II.

OF THE INDICATIONS OF CURE IN ANASARCA.

FROM what has been delivered, it will follow, that our indications of cure may be,

I. To

1. *To evacuate the serous fluid already collected.*
2. *To restore tone to the system in general, and thereby to the exhalants in particular.*

I. The first indication may be answered, by either scarification or by punctures, which certainly is the most obvious and expeditious method of evacuating the distended cells; and, supposing the strength is not much impaired, may be resorted to with safety. But where the constitution is greatly weakened by disease, even punctures are hazardous, and scarification would be dangerous in the extreme. Yet some cases occur, in dropical habits, where from debility no inflammation takes place after scarification, and therefore no mortification, but the wound continues to transmit water for many weeks. Should however the system have sufficient strength to produce inflammation, but not to support vital energy in the wounded part during the succeeding stages, gangrene must be the consequence. If therefore, it should be found necessary to draw off the water, it should be certainly by punctures, and these should not be too near together, that they may have the better chance of healing by the first intention.

The serous fluid, collected in the distended cells, may be evacuated by exciting the absorbents to more vigorous action, which may be accomplished either by means of *frictions* and *pressure*, or by *consent*.

It is well known that *pressure*, if urged beyond the point of ease, sets the absorbents of the part to work for the purpose of removing either the substance pressing, or the part itself when pressed. A less degree of pressure produces thickening, and a greater terminates in ulceration. For this purpose, bandages may be usefully applied, for they not only, as Dr. Cullen well observes, support weak vessels, but certainly promote absorption. *Frictions* are no less efficacious, whether administered by a flesh-brush or by the hand; and I remember the case of a gentleman who in two months was perfectly cured of œdematous swellings in his legs, by his daughter's gently stroking them with her hand for many hours every day, from the instep upwards. Muscular exertion likewise has a good effect in preventing stagnation of the fluids.

The absorbents may be excited to vigorous action by *consent*. If the emunctories are violently stimulated, whether it be by emetics, cathartics, diuretics, or by diaphoretics, they will copiously pour forth aqueous fluids, and the absorbents over the whole system will go to work for the purpose of supplying them abundantly, and assisting them to wash away the offending matters from the body.

For an *emetic* we may give the following:

℞ Antimon. tartarizat. gr. iv. Merc. Vitriolat. gr. v.
M. f. Emet. mane sumend.

That

That is,

Emetic tartar four grains; vitriolated mercury five grains, to be taken in the morning.

Or any of the first five prescriptions in my *Vade Mecum* may be tried.

SYDENHAM recommends three handsfull of the inner bark of elder (*sambucus nigra*) boiled in a quart of milk and water to one pint. Half a pint of this decoction is to be taken morning and evening every day till the cure is perfected. If this quantity does not both purge and vomit briskly, it is of no use.

For a *cathartic* we may order calomel and rhubarb, calomel and jalap, calomel and squills, elaterium, scammony, gamboge, according to the strength of the patient and the urgency of the case. Or, we may give calomel at night, to be purged off in the morning, either with jalap, or by fenna. Or these cathartics may be combined in the subsequent forms.

℞ Calomel ℥ij Rhei ʒiij. Jalap ℥j. Gambogii ʒj.
Syr. Simp. q. s. f. Pill. n°. 56. c. c. Pill. ij.
m. et v.

That is,

Calomel two scruples; rhubarb three drams; jalap one scruple; gamboge a dram; syrup a sufficient quantity to make fifty-six pills; of which take two morning and evening.

Or

Or with HOFFMAN we may give manna three ounces, fenna and cream of tartar of each two drams, infused in water for one dose.

Sydenham, to delicate people of irritable bowels, gave either an ounce of syrup of buckthorn every morning, or the following:

℞ Rad Jalap Hermodactyl. aa ʒss.
 Scammon crud. ʒiij.
 Sennæ ʒij.
 Glycyrrhiz. Sem. Anis. Carui, aa ʒss.
 Summit Absinth. Fol. Salv. aa m. j.
 Infunde frigide in ℥iij. Aq. vitæ vulgaris, et
 coletur tantummodo usûs tempore. Capt.
 Cochlear. j. h. s. et ij. mane sequenti, augendo
 vel minuendo dosin pro ratione operationis.

That is,

Jalap and hermodactyl of each half an ounce; scammony three drams; fenna two ounces; liquorice root, anise, and caraway seeds, of each half an ounce; wormwood tops and sage leaves, of each one handful; common brandy three pints. Infuse and strain it as wanted. Take one spoonful at night and two in the morning.—Hermodactyl is now rejected as inert.

To the more robust he gave the following:

℞ Tamarind. ʒss.
 Sennæ, ʒij.
 Rhei, ʒiss. Coq. in q. s. Aq. font. ad. ʒiij.
 in Colatur. dissolv. Mann. Syr. Rosar. solut. aa. ʒj.
 Syr.

Syr. è Spin. Cervin. \mathfrak{z} ss.

Elect. è Suc. Rosar. \mathfrak{z} ij. M. f. H.

That is,

Tamarinds half an ounce; fenna two drams; rhubarb a dram and an half; boil in water to three ounces and strain. In this dissolve manna and solutive syrup of roses of each one ounce; syrup of buckthorn half an ounce; electuary of rose juice two drams for one dose.

Electuary of rose juice not being found among the officinal preparations of the present day, solutive syrup of roses may supply its place.

The observations of Sydenham respecting the use of cathartics in dropfy merit our attention.

1. In dropfies, when the intention is to evacuate ferous fluids, cathartics, which are slow in operation, harass the system to no purpose. To be useful they must be hydragogue and pass the intestines speedily. If they are too violent, opium will easily restrain them.

2. They must be repeated daily, unless a day of rest is absolutely needful, because by intermissions the water would collect again.

3. When the bowels are not readily moved by mild cathartics, the more violent must not be given alone, but must be added in small quantities to quicken the operation of the former. In considerable

able doses they deceive our expectations, and excite a tumult in the system.

4. The peculiar habit and constitution of the patient must be consulted, because the same cathartics are not suitable for all.

Sydenham relates of himself, that when he was a young practitioner, having speedily cured his first patient of a dropsy, by syrup of buckthorn, he thought he was possessed of a specific; but, unfortunately persevering too long in the use of this, when in the next case of dropsy it gave no relief, he had the mortification to find himself dismissed by the wealthy dame, who was afterwards cured by a more discreet physician.

Both emetics and cathartics, if drastic, are improper in irritable habits. They weaken the system and increase the proximate cause of the disease. In such constitutions therefore, if serous fluids are to be evacuated, recourse must be had to diuretics.

For *diuretics* we may take our choice out of four orders, according to the nature of the case and constitution of the patient. We have among the *dilutents*, water and whey. Among the *stimulants* garlic, squills, broomtops, juniper, meadow saffron, æther, and cantharides. Among the *refrigerants*, tartar and nitre. And for a *sedative*, the fox-glove (*digitalis*).

SYDENHAM placed his chief dependance on the lixivial salts, which he considered as the most efficacious

cacious of all the diuretics. He thought it a matter of indifference from what ashes the vegetable alkali was taken, yet he himself generally ordered the ashes of the broom (*genista*), which were after his time regarded as a specific, and rendered famous by the cure of marechal SAXE, when he had been twice tapped. Sydenham commonly ordered a pound of these ashes to be infused in two quarts of Rhenish wine; but cyder is equally as good. Of this filtered solution he gave four ounces three times a day, and found it efficacious in many cases which had been regarded as incurable. This would be much improved by one ounce of iron filings.

HOFFMANN depended principally on squills and nitre. Of the former he speaks in the highest terms of approbation, yet not more than it deserves. His form was this :

R Rad. Vincetox. ℥ss.

Scillæ, Nitri, aa gr. iij. M. f. Pulv.

That is,

The root of the *asclepias vincetoxicum* ten grains, with squills and nitre of each three grains. This may be taken three times a day, gradually increasing the dose.

Dr. GREGORY, who as a practitioner ranks among the first in Europe, treads nearly in the same steps with Hoffmann, and commonly orders two grains of squills, made into a pill with crumbs of bread

bread and gum arabic. To be taken in the morning and at noon.

℞ Pulv. Rad. Scill. gr. 30. Mic. Panis Mucil. Gum.
Arab. aa q. s. ut fiant Pill. 15. Quarum capiat
j. Mane et Meridie.

With this he gives a mercurial pill every night.

Diuretics may be usefully combined with either *emetics* or *cathartics*, or, which amounts to the same thing, the dose of the *diuretic* may be so increased as to act either as an emetic or cathartic. Sir John Pringle used to give the following :

℞ Jalap gr. xv. Nitri. gr. viij. Simul Tritis ad.
Rad. Scillæ, recent gr. viij.—xij. Syr. Simp. q. s.
M. f. Bol. m. s. et per biduum repetend. interposito
dein uno die repetatur.

That is,

Jalap fifteen grains; nitre eight grains; grind these together, and add fresh squills from eight to twelve grains; simple syrup sufficient for a bolus. To be taken in the mornings for two days; then, resting a day, repeat.

Dr. WHYTT was very fond of tartarised kali, which he gave in doses of about half an ounce: but Dr. Home increased his doses of tartar from half an ounce as far as two ounces, and then quitted it for some other diuretic.

The physician who has made the most accurate experiments in the cure of dropsy, is Dr. FERRIAR.

In his medical histories we find, that of 43 patients, 33 were cured by cream of tartar, whereas out of 29 cases, only 11 were cured by *digitalis*.

Dr. FERRIAR gradually increases his dose of tartar from two drams to twelve, and when this loses its effect, he quickens the operation by a grain or two of gamboge, reducing the tartar to four drams. When the evacuations, by urine and by stool, are profuse, he supports the strength by wine; or if a respite is required, he omits the tartar for a day and interposes tonics. When a change of medicines is required; or when a diarrhoea prevents the exhibition of tartar; he gives *digitalis* gr. 1—4, with a dose of æther and about twenty drops of laudanum, or calomel and squills may be taken every night in this form.

℞ Pulv. Scill. gr. 3. Calomel gr. 1—4. Sapon. Hispan. gr. 10. Syr. q. s. f. Bol. h. s. s.

Dr. Ferriar very judiciously remarks, that the more brisk the operation of the tartar as a cathartic, the more copious is the flow of urine.

After what has been delivered, it may be thought superfluous to add more respecting diuretics, or of diuretics united with cathartics; but every practitioner is ready to acknowledge, that in protracted cases a change of medicine is frequently required.

Dr. Duncan in his valuable commentaries transmits the following:

℞ Resin.

℞ Refin. Jalap. v. o. solut. gr. 10.
 Sal. Nitri ʒj.
 Sal. Succin. vol. gr. 10.
 Sir. Simp. Aq. Cinnam. aa ʒss M. m. s. et alternis
 diebus repet.

That is,

Refin of Jalap ten grains, dissolved in yolk of egg;
 nitre one scruple; volatile salt of amber ten grains;
 simple syrup and cinnamon water, of each half an
 ounce; to be taken every morning. This proves a
 powerful diuretic, when the simple diuretics fail.

To this gentleman we are indebted for introducing to our notice the *lactuca scariola*, the extract of which Dr. COLLIN of Vienna has given with success, in the dose of from two grains to five, four times a day. This he informs us evacuates from one to twelve pints of urine during the night, and he adds that it is a mild aperient and grateful to the stomach.

Digitalis has been strongly recommended by Dr. WITHERING, who had given it in 163 cases, and in many of them with manifest advantage; but as in the hands of Dr. Ferriar it claims only eleven cures out of twenty-nine cases, in which it was fairly tried, and in the extensive practice of Dr. LETTSOM it never perfected one cure; we have little reason to expect great things from it in dropsy. Yet as it sinks the pulse in a degree unobserved in any other medicine, I wonder that it never has
 been

been tried in *pleuritis*. A constant nausea might be kept up with it for days, and should it prove either emetic or cathartic, no danger could be apprehended from such operation.

Diaphoretics have been sometimes useful, and exercise, promoting perspiration, seldom fails to produce a good effect, for which reason Hippocrates particularly recommends hard labour. Dampier in his voyages relates, that one of his men having a dropsy, was buried up to the neck in hot sand, which brought on strong sweat and cured him.

Dr. MARRYAT sometimes pursued this plan. He gave opium and ipecacuanha, of each four grains, with vitriolated mercury two grains, and made his patient sleep between the blankets.

II. The second indication may be answered by a generous diet, good air and exercise, with bitter aromatics, bark and steel.

Such is the efficacy of a generous diet, that I have known poor people cured by this alone. In these cases the stimulus of animal food and wine is new, and therefore has the same tonic power on them as bark, steel, and opium, have on the exhausted fibres of the rich.

Nothing, however, contributes more to vital energy, or more powerfully excites to action, the whole of the absorbent system, than pure air with exercise.

Yet medicines are not to be neglected. For when the serous fluids are evacuated, we must hasten to every means to invigorate the system, or they will soon collect again. Sydenham, as a tonic, recommended a diet drink of bitter and aromatic herbs infused in either strong ale or wine. These were horse-radish, wormwood, garden scurvy-grass, sage, lesser centaury, and broom-tops. To them he sometimes added nutmeg and orange-peel. The same intention may be answered by the following, or by something similar.

R Rad. Columb. dr. 4.

Quassia. Cassia Lign. aa dr. 1.

Aq. fervent. lib. 1. Macera per noctem et Cola.

Colaturæ, adde Ess. Lignor. dr. 4. f. M. c. c.
un. 4. bis vel ter in die.

Our principal dependance must be on *steel*, as the most powerful of tonics. This Sydenham, this Boerhaave, Hoffmann, and all subsequent professors, have uniformly recommended in the strongest terms for dropical complaints: and with this Peruvian bark may be profitably joined. Boerhaave combined them in this form:

R Limat. Ferri. Cinchon. Cort. Winteran. aa ʒij.

Rhei exsic. dr. 4. Vin. Rhenani generosissimi

℥ 4. f. Infus. c. c. ʒij. ter in die.

That is,

Iron filings, Peruvian bark, Winter's bark, of each two
ounces;

ounces ; strong Rhenish wine, two pints. Take two ounces of this infusion three times a day.

If the form of an electuary is preferred, we may substitute the following :

℞ Cinchon. ℥j. Limat. ferri. ℥iv. Mucil. Gum.
Arab. q. s. f. Elect. c. c. m. N. M. bis in
die.

That is,

Peruvian Bark one ounce ; iron filings four scruples ;
mucilage of gum arabic, sufficient to make an elec-
tuary. Take the size of a nutmeg twice a day.

The Formulæ 77, 78, 82, of my Physician's Vade Mecum, are proper in this disease.

One observation more will conclude what I had to say of dropsy. It has been usual to limit the quantity of drink, and sometimes a total abstinence has been required by those, who, with Sydenham, considered the collection of watery fluids as the proximate cause of this disease ; but such restraint is not agreeable to reason, nor is it warranted by careful observation. Nature pleads powerfully for diluting liquids, and many cases have been produced of dropsy cured by gratifying this importunate desire, whilst no instances appear of injury received by moderate indulgence. Even Hoffmann, although he forbade his patients to indulge their thirst, yet, particularly orders that all diuretics shall be plentifully diluted

either with whey, with parsley water, or with old hock.

It must be acknowledged, that a total abstinence from liquids sets the absorbents to work, and thus it was, that the two ascitic patients, mentioned by Dr. MEAD, were cured. But then it must be considered, that the serous fluids collected in dropical cases become frequently so viscid and tenacious as to flow out with difficulty, when the patient has been tapped. In such cases, therefore, plenty of diluting liquids must expedite the cure. Thus it was with him whose case Sir JOHN FLOYER has reported. This man, when given over by his physicians, having obtained leave to quench his thirst, was, at the end of five or six hours, satisfied that he had drank enough. A cold sweat came over him, and his friends laid him in bed for dead. But in the space of half an hour his urine began to flow, and flowed incessantly, till he had evacuated one half of what he drank. He opened his eyes and called for wine, drank it and went to sleep again. But whilst he slept, the flux of urine was incessant; he had a copious perspiration, and a discharge of aqueous fluid from the rectum. In less than a week this man drin'ing freely, was, without any other medicine, restored to health.

Genus LXVIII. *Hydrocephalus externus*.

DISTINGUISHED by an external swelling of the head, soft and not elastic. It is the disease of infants.

As the water is collected between the skull and its integuments, the cure is obvious, for it may be easily performed, either by puncture, by scarification, or by caustics.

Hydrocephalus internus, although, in deference to the authority of my venerable master, already included in the class of *neuroses*, belongs rather to the *cachexiæ*. My reasons for this opinion are the following :

1. Because the disease consists of a preternatural collection of serous fluids in the ventricles of the brain, produced by disproportionate action between the exhalants and absorbents. Therefore, whether it arise from excess of exhalation or from deficient absorption, it is certainly an affection of the lymphatic system.

2. Because the lassitude, pain in the head, drowsiness, and dilated pupils, which characterize hydrocephalus internus, although nervous affections, are not the disease itself, but merely symptoms.

S 3

3. Because

3. Because this disease is cured by medicines, which are commonly resorted to in the cachexiæ, and not in the neuroses.

Genus LXIX. *Hydrorachitis*.

A dropfical tumour in new born infants, commonly on the lumbar vertebræ, soft, small, and with a dilatation of the vertebra.

It is not however absolutely confined to the lumbar vertebræ, for it has been found both in the dorsal vertebræ, and in the sacrum.

The lymph in this tumour is derived from the fourth ventricle of the brain, where it constituted *hydrocephalus internus*, and from thence descending between the tunica arachnoïdes and the vagina of the spinal marrow, which is a prolongation of the dura mater, it distends this membrane, and with it penetrates the vertebra. This in new born infants is not difficult, because the annular part is composed of two distinct bones united posteriorly by a ligament. From this effect, Ruysch, after the Arabians, calls the disease in question *spina bifida*; but Morgagni, with greater propriety, has named it, from two Greek expressions implying water in the spine, *hydrorachitis*.

This dreadful disease has hitherto eluded all the resources of art, for in vain the medicines used in
dropsy

dropſy have been reſorted to, and to puncture the tumour is inevitable death. Hence it is, that infants, attacked by it, whether before or ſoon after their birth, ſoon come to the period of their exiſtence.

Yet amidſt multitudes, who have lived for a few days only in this terrible diſeaſe, my friend M. GIMBERNAT attended one, a lovely youth, who completed his fifteenth year, before he died. The tumour, which was on the ſuperior part of the ſacrum, was at his birth no bigger than a hazel nut, but by degrees it grew to the ſize of a hen's egg, when it became difficult to avoid compreſſion. At this period he applied to Mr. Gimbernat, who obſerving that when the tumour was compreſſed, whether by accident or by deſign, the boy firſt complained of head-ach, then felt vertigo, after that became *lethargic*, and ſo continued till the preſſure was removed; he contrived an inſtrument, which at once protected the tumour from external injury, and by means of a ſpring made ſuch preſſure on the part as the boy was able to bear without either pain or lethargy. The deſign of this preſſure was, to promote abſorption, which effect it produced to ſuch a degree, that the tumour decreased in ſize, and the fixed pain in the centre of his head, of which he before complained, had left him.

Thus relieved, the boy neglected to call from time to time upon his ſurgeon till the leather covering of

the instrument was worn out, and the iron circle had ulcerated the tumour; in consequence of which, the lymph was suddenly discharged.

M. GIMBERNAT and his son, from whom I have this relation, were instantly called in. They found him senseless, with a very quick pulse, and violent convulsions, particularly in his lower extremities. They observed likewise, that a very considerable quantity of a limpid fluid, exceedingly saline, had been discharged, and was then flowing to a most astonishing degree.

They applied strong sticking plaster to the opening of the tumour, and no sooner was the communication with the external air cut off, than the patient began gradually to regain his senses; but the convulsions, chiefly of the lower extremities, still continued, and he complained incessantly of excruciating pain in the interior of his head.

In a few hours the quantity of lymph collected in the tumour was so great, that the sticking plaster, although assisted by fomentations with calcined alum, were carried off.

No sooner was the communication renewed between the atmospheric air and the brain through the vertebral canal, than *lethargy* returned and continued, till fresh plasters were applied, when, as before, the excruciating pain in the interior of his head produced incessant lamentation, till at the end of two days he died.

On

On dissection, the bones of the head, by a preternatural accumulation of blood, were found livid and much discoloured: the dura and pia mater were much inflamed, and the fourth ventricle was so much dilated as easily to admit the introduction of the thumb, but the other ventricles were in their natural condition.

The tumour was situated on the posterior part of the sacrum through an opening, which arose from defect of ossification, and its cavity communicated with the fourth ventricle through the vertebral canal.

All these parts are to be seen in M. Gimbernat's museum.

From this beautiful case we may see clearly the nature of the disease in question, and the means by which we may attempt the cure with some prospect of success. These are the exhibition of such medicines as are usually recommended in simple cases of hydrocephalus internus and external pressure, gradually and most cautiously produced with a view of exciting the absorbents to more vigorous action. If these fail to reduce the tumour, the case is desperate, and admits of no relief.

Genus LXX. *Hydrothorax.**Dropfy in the Chest.*

THE symptoms are difficulty of breathing, paleness of face, œdematous swelling of the feet, scarcity of urine, impatience of an horizontal position, sudden starting from sleep with palpitation, fluctuation of water in the chest.

Sometimes there is cough, numbness in the arms, intermitting pulse, thirst, and feverishness.

This collection of serous fluids may be either in the cavities of the thorax, in the pericardium, in the cellular texture of the lungs, which surrounds the bronchiæ, or in all of these at the same time, but between these several cases the discriminating symptoms have not been ascertained.

It acknowledges the same causes with anasarca; but the most usual source, from which it is derived, is the sudden application of cold when the body has been much heated by muscular exertion. Hence it is that reapers, hence that young people after dancing, if they drink freely of cold lemonade or water, are apt to bring on a dropfy of the chest. BOERHAAVE particularly states that in Holland, where the wherries, when the bell rings, are punctual in their departure to a moment, passengers who arrive too late, frequently run to overtake the boat,

boat, heat themselves exceedingly, and, bathed in sweat, enter the vessel, where they take their seat, exposed for hours to the stroke of the cold winter's blast. The consequence of this indiscretion, he remarks, is most often asthma, which terminates in dropsy of the chest.

The indications of cure are the same as for *anasarca*. Dr. FERRIAR informs us, that among his 43 hydropic patients, of whom he cured 33 with cream of tartar, some had *hydrothorax*. There can be no doubt, that if the absorbents are excited to vigorous action by consent, and if the tone of the system is restored, hydrothorax, like every other species of dropsy, may be effectually relieved. This therefore should be attempted first. And, when we call to mind the experiments of Dr. Musgrave, already mentioned and recorded in the Philosophical Transactions for 1683, we can have no reason to despair. Should however medicines fail, we may safely have recourse to tapping; and the paracentesis, although it cannot remove the cause of this disease, may at least procure a respite, and give both nature and the physician time to exert new efforts. This operation, recommended by Hippocrates, although not infallible, is frequently attended with success. The inhalation of *vital air* has been found of the greatest service in this disease.

Genus LXXI. *Ascites.**Dropfical Swelling of the Abdomen.*

THE swelling is tense, scarcely elastic, but fluctuating.

When considerable it has thirst, scarcity of urine, and some degree of fever.

SECTION I.

OF THE CAUSES OF ASCITES.

It has the same causes, both proximate and remote, with anasarca; but the most usual source from which it is derived, is morbid affection of the liver, occasioned either by the sudden application of cold, when the body has been heated, as I remarked in hydrothorax; by indolence and a sedentary life; by the abuse of acids; by the unseasonable exhibition of powerful astringents in hæmorrhages and intermittent fevers, or by hard drinking. In cases of ascites, it is not uncommon to observe the spleen, the pancreas, and the mesenteric glands, as well as the liver, enlarged and scirrhus; but in the opinion of Hoffmann, the former are affected merely

merely by consent with the latter, which is the viscus first injured by intemperance.

SAUVAGE has no less than 29 species of ascites, which Dr. CULLEN has very properly reduced to two, ascites *abdominalis* and ascites *saccatus*.

1. Ascites *abdominalis* with uniform swelling of the abdomen and evident fluctuation, preceded commonly by symptoms of relaxation and debility.

2. Ascites *saccatus* with swelling of the abdomen, at first partial, and less evident fluctuation, not preceded by paleness, restlessness, loss of appetite, or other symptoms of relaxation and debility, nor attended by either much thirst or paucity of urine. It is considered as incurable in this species; the sack is generally formed by a collection of *hydatides*.

Hydatides are membranaceous bags, not organic, but soluble in boiling water. They are produced by the *tania hydatigena* for its habitation, and each vesicle is filled with lymph. Van Swieten, Comment. § 112, § 1226.

SECTION II.

OF THE INDICATIONS OF CURE IN ASCITES.

THE indications of cure in *ascites abdominalis* are the same as for *anasarca*.

In this disease the Batavian HIPPOCRATES, tread-
6 ing

ing in the footsteps of our Sydenham, more particularly recommends *emetics*, to shake the whole frame, to open obstructed vessels, to render their contents more fluid, and to prevent stagnation. *Per vomitus solvuntur cuncta tenacia, concutiuntur obstructa expelluntur stagnantia, unde mirabiliter in hoc morbo profunt*, § 1244. He adds, they must be strong, and often repeated at short intervals. With this view Sydenham gave *crocus metallorum*; but any other antimonial calx, in sufficient quantity, is equally as good.

Yet in either debilitated or very irritable habits he, with the greatest propriety, forbids the use of drastic evacuants, and recommends tonics with gentle diuretics. Hoffmann agrees with him in sentiments.

No advice can be more judicious, than that of the late Dr. FOTHERGILL. Strong purgatives, says he, weaken and destroy the tone of the absorbent system. Squills, alkalines, neutral salts, and terebinthinate balsams, should be first tried; then, if need be, tap, and after that give squills, chalybeates, bitters, with exercise and a generous diet. Under this management he pleads for early tapping. In this he perfectly agrees with BOERHAAVE, who in recent cases of ascites says *statim instituenda paracentesis*. It sometimes happens, that nature, without the assistance of art, takes this method to relieve herself. SCHENEKIUS in his medical observations
produces

produces many examples of such an effort, by which the navel gave an outlet to the waters, and thus perfected a cure. Other instances are related by Benevoli and Forestus. But the most curious case is reported by Dr. MEAD, in his *Monita Medica*. The Doctor, who had seen one lady tapped sixty-six times before she sunk into the arms of death, was consulted by another, whom, as being in a state of extreme debility, he was afraid to tap. She was so big, that he pronounced her case incurable; yet nature came to her relief, and made two perforations near the navel, by the first of which she passed twelve pounds of water, and by the second, the next day, six pounds more. The cure was perfected, and nature healed the wounds.

This process is beautifully explained by JOHN HUNTER in his inestimable treatise on inflammation, wherein he shews that, according to an established law of the animal economy, such apertures are produced by the absorbents, when they are drawn into action by the stimulus of pressure.

It sometimes happens, that instead of water in the cavity of the abdomen, there is only a gelatinous matter. In this case the paracentesis gives no relief, because it comes too late, and the only resource is in emetics, which by agitation and concussion wash away tenacious lymph from the mouths of the absorbents, and powerfully, as already stated, increase their action by consent.

SECTION III.

CASES OF ASCITES.

Sydenham has left the record of a most interesting case, which exhibits to our view the wonderful operation of emetics.

A poor woman, aged 55, being shut up three years in prison, after she had suffered much by a protracted intermittent, and being exposed to cold, became ascitic to such a degree, that her belly was bigger than Sydenham had ever seen. In this situation he began with antimonial emetics, which he repeated every morning for three days, then every other day till she had taken six emetics. When she began this course, her urine was totally suppressed, but increased gradually in proportion to the number of emetics, and towards the conclusion of this process water flowed freely by every outlet of the body. In fourteen days she measured three feet less than she had done before, and could lie down in bed to sleep without fear of suffocation. When he thought it no longer safe to harass her stomach with emetics, he proceeded with cathartics in proportion to her strength. And here he had occasion to observe, that even on the days of respite, when she took no cathartic, she sometimes evacuated a great quantity of water by stool, and towards the close, by the urinary

urinary ducts, even to the quantity of a gallon, although he allowed her only two pints a day, so that all the passages were open. But, what is still more remarkable is, that the menstrual flux, which had disappeared for many years, returned and flowed abundantly.

The consequence of all these evacuations was *hysteria* with *tympanites*, and *tussis ferina*: but all distressing symptoms were effectually relieved by resting from cathartics, and by syrup of white poppies in the dose of one ounce and an half given every night for four nights.

Hoffmann has enriched our treasure with nine curious cases of dropsy, but among these we have only one ascitic patient, a young man of twenty years of age. This youth, accustomed to a sedentary life, had from his infancy been troubled with swelling both of the feet and the abdomen, which were attributed to the repulsion of the itch. With a view of improving his health he used strong exercise, and when extremely heated, he drank a great quantity of cold liquids, which brought on cough, difficulty of breathing, and dropfical swellings, which terminated in death. When his body was dissected water was discovered in the abdomen, thorax, and pericardium. The duplicature of the peritonæum was covered with numerous hydatides. The liver and spleen were enlarged and hardened, and almost destitute of blood. The bile was small in quantity, brown and compact as glue.

The following case will be found very interesting.

Sarah Kimber, aged eight years, living at No. 10, Wood-street, Spa-place, Clerkenwell, with the usual symptoms of dropsy, had her belly very much distended, and upon pressure there was an evident fluctuation of water. This disorder had subsisted more than two years, and, notwithstanding the use of a variety of remedies, it went on constantly increasing, till her physician (Dr. Myers) gave up all hopes of her surviving many days; in this stage of the disease, my ingenious friend Dr. THORNTON was consulted. He began with an emetic, and the subsequent day he gave a brisk cathartic of rhubarb with a neutral salt. He applied a *tight bandage* of flannel about the abdomen, and ordered the strong mercurial ointment to be rubbed in each evening. He put her upon milk diet, with onion and toasted bread for supper. In a few days the emetic was repeated, and when the mouth became sore, she had for two mornings brisk saline cathartics. He then gave bark and myrrh in port wine twice a day, assisted in their operation by the inhalation of *vital air*. These powerful tonics were accompanied with *swinging* until nausea or sickness was produced, and at night she took half a grain of *opium*. At the end of only ten days, in consequence of this *new mode* of treatment, the belly was diminished more than one half, her spirits revived, and her friends remarked of her, that "she skipped about the house as brisk as a bee." After fifteen days, emetics at intervals, with saline cathartics, and the mercurial ointment, were repeated; the opium pill at night, and the tight bandage were still continued. Chalybeates were then thrown in, and the emetics with cathartics were employed at more distant intervals, in consequence of which her complexion assumed the rosy blush of health; she was now able to vie with her companions in running, and the recurrence of the disease was prevented.

When, instead of the uterus, the ovaries are affected by dropsy, it is difficult to make the diagnosis, and the disease is considered as incurable.

Genus LXXII. *Hydrometra*.

Dropfy of the Womb.

THE symptoms are a swelling in the hypogastrium without suppression of urine or pregnancy, attended with fluctuation, and having some resemblance to the gravid uterus.

To these symptoms Sauvage has added borborygmi, dyspnœa, uncommon fœtor of the stools, obstructed catamenia, pain in the abdomen and the loins, nocturnal pollution, rigor, febrile symptoms, softness and flaccidity of the breasts, and difficulty in either walking or bending the body forwards.

This affection of the womb is sometimes the consequence of abortion, when the placenta is left behind, for this may degenerate into a congeries of hydatides: but the unmarried and the barren are more subject to it than the parturient.

With regard to the treatment, BOERHAAVE observes, *curabilis laxatione oris uterini per fomenta, vapores, uterina adhibita*. For the fomentation he recommends the aromatic herbs, and as uterine stimulants he mentions the usual emmenagogues, aloes, myrrh, briony, gum ammoniac, sagapenum, opopanax, galbanum, and asa foetida.

When, instead of the uterus, the ovaries are attacked by dropfy, it is difficult to settle the diagnosis, and the disease is considered as incurable: *difficulter cognoscitur, curatur vero nunquam.* Boerhaave, Aphor. § 1223.

Genus LXXIII. *Hydrocele.*

Dropfy of the Scrotum.

A tumour of the scrotum increasing slowly without pain; fluctuating and generally pellucid.

The serous fluids, which cause this tumour, may be contained either in the cellular tunic, as in cases of anasarca; in the hernial sack, produced from the peritonæum, when hernia and either tympanite or ascites have preceded; or in the vaginal tunic of the testicle, which is the most common form of hydrocele.

In the first case, the disease may be treated as anasarca. In the second case the tympanites or the ascites must be cured, and then the hernia must be reduced.

In the third case, if recent, Boerhaave and his commentator recommend cathartics, as in anasarca and ascites, or discutient cataplasms and fomentations, for which purpose they propose the following:

R^x Rad.

℞ Rad. Bryon. Jalap. Fol. Rutæ, Absinth. Cinaræ
Hortens. Flor. Melilot. Centaur. min. Bulb. Ce-
par. Allior. aa unc. 2. Aq. font. q. s. ut fiat
Cataplasma, sub finem, adde Galbani v. o. s.
unc. 2. Farin. Lini. unc. 1. Ol. Lini. Sab.
Ammon. aa dr. 4. M. f. Cataplasma discutiens
testiculis applicandum.

℞ Sapon. Venet. dr. 4. Sp. Vini Theriacal. un. 12.
M. pro fomento cum laneis pannis applicando,

℞ Sal. Marin. Decrepit. Siccissimi, Calidi. tenuissime
triti. q. s. intra lintea confuta applicetur reno-
vando simul ac maduerit.

℞ Benzoin. Olibani, Sarcocollæ, Resin Guaiac. aa dr.
4. Camphor. dr. ½. Mastich. un. 1. Sal. Am-
mon. scr. 2. M. f. Pulv. Cujus incensi vapor
excipiatur nudo scroto, dein panni lanei fumo
hoc vaporosi, calidi, super applicantur.

A suspensory truss by pressing the scrotum closely
to the os pubis promotes absorption.

Should these applications fail, the hydrocele must
be tapped. This operation frequently effects a cure,
sometimes at the first tapping, often by a repeti-
tion. But should this fail, the patient, if young,
may submit to the radical cure. For this purpose,
the testicle may be laid open, or red wine and wa-
ter may be injected, which will bring on adhesive
inflammation, and the parts will heal.

My respected friend, Mr. GIMBERNAT of Ma-
drid,

drid, has a method peculiar to himself, which he assured me, in his extensive practice had never failed to cure with little confinement to the patient. He passes a silver trocar, of the size of a goose quill, through the scrotum, and having withdrawn the perforator, he leaves his perforated canula suspended in the scrotum. When the water is evacuated, he blows in air twice a day, and, leaving it for ten minutes in the scrotum, he then presses it out again. In about ten days the parts unite by the adhesive inflammation, and he removes the canula. The patient is at liberty, all the time required for this operation, to walk about his room.

Genus LXXIV. *Physconia*.

TUMOUR occupying the abdomen, increasing slowly, and neither sonorous, nor fluctuating, nor induced by pregnancy.

SAUVAGE enumerates no less than 15 species of physconia, the denomination of which he derived from anatomical inspection, and for which he refers either to his own observations or to those of the most expert pathologists. These are, 1. *Physconia hepatica*. 2. *Physconia splenica*. 3. *Physconia renalis*. 4. *Physconia uterina*. 5. *Physconia ab ovario*. 6. *Physconia mesenterica*. 7. *Physconia intestinalis*.

intestinalis. 8. *Physconia omentalis.* 9. *Physconia polysplachna.* 10. *Physconia visceralis.* 11. *Physconia externa lupialis.* 12. *Physconia externa scirrhouidea.* 13. *Physconia externa hydatidosa.* 14. *Physconia ab adipe subcutaneo.* 15. *Physconia ab excrementia.*

Of these tumours some were simple, as he expressly states, a. *Hydatidosa.* b. *Strumosa.* c. *Scirrhouidea.* d. *Sarcomica.* e. *Steatomatosa.* f. *fungosa*, or compound tumours; but unfortunately we have no pathognomic symptoms to distinguish the species from each other, nor can we ascertain precisely the nature and the seat of the disorder, till these circumstances are discovered by the knife.

Dr. CULLEN has adopted all these species from Sauvage; but neither of these professors have ventured to suggest any thing respecting the indications of cure.

If the tumour is supposed to be *scirrhou*, that is itself a genus: if it is *fat*, we must consider it as a species of *polysarcia*: if it is caused by *hydatides*, it belongs to *ascites*.

Genus LXXV. *Rachitis.*

Rickets.

THE symptoms are large head; prominent forehead; protruded sternum; swelled joints; flattened ribs; big belly; emaciated limbs; great debility.

SECTION I.

HISTORY AND PROGRESS OF RACHITIS.

It is usually confined in its attack between the two periods of nine months and two years of age, seldom appearing sooner than the former, or shewing itself for the first time after the latter period. The muscles become flaccid, the head enlarges, the carotids are distended; the limbs waste away, and their epiphyses increase in bulk. The bones and spine of the back are variously distorted; disinclination to muscular exertion follows; the abdomen swells and grows hard; the stools are frequent and loose; a slow fever succeeds with cough and difficulty of respiration. Atrophy is confirmed, and death ensues. Frequently it happens, that nature restores the general health and leaves the limbs distorted.

After death, the liver and the spleen have been found enlarged and scirrhus; the mesenteric glands indurated, and the lungs either charged with vomicae or adhering to the pleura; the bones soft, the brain flaccid or oppressed with lymph, and the distended bowels loaded most frequently with slime, sometimes with worms. See Van Swieten, Comment. § 14, 85, 6.

It is remarkable, that in the kindred disease, which Hoffmann and Sauvage call the atrophy of infants,

infants, we have many of the same symptoms, and the same appearances nearly after death. They who perish by this disease, says HOFFMANN, have the mesenteric glands enlarged and scirrhus; the liver and spleen obstructed and increased in size; the intestines are much inflated and are loaded with black and foetid matters, and the muscles, more especially of the abdomen, waste away.

They have the same predisponent, the same occasional causes, and the same indications of cure.

SECTION II.

OF THE CAUSES REMOTE AND PROXIMATE OF RACHITIS.

THE predisponent cause must be sought for in laxity and debility, as more particularly observed in the children of enervated and vicious parents, and in those whose nurses are oppressed with poverty. See Boerhaave's Aphorisms, § 1482.

The occasional causes may be traced to diet, bad air, humidity, previous disease, and want of exercise.

It is essential to the health of infants, that they should be kept clean, regularly fed, well exercised, and breathe fresh air. All their motions should be governed by the clock. Yet, if the parents were hysterical or scrophulous, and of an irritable fibre, the

the children, even with the best nursing, may be delicate, relaxed, and subject both to troublesome acidities, and to morbid affections of the alimentary canal. In this case they should have frequently magnesia and rhubarb, or testaceous powders; and to the neglect of such precautions we must attribute the disease in question.

Dr. CULLEN, for the proximate cause of rickets has assigned deficiency of bony matter in the fluids, which, says he, in some measure depends upon a general laxity and debility of the moving fibres of the organs that perform the functions of digestion and assimilation. My opinion virtually coincides with his. But whether we agree with him, or whether with HOFFMANN, we assume for the proximate cause impeded supply of nervous influence to the spinal marrow, either by obstruction or compression, preventing the nutrition of all the parts which derive nerves from it, we shall find that the indications will be the same.

The proximate cause assigned by HOFFMANN for his *atrophia infantum* is deficiency of nutrimental juices, which he supposes to depend on depraved digestion, ill conditioned chyle, and obstructed lacteals; and then he adds, *Quam maxime autem hoc loco accusari etiam debet bilis defectus, vel inertia à præternaturali hepatis constitutione inducæta, ob quam non modo digestio valde læditur, sed oscula quoque tunicae intestincrum villosæ, minus ritè à mucositæte sua liberata, chylum ægrius recipiunt et transmittunt.* This sagacious observation is,

is, in my opinion, equally applicable to rickets as to the atrophy of infants. For certain it is, that if the bile, which is the natural cathartic, is either deficient or inert; the villous coat of the intestines not being properly freed from mucus, the mouths of the lacteals will not perform their office, the chyle will neither be collected, assimilated, nor transmitted to its receptacle, and atrophy will follow. But when the bile is either deficient or inert, the food will ferment, elastic gas will be discharged, the intestines will be inflated, and foetid stools will pass. When again general laxity and debility prevail in the moving fibres of the organs that perform the functions of digestion; the same laxity may extend not only to the mucous glands, in consequence of which a superabundant quantity of mucus will be poured into the small intestines to obstruct the free exit of the bile, and to disorder the functions of that viscus; but, as this debility and laxity are general, the consequence may be morbid action of the ossifying vessels which secrete bony matter from the blood.

The opinion of Dr. Staudenheimer, as expressed in a letter to Dr. Scherer, of Vienna, coincides with what I have said upon this subject. Speaking of soda as a lithontriptic, he adds, *Non solum vero ad calculum sodæ usum ego restrinxi; sed quum multa a vi ejus MUCUM SOLVENTE et antacida sperarem in aliis quoque morbis illam cum bono successu adhibui*, and then immediately he refers to *rachitis*.

For

For a confirmation of his sentiments he appeals to the authority of *Veirac*, who wrote a treatise in Dutch on rachitis, and gave soda with excellent effect. See *Miscellanea Physico Medica*, p. 203, 204, published by Dr. J. A. Scherer at Vienna, 1795.

SECTION III.

OF THE INDICATIONS OF CURE IN RACHITIS.

FROM the view I have given of the causes remote and proximate of rickets, it will naturally follow that the indications of cure must be,

1. To cleanse the first passages from viscid mucus.
2. To restore tone to the stomach, to the whole of the alimentary canal, and thereby to the secretory vessels of the bones.

These indications I say naturally flow from the principles I have laboured to establish, and these are the indications of all the most eminent practitioners.

HOFFMANN recommended to begin with cleansing the first passages, as the source of all the evil, by gentle laxatives, not omitting, if required, a mild emetic of ipecacuanha, with sugar and cinnamon water; because by these means, not only the *sordes viscidæ*, collected in the stomach and intestines, are removed, but by these stimuli the obstructed

structed vessels are opened and a free passage is secured for the chyle. Vol. iii. p. 489.

Staudenheimer and Veirac gave soda, which is certainly a good medicine; but our immortal Sydenham, both in the atrophy of infants, which, as he properly remarks, imitates rickets, and in the true rachitis, orders the following cathartic.

℞ Tamarind. ℥j. Fol. Sennæ, ℥iv. Rhei, ℥iij. Coq. s. q. Aq. Colaturæ ℥vj. Dissolv. Mannæ et Syr. Rosæ c. aa ℥ij. f. M. c. c. Cochl. j. vel ij. plus minus pro ætate.

That is,

Tamarinds one ounce; senna four drams; rhubarb three drams; water sufficient to make six ounces when filtrated; to this add manna and syrup of roses, of each two ounces. Give a spoonful or two according to the age and constitution of the infant.

By this gentle cathartic SYDENHAM assures us he cured a great many infants of rickets. He indeed, with this recommended an aperitive liniment for the abdomen; but the cure, as I imagine, must be attributed to the cathartic. In this persuasion I have constantly ordered the latter, and have taken no notice of the former; yet after thirty years experience, in a neighbourhood in which rickets abound, I do not recollect a single instance in which this cathartic, with the assistance of tonics, failed to effect a cure.

With regard to the second indication, Dr. CUL-

LEN

LEN has observed, that the remedies for rickets have been such especially as were suited to improve the tone of the system in general, or of the stomach in particular, and by this means to improve also the tone of the whole system. With this view BOERHAAVE has prescribed the following:

℞ Fol. et Flor. Betonicæ, un. 3. Cortic. Radic. Caparidis, Tamarisci, Rubi Sylv. Trichomanis aa un. 2. Limat. Ferri. dr. 4. cum Vini lib. 8. in frigore infusa. Adhibeantur ter de die ad unc. 1.

℞ Entis Veneris Boylei, gr. 2. Exhibe vesperi, ex Vino Canariensi quotidie Spatio iij. septimanarum.

That is,

Give two grains of Boyle's Ens Veneris in wine every night for three weeks.

℞ Limat. Martis ℥j. Aceti Stillat. Acerrimi ℥x. Sacchari ℥iij. In phiala alta ebulliant leniter spatio 26 horarum, filtratus liquor servetur vase clauso. Datur gtt. vj. horis medicis quotidie ex pauxillo vini hispanici.

That is,

Filings of iron one ounce; strongest distilled vinegar, ten ounces; sugar three ounces. Let these boil gently in a tall vial for twenty-six hours. The filtrated solution is to be kept in a close vessel, and six drops may be given three times a day in strong white wine.

Boyle's

Boyle's Ens Veneris is not a preparation of copper, as the name seems to imply: but is most undoubtedly produced from green copperas (*ferrum vitriolatum*) by means of sal ammoniac. Mr. BOYLE, on whose veracity we may indulge the most implicit confidence, assures us that he and his friends, including some physicians, cured two or three hundred children, and that almost always without the help of any other internal medicine or external application: yet many of these were in a desperate condition. He gave from two or three grains to ten or twelve, and in some cases to twenty or thirty, and found it operate by urine and by sweat. This medicine may be prepared from iron filings with twice their weight of sal ammoniac, as first recommended by Boerhaave and ordered by the London college. It is the *ferrum ammoniacale*, of which the common dose is from six grains to twenty.

HARTMANN'S *cachectic powders*, composed of iron filings, cinnamon, and sugar, in equal parts, is certainly an approved medicine, and by a few grains of rhubarb may be rendered still more efficacious.

Fresh air, exercise, and more especially cold bathing, so much celebrated by Sir JOHN FLOYER, have frequently alone been sufficient to effect a cure.

Class III. CACHEXIÆ.

Order III. IMPETIGINES.

CACHEXIÆ deforming the external parts of the body with tumours, change of colour, and eruptions.

In this order we have nine genera; scrophula, syphilis, scorbutus, elephantiasis, lepra, frambæsia, trichoma, icterus, chlorosis.

Genus LXXVI. *Scrophula*.*King's Evil.*

THE symptoms are swelling of the lymphatic glands, chiefly in the neck; thick upper-lip; tumid abdomen; smooth skin; florid complexion, and obstinate ulcers.

SECTION I.

HISTORY AND PROGRESS OF SCROPHULA.

It appears most often between the third and the seventh year, yet sometimes later, even to the age of puberty, particularly in persons of a fine skin,

an irritable fibre and a relaxed habit. Frequently it has attended or has followed rickets, and in subjects, who are disposed to scrophula, we see it apparently produced by small-pox. The ulcers break out chiefly in the spring, and are very commonly healed before the approach of winter. These most frequently are upon the sides of the neck below the ears; but sometimes in other parts, particularly about the joints. In some patients we observe only a tendency to *ophthalmia tarfi*, or perhaps the upper lip tumid and deeply chapped. It is the disease of humid climates. I never met with it in the southern provinces of Spain.

Scrophulous tumours come on insensibly, proceed slowly, do not readily produce the ulcerative process, and the formation of matter in them is not preceded by adhesive inflammation to limit their extent. Hence it is that scrophulous collections of matter are always larger than they would have been if they had been either a consequence of inflammation, or attended by it.

The matter poured forth from scrophulous tumours is not pus, but is generally a kind of viscid serum, and contains a curdly or a flaky substance, which, as JOHN HUNTER observes, is the coagulating lymph deprived of its serum; nor is pus produced till inflammation is excited in the abscess and nature proceeds towards a cure. This seldom happens before the collection of matter has been opened, so as to give it a free discharge, for then inflam-

mation comes on, and spreads to a wide extent, and when the abscess is disposed to granulate, it pours forth good pus; but when the secreting vessels have lost either their tone or structure, they are not disposed to take on healing action, and the discharge is not true pus.

Scrophulous ulcers have usually their edges irregular, smooth, and flat, without the least disposition to contract for a considerable time, unless fresh ulcers appear in other parts; so that when one is healed, little progress is made towards the general cure. Sometimes these ulcers are disposed to spread, both in extent and depth, eroding cartilages, and affecting the contiguous bones with caries, till the constitution, harassed incessantly by fruitless efforts to relieve itself, is exhausted of its strength and sinks into a mortal hectic.

On dissection the mesenteric glands are generally found to be diseased, and tubercles are frequently discovered in the lungs.

SECTION II.

OF THE SPECIES OF SCROPHULA.

SAUVAGE enumerates eight species; but Dr. CULLEN reduces these to four: *scrophula vulgaris*, *scrophula mesenterica*, *scrophula fugax*, *scrophula Americana*.

Scrophula

1. *Scrophula vulgaris*, simple, external, permanent. To this species the general description is more particularly applicable. It frequently terminates in phthisis.

2. *Scrophula mesenterica*, simple, internal, with paleness, want of appetite, tumid abdomen, and unusual foetor of the excrements. It terminates in atrophy. On dissection the mesenteric glands are found to be diseased.

3. *Scrophula fugax*, most simple, and only about the neck, quickly vanishing, and as speedily returning. It is occasioned, says Dr. CULLEN, by ulcers in the head. SAUVAGE particularly states the drying up of tinea, or the sudden stoppage of a purulent discharge from the ears of children, as the occasional cause of strumous glands, and his statement is certainly well founded. But neither of these professors have noticed a very common cause of *scrophula fugax* in children of an irritable habit, which is *lice*. I have seen it frequently, and am happy to recollect, that this circumstance did not escape the sagacity of a much respected friend, the late Dr. Barwis of Devizes. These vermin harbour much about the nape of the neck, and by their irritation occasion the glands in the vicinity to swell; but no sooner are they destroyed than the swelling of the glands subsides.

4. Scrophula *Americana* combined with *frambæsia*. The strumous swellings are in the neck; the black and fungous excrescences are on the head.

SECTION III.

OF THE PROXIMATE CAUSE OF SCROPHULA.

FROM a consideration of all the symptoms we cannot hesitate to agree with Dr. CULLEN, that scrophula depends upon *a peculiar constitution of the lymphatic system*; but this conclusion will not assist us in our indications of cure. It is necessary therefore to advance another step. The proximate cause then of scrophula, as it appears to me, must be either a lax, inert, and paralytic state of the lymphatics, or preternatural excitement of the exhalant arteries, of which debility and morbid irritability constitute the predisponent cause. In either of these suppositions the effect will be similar, for stagnation of the secreted fluid and distention of the glandular vessels must be the consequence.

SECTION IV.

OF THE INDICATIONS OF CURE IN SCROPHULA.

If we suppose the proximate cause of scrophula to be a lax, inert, and paralytic state of the lymphatics;

phatics; the indication will be, as in palsy, to restore their energy by tonics. Should we however be more inclined to think that preternatural excitement of the exhalant arteries is the cause, we may vary the terms of our indications, but the remedies will be still the same; for here it will be required,

1. To remove the stimulating causes whatever they may be.

2. To obviate the predisponent cause, for which purpose we must have recourse to tonics.

Practitioners have recommended a variety of medicines for the cure of scrophula, and every one is partial to his own; but all, who have been most successful in their treatment of this disease, have adopted such as coincide with these intentions. When air, exercise, and a generous diet, with sea-bathing, the Peruvian bark, and steel, are ordered, it is obviously with a view to their tonic power; and when cathartics are prescribed, it is not for the purpose of exciting the action of the absorbents by consent, nor should it be with the idea, that they will be conveyed as deobstruents to the glands affected, but that by moderately cleansing the organs of digestion, and the mouths of the intestinal absorbents, they may promote a plentiful supply of wholesome chyle, which is the most powerful tonic; nay, such a tonic, that with air and exercise scarcely any other is required. Lord Bacon says,

nothing contributes so much to longevity and health as frequent and domestic laxatives.

Dr. RUSSEL sent his patients to the sea-side, and ordered them to rub their glandular swellings with the *alga marina*; but we must take especial notice, that he never omitted sea-bathing, with small doses daily of salt-water.

Dr. GARNET recommends Harrowgate water in small quantities, frequently repeated. This evacuates the bowels.

Mr. MORLEY of Essex, justly celebrated for innumerable cures, tied, with superstitious rites, a root of vervain on the breast near to the cartilago-xiphoides; but then, it must be observed, he frequently repeated small doses of cathartics joined with antimonials and the extract of conium maculatum.

RONCALLI, who for strumous swellings applied ox gall, nut oil, and salt, twice a day; with this external application occasionally gave cathartics.

Dr. COLLIN cured 41 cases of glandular swellings with hemlock, raising the dose from fifteen grains to twenty, three times a day. The late Dr. FOTHERGILL preferred the extract, two drams of which he made into thirty pills. Of these, he gave two in the morning, two at noon, and four at night, increasing the dose. He informs us in his works, that they promote rest, ease pain, and procure a laxative stool the day after they are taken. Thus exhibited they have no disagreeable effect, but change a thin corrosive ichor into good pus.

The

The student must be careful not to be deceived, when he orders either the leaves or the extract of *conium maculatum*; for, as Dr. BUCKHAVE informs us, the *æthusa cynapium*, the *cicuta verosa*, the *chærophyllum sylvestre*, and the *phellandrium aquaticum*, with other *umbellatæ*, are frequently mistaken for the hemlock, and produce deleterious, or at least most distressing effects.

Dr. MARRYAT, of Bristol, used to give the following:

R Merc. Muriat. gr. x. Acid. Muriat. gtt. 10.
Vin. Antimon. ℥j. M. c. gtt. 20. bis die.

That is,

Muriated mercury ten grains; muriatic acid ten drops; antimonial wine one ounce. Mix. Take twenty drops twice a day, to be continued for months. If it purges, the dose must be diminished.

Dr. WHYTT, as a mere rational practitioner, gave rhubarb and calomel every fourth night in such a dose as to procure two motions; or if that failed to cure, he ordered an ounce of Spanish soap to be taken daily to clear the glands, and Peruvian bark to brace the relaxed lymphatics.

Dr. FOTHERGILL did not in all cases confine himself to hemlock, but frequently prescribed calomel and sulphur auratum antimonii, of each one grain, to be taken every night with the following;

R Cinchon. ℥j. Coque in Aq. ℔ij. ad ℔j. sub
U 4 finem

finem addendo Glycyrr. incis. ℥ss. Colaturæ
adde Aq. Nucis Mosch. ℥ij. M. hujus capiat Co.
iij. cum Tinctur. Guaiac. vol. gtt. 20 ad gtt.
60, ter in die.

That is,

Peruvian bark one ounce ; boil in a quart of water to
a pint, and add liquorice root half an ounce ; filtrate
and put to it nutmeg water two ounces. The dose
is three spoonfuls with from twenty to sixty drops of
volatile tincture of guaiacum three times a day.

Dr. CULLEN says little in favour of bark, and of
both antimony and mercury, in every shape, he con-
fesses, that he never found them useful in this dis-
ease. Yet many of our most eminent practitioners,
as we have seen, place their whole dependence on
these medicines, and find them sufficient to effect a
cure. Dr. J. Fordyce speaks in the highest terms of
the Peruvian bark, and Sir Clifton Wintringham
agrees with him, but adds chalybeates to increase its
tonic power.

The late Dr. CRAWFORD recommended to our
notice *muriated barytes* as at once an evacuant, de-
obstruent, and tonic, when given in doses of two
drops, and gradually increased to ten drops of the
saturated solution in a cup of water twice a day.
In larger doses, as he informs us, it produced nau-
sea, vomiting, and purging : but Dr. FERRIAR never
found any sensible effect from it even in doses of
twenty drops given twice or thrice a day. Electri-
city

city has been efficacious, and may be tried with safety.

In case of *white swelling*, the most approved practice has been to apply a large blister to the knee, which was kept on for three or four days at a time, and frequently renewed; but the inhalation of super-oxygenated air seems to promise more effectual relief.

From what I have witnessed of the practice of my friend Dr. THORNTON, I am persuaded, that in white swellings and foul ulcers it will greatly expedite the cure. For in this new mode of treatment with *vital air*, energetic action in the part is supported by the system, whereas in the old practice, with external applications only, it is kept up for a short time by partial stimuli on weak and diseased vessels. But on this subject I shall enlarge when I am to treat of ulcers. When medicines fail to effect a cure, a change of climate must be recommended, and no climate, in my opinion, can be superior to that of *Valencia*, either for this disease or for that species of consumption which originates in scrophula. But independently of climate, the cicuta certainly grows there in such perfection, as never yet has been discovered in the cicuta of our island, and the physicians have had sufficient experience of its use in these truly deplorable complaints.

Should the scrophulous or consumptive patient be inclined to make the trial, he will have an easy rout by Paris, Lyons, Montpellier, and Barcelona,
and

and for less than fifteen guineas he will find himself transported into a paradise, in which nature exhibits an everlasting spring.

Genus LXXVII. *Syphilis.*

Venereal Disease.

THE symptoms are, after impure connection, gonorrhœa, chancres; nocturnal pain in the bones; ulcers in the mouth and nose; clustered pimples of a copper colour ending in scabby ulcers, chiefly situated near the hairy scalp, with blotches on the surface of the body, often in the face.

On dissection, the bones, particularly of the skull, are found eroded like a honey-comb.

This disease, imported from America, made its first ravages in the French and Spanish armies at the siege of Naples, in the year 1493, from whence it spread with such astonishing rapidity, that within four years it reached every part of Europe. In the year 1497, a proclamation appeared in Scotland, ordering all who laboured under the *grand gore*, to quit the continent, and to repair without delay to a little island in the Frith of Forth, where the king stationed surgeons to attend them.

The introduction of such a scourge to the human race diffused universal terror, yet the infection
spreads

spreads in every nation; most however among those who are least acquainted with its nature and its cure.

We may consider the operation of the syphilitic virus as either local or universal.

1. The local operation of the syphilitic virus is inflammatory, and must be treated as such by adhering strictly to the antiphlogistic regimen. With this intention a vegetable diet must be adopted with demulcents and such cooling laxatives as are not apt to excite the action of the kidneys.

For a demulcent, we may order a decoction of either linseed or althæa, with gum arabic or gum tragacanth, or the subsequent composition may be occasionally taken:

R Ol. Olivarum. Gum. Arab. Syrup. Limon. aa dr.
4. M.

Should the inflammation run high, either apply leeches near the part affected, or let about twelve ounces of blood be taken from the arm. Dr. WHYTT, as I remember, found it necessary to take an hundred and thirty ounces of blood from one patient before he could subdue the inflammation. But if by the neglect of these evacuations, ulcers should be formed in the urethra, corrosive sublimate much diluted must be injected.

When by the antiphlogistic regimen the inflammation has subsided, the strong mercurial ointment
of

of the London Pharmacopœia may be rubbed on the perinæum, and either the pilulæ hydrargyri, or small doses of calomel, may be prescribed, at the same time cautiously avoiding salivation. The subsequent composition has been much recommended.

℞ Merc. Muriat. gr. 10. Acid. Muriatic. gtt. 10.
Tinct. Lavend. comp. unc. 1. M. The dose is from ten to thirty drops morning and evening in water-gruel, with two scruples of gum arabic. Should a purging be induced by this quantity, the dose must be diminished, and at all events the patient must take plenty of diluting liquids, and a free perspiration must be encouraged.

After such evacuants, the cure must be perfected by tonics.

R Limat. Ferri, ℥iss. Oliban. ℥ij. Cantharid. gr. 10. Gum. Arab. ℥ij. Balf. Copaiva, q. s. f. Elect. c. c. M. N. M. bis die.

That is,

Steel filings one dram and an half; olibanum two drams; cantharides ten grains; gum arabic two ounces; balsam of copaiva sufficient to make an electuary. Take the size of a nutmeg twice a day.

2. Whether the operation of the syphilitic virus is extended to the whole system, the disease then by foul ulcers and eruptions on the skin assumes its cachectic form, and vindicates its claim to rank with the impetigines. In this case it requires somewhat of

of a rougher treatment by mercurials externally and internally, exhibited with a more liberal hand, yet so as not to bring on salivation. With this intention Dr. WRIGHT of Jamaica recommends the following:

R Gum. Guaiac. ʒx. Serpent. Virgin. ʒiij Pimento, ʒij. Opii, ʒj. Hydrargyr. Muriat. ʒss. Sp. Vin. Rect. ℥ij. Digere per tres dies. Cola. c. Co. ij. paro in decoct. Sarsaparil. ℥j. bis die.

That is,

Gum Guaiacum ten drams; Virginian snake-root three drams; pimento two drams; opium one dram; corrosive sublimate half a dram; rectified spirit of wine two pounds. Digest for three days. Strain. Dose two tea-spoonfuls in a pint of decoction of sarsaparilla twice a day. He assures us that in four or five weeks he makes a perfect cure.

A friend, who was intimately acquainted with Dr. CIRILLO of Naples, in the year 1782, has been so kind as to communicate to me his celebrated ointment for the lues, by which this eminent practitioner had then cured more than five thousand patients, of whom scarcely one had ptyalism.

Take corrosive sublimate two drams, hog's lard well washed, two ounces; mix them thoroughly by long continued triture in a marble mortar. Of this ointment half a dram must be rubbed into the soles of the feet for three days successively, and must be then intermitted for one day. In the mean time the patient

tient may take extract of the gums. These frictions must be continued till all the symptoms vanish.

To prevent a salivation, perspiration is to be encouraged, and cathartics must be occasionally interposed. But should these precautions prove insufficient, recourse may be had to sulphurated kali, in the manner communicated to Dr. BEDDOES by his ingenious correspondent Dr. THOMAS GARNET of Harrowgate. This gentleman assures us, that he has tried it several times, and that he has never seen it fail to abate the salivation to a considerable degree in 24, or at most in 48 hours. The new chemistry throws much light upon this interesting fact, and enables us clearly to see the *modus operandi*. For, as Dr. GARNET has observed, the *sulphurated hydrogen*, resulting from the decomposition of water by kali sulphuratum, is conveyed into the blood, and there the hydrogen, uniting with the oxygen of the mercurial oxyd, forms water, whilst the sulphur converts the mercury into an æthiops which is inert.

Dr. DUNCAN in his valuable publication mentions a Dr. THUSINK, who gives opium in considerable doses, and informs us, that in Lisle five hundred patients had been cured by it alone. Time will discover whether this high character of opium is well founded.

But the most interesting communication is the case of *the wealthy merchant*, for which we are indebted

debted to my ingenious friend Dr. THORNTON. When this Proteus disease, as he properly styles it in his letter to Dr. BEDDOES, had laid aside its inflammatory form, and appeared for two years in its cachectic character, with an ill-conditioned ulcer in the lungs, dreadful blotches on the skin, and other most distressing symptoms of debility, Dr. THORNTON made him inspire *superoxygenated air* whilst he was taking muriated mercury, strong decoction of cinchona with the bark in substance, assisted in its tonic power by two grains of opium every night.

By this beautiful and most consistent plan, the cure of this deplorable case was perfected in six weeks.

If the student is desirous of further information than the contracted limits of a work like mine can properly admit of, let him consult the most instructive treatise of Dr. FOART SIMMONS, from which he will learn all that is needful to be known upon this subject.

Genus LXXVIII. *Scorbutus*.

Scurvy.

THE symptoms are indolence and lassitude ; countenance bloated, gloomy ; gums livid, spongy, apt to bleed ;

bleed; skin dry and shining, with livid spots, more especially at the roots of the hairs; breath offensive, and œdematous swelling in the legs.

As the disease advances the patient becomes subject to profuse hæmorrhages from every part of the body; ulcers break out and are very foul; the urine is extremely rank and foetid; and he has most offensive stools; the pulse is commonly slow and feeble; the respiration is laborious, and his death, more especially if suddenly exposed to fresh air, is sudden.

The persons most subject to scurvy, according to HOFFMANN, are delicate females, old people, and young men who have either suffered by anxiety and grief, or have been exhausted by previous diseases, such as hæmorrhage and fever, but more especially they who are *remarkable for fat*. This curious observation is confirmed by succeeding practitioners, and particularly by Dr. TROTTER, who, among other instances, mentions five natives of China returning on board the Chesterfield Indiaman, in the year 1788. These men were so fond of *slush*, which is the *fat* of salt meat skimmed from the water in which it is boiled, that, with a cunning not to be described, they evaded the quicksighted vigilance of the cook, and in five weeks from the time of their leaving England became monstrously corpulent. In consequence of this they were shortly over-run with scurvy, and although none of the crew, not even the landsmen, had the least symptom of that disease, they suffered by it the whole voyage to
a most

a most dreadful degree, till the Chesterfield arrived in port.

The occasional causes commonly assigned are, cold, moisture, vitiated air, salt provisions, inactivity, and more particularly a scarcity of recent vegetables.

It is not confined to those who are at sea, for it is frequently observed on land in low situations, where humidity prevails with cold. Here it is endemic, more especially near the sea, particularly if the inhabitants live chiefly on fish and salt provisions.

As to the proximate cause of scurvy, it appears to be relaxation of the solids and a dissolved state of the fluids, or, in other words, a deficiency of well *oxygenated* blood.

With this idea of the proximate cause, Dr. TROTTER tried diluted sulphuric acid in sufficient doses, concentrated acid of tartar to the quantity of six drams a day, the best wine vinegar to the amount of a quart a day, and even nitre half an ounce a day, without any remarkable benefit; neither did his patients derive advantage from either spruce beer or sugar. But when he gave them oranges, lemons, apples, or, for want of these, the citric acid in doses of two ounces three times a day, their recovery was rapid, and he remarks, that by throwing in acid fruits scurvy may be effectually cured, even when all the remote causes, excepting scarcity of recent vegetables, are left to act in their full force.

But whilst *oxygen* is thus conveyed into the system by the organs of digestion, the more natural and regular supply by respiration must not be neglected. The patients should either be removed to a distance from vitiated air, or where they are stationed should have a constant supply of that which is most pure. For the latter purpose, in a ship, no contrivance is to be preferred to the invention of Dr. PAPIN, which was originally destined to that use, as well as to fill deep mines with wholesome air, but has been since confined wholly to the winnowing of corn. For this purpose it has for more than a century been every where used in Holland; and for half a century in the north of Britain. It is to be seen in the repository of the society of arts, manufactures, and commerce, at the Adelphi. This instrument, by means of canvas pipes, will convey a plentiful stream of air with a strong blast to the most distant recesses of a ship, and no licence for its use is needful from any patentee, because, although little noticed till of late, it has no claim to novelty.

Exercise increases respiration and quickens the circulation of the blood, deriving thereby a greater quantity of *oxygen* from the surrounding atmosphere, and distributing that pabulum of vital energy to every part of the animated frame. Hence it is, that in pure air, exercise strengthens; but in vitiated and foul air, it relaxes, debilitates, and tends quickly to exhaust the powers of life.

Hope, in all diseases of debility, is to be reckoned

ed among the first of efficacious remedies. It quickens the circulation and invigorates the system in the same proportion as fear enervates and sinks the pulse. In scurvy, more especially, it is found, that whatever inspires confidence and hope tends to expedite the cure. The experiment was fairly tried at Breda, where, during the siege, when the garrison, reduced in their numbers by the ravages of this disease, were ready from despair to deliver up the town; a medicine sent by the Prince of Orange, the preparation of which was reported to have been expensive in the extreme, was distributed to the surgeons and administered in drops. This medicine, boasting of properties, to which it had no equitable claim, wrought wonders, and all who took it in the confidence of hope were speedily restored to health.

Genus LXXIX. *Elephantiasis.*

THE symptoms are skin thickened, rough, wrinkled, unctuous, and void of hair; face deformed with tubera; voice hoarse or sounding through the nose, and want of feeling in the extremities.

HOFFMANN remarks, that in one species of elephantiasis the *legs* swell up as high as the knees to a most enormous size, that they are covered with a scaly crust, which being abraded leave red marks,

and that these with intolerable itching pour out a thick humour, which soon condenses into fresh scales. But for the true *elephantiasis of the Greeks* he refers us to ARETÆUS. In this, according to that author, the superior parts have many spots and tumours, the redness of which is soon converted into black. The skin is in some parts much thickened, hardened, scaly; the body becomes atrophic, yet the mouth, the thighs, and the feet, swell. In the inveterate disease the fingers and the toes are buried and hid with tumours. A slow fever succeeds, and destroys the patient.

It might have been sufficient to have stated the symptoms of this disease, and with Dr. CULLEN to have left it where I found it; but having already hazarded so much in other parts of my work, I shall venture, supported by Van Swieten, to hazard something here.

BOERHAAVE informs us in his aphorisms, that a kind of elephantiasis cures melancholia, *Attulit sæpe curationem superveniens scabies fæda, aliquando elephantiasin æmulans*, § 1110; and his commentator particularly states a case of inveterate *melancholy* thus cured.

The learned baron supposes his atrabiliary matter to be taken up into the system, and to be thrown out again by the emunctories of the skin, where it irritates the cutaneous vessels and produces the disease in question.

To this suggestion he adds the subsequent remark.

mark. So in other diseases we observe morbid matter, being carried to the cutaneous vessels, obstructs, inflames, and produces in them various pustules and eruptions which irritate the skin.

From an attentive consideration of the astonishing efforts of nature to relieve herself, together with the wonderful power of action of the absorbents, I am inclined to think the supposition of VAN SWIETEN substantially just and his remark well founded.

Of the *atrabilis* I have already spoken when treating of the proximate cause of *melancholia*, and although the original idea of *atrabilis* has been proved to be erroneous, yet certain it is, that bile and viscid mucus in the intestines produce much disturbance in the system. Diarrhœa is one of nature's efforts to get rid of these, but another effort, as I apprehend, is sometimes made by means of the absorbents. They certainly take up stagnant bile in jaundice, and convey it both to the kidneys and to the cutaneous vessels, where it causes sometimes a most intolerable itching, and therefore, considering their extensive powers, it is by no means improbable that other offending matters, such as frequently harass nature in the alimentary canal, may be absorbed and thrown out upon the surface of the body. See the section on the absorbents and their use in the introduction to this class.

If this idea of the disease in question is well founded, we cannot be at a loss for the mode of

treatment. Aretæus recommends, as a specific, the shavings of an *elephant's* tooth. But this eminent practitioner, although infected with the medical superstition of the age, did not confine himself to such specifics; for every other day he gave small doses of white hellebore, of which he speaks in the highest terms of commendation. Indeed he considered this cathartic as of all others the most efficacious, not only in this disease, but in all inveterate and deep rooted complaints, and in restoring to the pale countenance its florid hue. Celsus seems to prefer the black hellebore, but both these herbs were in the highest estimation for all diseases supposed to arise from *atrabilis*.

ARETÆUS, in order to prevent the stagnation of acrid matters on the surface, where they must naturally irritate the cutaneous vessels and produce a greater determination to the skin, ordered these foul eruptions to be washed in a bath with soap. For the tumours he prescribed suet taken in equal parts from a lion and a bear, to be united with alkali, by which he composed a soap, but a soap of no uncommon virtue, for any other would have precisely the same effect.

Both he and Celsus recommend strong exercise.

Genus LXXX. *Lepra.**Leprosy.*

THE symptoms are the skin rough and chopped, with white furfuraceous scales and crusts, under which is frequently a moisture, with itching.

The observation I have made on elephantiasis are applicable to leprosy. Dr. WHYTT considered a morbid state of the vessels under the epidermis as the proximate cause of this disease; but then he never attempted to account for that morbid state of the cutaneous vessels, any otherways than by supposing an acrimonious matter to fall on them. This indeed substantially agrees with the doctrine of VAN SWIETEN. And then, as these vessels are diseased, they must throw out a matter of a different kind and in greater quantity than they do in a state of health: in consequence of which, instead of a cuticle, their natural production, we have a hard, white crust, and furfuraceous scales.

Most physicians are agreed in leprosy to give antimonials and mercurials, or these powerful evacuants combined with opium, camphor, and guaiacum.

℞ Calomel. gr. vi. Camph. gr. iij. Conf. Rosar.
q. s. M. f. Bol. 6a. quaque nocte sumend. et die se-
quente.

X 4

℞ Kali

R Kali Tartarifat. ʒj. Mannæ, ʒvj. Aq. fervent
 ʒiij. Tinct. Cardamom. ʒj. M. f. H. m. s.

That is,

Calomel fix grains; camphor three grains; conserve of rofes, fufficient to make a bolus, to be taken every fixth night; and the next morning take tartarified Kali one dram, with manna fix drams, difsolved in three ounces of boiling water, to which add tincture of cardamums one dram.

In the intermediate fpaces the patient may drink half a pint of fea water every morning.

Or,

R Calomelanos, gr. xv. Sulph. Antimon. Precipit. ʒfs.
 Opii, gr. x. Ol. Saffafr. efs. gtt. xx. Extract. Lig.
 Guaiac. ʒij. Syr. Papaveris Alb. q. s. f. Pill. 36.
 Cap. Pill. iij. mane et vesp.

That is,

Calomel fifteen grains; precipitated fulphur of antimony half a dram; opium ten grains; extract of guaiacum two drams; fyrup of poppies fufficient to make thirty-fix pills, of which take three morning and evening.

Or,

R Merc. Muriat. gr. x. Acid. Muriatic. gtt. x. Vin.
 Antimonii, ʒj. M. c. gtt. 20. bis die.

Thefe muft be followed by tonics and aftringents.

R Cinchon. ʒiij. Mucil. Gum. Arab. ʒj. tere et
 adde

adde Elix. Vitriol. Acid. gtt. 90. Syr. Cort. Aurant. ℥j. Aq. Rosar. ℥vj. Tinct. Cardamomi Comp. ℥j. M. c. Co. iij. bis die.

That is,

Bark three drams; mucilage of gum arabic one ounce; grind them together; add acid elixir of vitriol ninety drops; syrup of orange peel one ounce; rose water six ounces; compound tincture of cardamums one ounce. Take three table-spoonfuls twice a day.

Some have found benefit by tar ointment, and, when the eruption is not considerable in extent, mercurial ointment has been added to advantage.

A practitioner of eminence reports his having cured one patient by tincture of cantharides, thirty drops twice a day, increasing the dose to one dram three times a day. He cured others by dulcified spirit of vitriol, beginning with thirty drops, and increasing the dose to two drams, thrice a day.

For further observations consult *Herpes* in the order DIALYSES, of the class *Locales*.

Genus LXXXI. *Trichoma*.

Plica Polonica.

THE hair grows long and coarse, matted and glued into inextricable tangles.

This disease is commonly preceded by 1. Paleness,

ness. 2. Weakness of the joints. 3. Pains in the head and in the joints of the hands and feet. 4. Noises in the ears. 5. Convulsions. 6. Contractions. 7. Rickets and fragility of the bones, and sometimes mania.

It was imported into Poland from Tartary about the year 1687, and spread through Silesia and Hungary in less than forty years. In autumn, the peasants since that period have been subject to an eruptive fever, which principally infests the head, and terminates in this disease. It is indeed regarded as a critical discharge. No medicines relieve it, but in process of time the plicæ fall off spontaneously.

If however they are prematurely cut off, the consequence, according to HOFFMANN, is either a dreadful head-ach, epilepsy, phrenitis, mania, melancholia, gutta serena, pluritis hæmoptysis, or pthis pulmonalis. All these diseases, if occasioned by a latent plica, vanish as soon as the plica appears. For this reason they assist this effort of nature to relieve herself by embrocating the head with a warm decoction of club-moss (*lycopodium clavatum*) twice a day. This in about a week produces the plica, and relieves the patient from the accessory disease.

Genus LXXXII. *Ictericus*.

Jaundice.

THE symptoms are yellowness of the eyes and of the skin; fæces white; urine high coloured and ting-
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ing linen yellow; universal languor, and lassitude with costiveness.

To these symptoms, ARETÆUS adds, *Idem frigent imbecilli desides, tristes atque demissi animo sunt.*

SECTION I.

OF THE CAUSES REMOTE AND PROXIMATE OF ICTERUS.

THE predisponent cause is debility, as attended either by morbid irritability or by torpor. The occasional cause may be unwholesome diet, such as unripe fruits or an over-proportion of the legumina, with austere and acid wines, or malt liquor when the acetous fermentation has advanced too far; hard drinking; agues, when prematurely cured by bark; protracted grief; anger; violent emetics; poisons, particularly of serpents, and pressure.

The proximate causes of *jaundice* is evidently obstruction to the natural passage of the bile by the intestines, causing it to be taken up into the habit and to circulate in the blood vessels.

This obstruction may be either in the duodenum, at or below the entrance of the common duct, or in the duct itself. In the former case the bile passes by the lacteals into the thoracic duct; in the latter it may either regurgitate by the hepatic veins, as proved by Dr. SAUNDERS, or be absorbed
by

by the lymphatics, which are derived from all the branches of the hepatic duct, as he and Cruikshank have frequently observed in their dissections.

That obstruction may take place in the duodenum is evident by dissections, and has been particularly noticed by M. Portal. In the yellow fever of the West-Indies, of which jaundice is a symptom, the excessive quantity of bile in the intestines proves that the biliary ducts are free. And when with jaundice we have regurgitation of bile into the stomach, as in case of *gastrodynia flatulente*, it is plain that the obstruction is not in the duct, but in the small intestines.

SECTION II.

OF THE SPECIES OF ICTERUS.

SAUVAGE has no less than fourteen species, which Cullen has reduced to five, viz. *Icterus spasmodicus*; *Icterus calculosus*; *Icterus hepaticus*; *Icterus gravidarum*; and *Icterus infantum*: but to these I think it expedient to prefix another, which more commonly occurs than either of the others, and to which I have given the name of *Icterus mucosus*.

I. *Icterus mucosus*, not attended by pain nor by spasmodic affections. No gall stones are observed in the fæces, but with cathartics a quantity of viscid

cid mucus is discharged. I have frequently met with icteric patients, who have evacuated more than a pint of gelatinous matter unmixed with fæces at one stool; and I met with one who, for several days together, passed such a quantity of mucus that he thought his bowels were dissolved.

The only modern author, who has clearly and directly laid a foundation for this species of jaundice, although it is certainly common, is baron VAN SWIETEN in his Commentaries, § 950; where he judiciously observes, *Imo et in adultis pituitosa colluvies in primis viis hærens icteri causa fuit.* This observation he confirms by a reference to Hippocrates, who, with the greatest propriety, declares it easy to be cured.

It is this species which has for its predisponent cause the debility of torpor. The occasional causes are unwholesome diet with unripe fruits, or with an over proportion of the legumina; humidity and marsh miasma; ill cured intermittents; indolence and want of exercise; hard drinking and cold liquids after violent exertion; anxiety and protracted grief. I shall enlarge on the action of these causes. The stomach and intestines are constantly supplied by appropriate glands with mucus, which lubricates their internal surface to prevent attrition and adhesions, and to defend them from immoderate irritation. This, in a state of health and vigour, is produced only in sufficient quantity to answer these intentions; but the effect of grief and fear is to relax

relax the glands and to increase the quantity of mucus. Their action is excited by the stimulus of ardent spirits, spices, and fermented liquors, and as, when once morbid habit is established, they continue to pour forth their copious streams, a constant determination from these glands takes place. The same determination is created by humidity, which checks perspiration and increases the discharge of mucus by the intestinal glands, as well as the flow of urine by the kidneys. The poverty of diet above described, and want of exercise by causing general debility, tend to produce the same effect. Ill cured intermittents leave the bowels loaded with slime, and for this reason certainly it was, that in the cases of remittent fever, observed by Sir JOHN PRINGLE, "if evacuations were either neglected or too sparingly used, the patients fell into a continued fever, and sometimes grew *yellow* as in a jaundice." See his Diseases of the Army, part i. chap. 3.

This mucus, when first secreted by the glands, is fluid although viscid, but when, by its accumulation, it has prevented the action of the bile, as the natural cathartic, upon the intestines, and produced some degree of costiveness, the absorbents, taking up incessantly the aqueous particles, render it more tenacious, till it resembles glue, or becomes, as I have stated in *tussis stomachalis*, tough as leather. Unripe fruits, austere or acid wines, and ardent spirits, as Boerhaave and Van Swieten have well observed, render this viscid mucus still more tenacious, § 69.

From a consideration of these remote causes, and of the effect immediately produced by them, with attention to the anatomy of the parts concerned in jaundice, we shall not be at a loss to assign the proximate cause in that species which we have now in view. It is certainly tenacious slime obstructing the orifice of the common duct at its entrance into the duodenum. This effect may be the more readily conceived, if we call to mind the very oblique direction in which it penetrates the coats of that intestine, and that it passes for a short space between two of them. When thus the mouth of the common duct is closed we have commonly not only obstruction to the passage of the bile into the intestines, but of the pancreatic juice; because most frequently the pancreatic duct enters the duodenum by the same orifice; and then, for want of these detergent and stimulating fluids, tenacious slime accumulates, and the disease naturally goes on constantly increasing.

These ideas, I expect, will be confirmed by the cases I shall produce, and by a consideration of those medicines which at any time have been found effectual in the cure of jaundice.

II. *Icterus spasmodicus*, not attended by pain, but subsequent either to spasmodic affections or to mental passions, and apt to be both sudden in its attack, transitory in its duration, and, sometimes, periodical.

The persons most liable to this disease are, those
of

of the sanguine temperament, and of an irritable habit; the hysterical, and such as are subject to either iliac passion or the common bilious and spasmodic colic.

For the predisponent cause we may assign debility with morbid irritability, and for the occasional causes, 1. Violent anger. 2. Venom communicated by the bite of animals, as of vipers, squirrels when enraged, mad dogs, and even spiders. 3. Stimuli applied to the intestines, whether violent emetics, drastic cathartics; bile either in cholera or the beginning of bilious fevers, as in the yellow fever of warm climates, or the bilious autumnal fever of our island; worms; and even mucus, with either bile or undigested fordes, in very irritable habits.

From what has been said, it will appear, that for the proximate cause we may assign, with Mead, Hoffmann, Sauvage, and Cullen, *spasmodic stricture* either in the duodenum, or at the mouth of the common duct.

The existence of such a species is confirmed by anatomical observations, because in these cases, after dissection, neither calculi nor viscid slime have been detected.

III. *Icterus hepaticus*, not attended by pain. It follows diseases of the liver, and is therefore symptomatic.

IV. *Icterus gravidarum*, originating from pregnancy, and vanishing with parturition, or from the pressure

pressure of hardened fæces in the colon, and disappearing when these have been evacuated.

V. *Icterus calculosus*, attended by acute shooting pains in the epigastric region and right hypochondrium, which are increased after eating, and by evacuation of biliary concretions. It has sometimes straitened respiration, compression of the chest, nausea, frequent efforts of the stomach to get rid of its contents, and difficulty of walking upright. The sickness, with incessant vomiting, generally precedes the jaundice, which is apt suddenly to disappear, after which gall stones are to be discovered in the stools. For this reason Baglivi ventured to say, *Si videris icteros sanatos, sed recidivos, eos certe a calculo vesicæ felleæ progigni prædicito*: but this rule, as we have seen in the preceding species, will not always guide us right; for in that the attack of jaundice is sometimes sudden, transitory, and periodical.

This species of jaundice, I apprehend, is seldom if ever an original disease, but is occasioned either by *icterus mucosus*, *icterus spasmodicus*, or *icterus gravidarum*. For when the bile stagnates in the gall-bladder, whether that stagnation is occasioned by mucus, by spasm, or by pressure, biliary concretions may easily be formed, by subsidence, attraction of the grosser and homogeneous particles to each other, or by the action of the absorbents taking up the more fluid parts till the remaining bile becomes a solid mass. VAN SWIETEN informs us

that he has seen bile, tenacious like glue, brought up by the action of emetics, after which the jaundice never returned again: and HOFFMANN, in a case hereafter to be mentioned, found the gall-bladder filled with black and viscid bile resembling pitch. Others have discovered this receptacle wholly occupied by one mass of bile, the external coat of which was solid and compact, whilst the interior coats were softer, and at the centre contained liquid bile.

More than a hundred gall-stones have been discovered in one patient after death, even in cases where no symptoms of jaundice had appeared. HEISTER, dissecting the body of a woman, found one calculus as big as a walnut, and the common duct so much enlarged, that he could thrust his little finger into it. But one of the most uncommon cases is related by VAN SWIETEN of his mother-in-law. This lady, after repeated paroxysms of jaundice, was suddenly seized with a violent pain in the region of the duodenum, followed by syncope, which continued only one quarter of an hour. At the end of two days, they discovered in the fæces a gall-stone large as a joint of the thumb, and two more nearly of the same size, which, by corresponding impressions, appeared evidently to have been formed at the same time. Having passed these calculi, she became free from jaundice. Yet considerable as were these for magnitude, much larger than

than these have been evacuated, which had therefore passed the common duct.

Mrs. Floyer, mentioned by Dr. JOHNSTONE in his Medical Essays, after excruciating pain and vomiting for seven hours, voided a gall-stone $1 \frac{3}{8}$ inch by $\frac{7}{16}$, after which she had excessive discharge of bile, up and down; yet she had no jaundice.

As neither the gall-bladder nor the common duct is supplied with muscular fibres, when they have been dilated by calculi, they do not readily contract again. In one case, recorded in the Edinburgh Medical Essays, vol. ii. p. 303, we find the common duct obstructed by calculi, and the gall-bladder extended to such a surprising bulk as to contain eight pounds of bile.

Sometimes, when gall-stones cause irritation, and are yet too large to pass the common duct, nature in her efforts to relieve herself, excites inflammation, suppuration, ulceration, and the adhesive process to surround the whole with an impenetrable wall, for the boundaries are circumscribed by effusion of coagulating lymph, so changed in passing through inflamed vessels, that the parietes of the abscess become a compact mass. See Dr. SAUNDERS's most interesting Treatise on the Diseases of the Liver. Mr. CLINE has met with cases where this kind of connexion between the biliary sack and the contiguous intestine having been perfectly established, large gall-stones escaped through the

aperture, in consequence of which the cyst, being no longer distended by bile, contracted. And Dr. JOHNSTONE, in his Medical Essays, p. 207, mentions the case of Sarah Ewdall, who after violent pain in the region of the gall-bladder, passed biliary concretions from an abscess at the pit of her stomach.

The case of my old friend O'Neill, captain general of Aragon, was highly interesting. When I quitted Spain, I left him labouring under obstinate *jaundice*. After that time a considerable impostume appeared in the region of the liver, formed by enlargement of the gall-bladder, which united by the adhesive inflammation with the peritoneum, and thus, when opened by the lancet, gave issue to several biliary concretions, which were of a considerable size.

He was attended by the most able surgeons, with whom M. Gimbernat was joined in consultation, and before they ventured to open the abscess, they were satisfied that the adhesive inflammation, which was to connect the parts in contact, had taken place. Had they doubted of this, they would have applied cantharides or some other irritating substance to the abscess, before they attempted such a hazardous expedient; for had they been mistaken in their judgment, the contents of the abscess would have been discharged into the cavity of the abdomen, and the admission of atmospheric air into this cavity might have produced inflammation and gangrene

grene on the internal surfaces, that is, on the peritoneum, the intestines, the omentum, and all the other contents of the abdomen.

It is not the presence of gall-stones in the cyst that causes jaundice, for there, as we have seen, they may remain for ever without creating disturbance in the system; but when, by sneezing, coughing, vomiting, jumping, wrestling, suddenly falling, convulsions, or by any other means, a strong pressure is made upon the liver, they are brought down into the common duct, they must either pass freely or they will cause obstruction to the natural passage of bile into the intestines, and produce a jaundice.

VI. *Icterus infantum*, arising soon after their birth, occasioned by the meconium, and vanishing when that is cleared.

SECTION III.

OF THE INDICATIONS OF CURE IN ICTERUS.

FROM what has been delivered, it is evident that the indications of cure must vary according to the nature of the causes which occasion the several species of this disease. Quacks universally prescribe either to the most distressing symptom, or at best to the generic character, that is to the name of a disease and not to the disease itself: but the rational practitioner considers, before he ventures to prescribe, the whole of the disease in question, with

its causes both remote and proximate. He distinguishes the species from each other, as characterised by their peculiar symptoms, and is never satisfied till he ascertains, not merely the presence of this or that disease, but by what cause it is produced. The importance of such distinction is nowhere more conspicuous than in cases of *jaundice*, for which innumerable remedies are offered, but not one of them admissible without attention to the species.

This observation can never be too much inculcated on students; and, although it might with propriety have appeared with others in some general introduction to my work, I trust it will not be thought improper here.

I. *Icterus mucosus*.

The curative indications are,

1. To evacuate the viscid mucus from the duodenum.
2. To restore tone to the mucous glands.

To answer the first intention, we must have recourse to emetics, giving from three to ten grains of ipecacuanha with a grain or two of tartarised antimony every other morning.

The emetics may be followed by cathartics. These however must not be drastic and hydragogue, for such not only defeat our purpose by increasing debility, but by their highly stimulating powers they excite the action of the intestinal exhalants, and are soon washed away out of the body.

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face, and prevent the superabundance of mucus in the duodenum. Dr. Ingenhoufz assures me that he cured himself of gout and jaundice by aqua methitica alkalina.

In the Canary islands, where jaundice is prevalent, M. Betancourt seldom fails to cure it in a few weeks by means of emetics, followed by pareira brava. Of this he makes a decoction, putting an ounce of the root to eight pints of water, and reducing it thus to six pints. The dose is half a pint three times a day, which proves highly *diuretic*. I have sent for some of it to M. Wilson on Snow-hill, and mean to take the first opportunity of trying it, on the credit of M. Betancourt, to whom I am indebted for this information.

After having cleansed the first passages, we must have recourse to tonics and astringents, for should we proceed with evacuants, we should not only debilitate the system and destroy the tone of the mucous glands, but we should establish a determination of the fluids to those glands, and cause them to acquire a habit of superabundant secretion, thereby increasing the disposition to jaundice.

A powerful tonic, and the most proper in cachectic cases, more especially in jaundice, is iron; of the best form of it, in the opinion of both Sydenham and Hoffmann, is that of filings, of which from five to twenty gr^s may be given at a dose. Hoffmann combined it with vitriolated kali, ordering as follows;

R Limat.

its causes both remote and proximate. He distinguishes the species from each other, as characterised by their peculiar symptoms, and is never satisfied till he ascertains, not merely the presence of this or that disease, but by what cause it is produced. The importance of such distinction is nowhere more conspicuous than in cases of *jaundice*, for which innumerable remedies are offered, but not one of them admissible without attention to the species.

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R Limat. Ferri. dr. 2. Kali vitriolat. scr. 2. Ol.
Menth. gtt. 6. M. f. Pulv. c. c. dr. $\frac{1}{2}$ bis die.

Hoffmann was very partial to his *tinctura martis pomata et cydoniata*, which are excellent preparations, combined with the peruvian and cascarilla barks, but he condemns bitters, and assures us that by long experience he had found them detrimental.

As a deobstruent and tonic in jaundice no medicine is to be compared to horse exercise. This supplies the place of emetics and cathartics in separating viscid mucus from the intestines; and, promoting insensible perspiration, it prevents determination to the mucous glands. Van Swieten judiciously observes, that for want of exercise the stomach and bowels become internally coated with tough phlegm, but that by increased respiration and alternate action of the abdominal muscles, these viscera are shaken, pressed, and scrubbed, as it were, by attrition, so as to be effectually cleansed. *Ventriculus et intestina, lento glutine in interna sua superficie obducuntur: valido motu dum corpus exercetur, respiratio aucta diaphragmatis et musculorum abdominalium actione reciproca omnia hæc viscera movet, premit, ad se mutuo quasi affricat; et sic deturguntur omnia, § 69.*

Hoffmann strongly recommends a journey, not merely for the sake of air and exercise, but for the cheerfulness, the change of scene, and the distance interposed between the man and his domestic cares,
for

for in jaundice he regards tranquillity of mind as most essential to a cure.

II. *Icterus spasmodicus.*

The curative indications are,

1. To relieve the spasm.
2. To obviate its recurrence.

The first intention may be answered, 1. By removing, when it is possible, the morbid stimulant, such as worms, by anthelmintics; viscid mucus and acrimonious bile by gentle emetics and cathartics, more especially by *castor oil*; and the mental stimuli, particularly anger, by moral arguments. But all violent emetics and cathartics must be carefully avoided, because they increase the spasm.

2. When the stimulants applied to the intestines are not removeable by the milder evacuants, their power must be weakened by diluents and demulcents, such as warm liquids, and emulsions made with linseed, oil of almonds, spermaceti, and gum arabic, as in the several Formulæ of my Physician's Vade Mecum, in the class *demulcents*.

3. When the spasm is occasioned by some general stimulant, such as venom communicated by the bite of animals, which can neither be removed nor yet relieved by diluents and demulcents, we must have recourse to more powerful stimulants. These are asa foetida, camphor, musk, ether, opium, electricity, and heat, of which the former will be

found in my Vade Mecum, under the class of antispasmodics. In this class the most powerful agent is electricity. Dr. Darwin informs us, that a gentleman, who for jaundice had taken emetics, mercury, bitters, steel, essential oils, and ether, without benefit, was cured by ten smart shocks of electricity from a quart phial taken through the liver.

A certain degree of heat, that is a genial warmth of about 96° or 97° , is friendly to the system, and efficacious in relieving spasm. This may be applied either in a bath; by carminative, demulcent, antispasmodic clysters, by fomentations to the part, or by all of them successively. The fomentation may be with chamomile flowers, or a plaster may be made with treacle, expressed oil of nutmegs, and spermaceti in equal parts, and camphor for the pit of the stomach. The clyster may be made with milk, oil, ginger tea, and some drops of laudanum. The second intention requires tonics and astringents, cold bathing, bitters, bark, and steel.

R Cinchon. \mathfrak{z} j. Ferri tartarifat. \mathfrak{z} ss. Pulv. Aromat. \mathfrak{z} ijj. Conserv. Cort. Aurant. \mathfrak{z} ij. Syr. Zinzib. q. s. M. f. Elect. c. c. M. N. M. bis die superbibend. Cyath. Infus. seq.

R Quassia, Rad. Columb. aa \mathfrak{z} ss. Cassia Lign. \mathfrak{z} j. Aq. fervent. \mathfrak{f} bj. Macera per noctem et cola. Colaturæ, adde Ess. Lignor. \mathfrak{z} ss.

That is,

Bark one ounce; tartarised iron half an ounce; aroma-

tic

tic spices three drams; conserve of orange peel two ounces; syrup of ginger sufficient for an electuary. Take the size of a nutmeg twice a day with a cup of the subsequent infusion.

Take quassia and columba root, of each half an ounce; cassia lignea, one dram; boiling water a pint. Steep for a night and strain; add to this essence of the woods half an ounce.

Or in place of the above electuary, either of the Formulæ 77, 78, 80, 81, 82, 83, in my Vade Mecum, may be usefully substituted.

III. *Icterus hepaticus*. Dr. Cullen considers as incurable.

IV. *Icterus gravidarum*. If from pregnancy, it vanishes on parturition; if from hardened fæces in the colon, it is cured by clysters and cathartics.

V. *Icterus calculosus*. The curative indications are pointed out by nature in her efforts to relieve herself; for when a gall-stone passes with difficulty incessant vomiting is excited to expedite its passage, and if either the pain or the straining to vomit is excessive, both which occasion spasm, syncope ensues, and then most commonly the biliary concretion passes, for in syncope spasmodic action ceases, and every fibre is relaxed.

Hence the only indications are, in imitation of nature, 1. To produce, by emeties, repeated concussion of the viscera. 2. To assist the free passage
of

of gall-stones, when needful, by antispasmodics, precisely as in spasmodic jaundice. We must give camphor, Hoffmann's anodyne, and opium. We must have recourse to warm bathing and fomentations, with antispasmodic and emollient clysters. And we may safely pass shocks of electricity through the region of the liver.

When the gall-stones are passed, if their formation was occasioned either by icterus mucosus, or by icterus spasmodicus, we must give tonics and astringents, as in those species, to prevent the recurrence of the disease.

VI. Icterus *infantum* is speedily and effectually cured by clearing the meconium.

SECTION IV.

CASES OF JAUNDICE.

CASE I.

A.M. aged 40, of a relaxed and irritable habit, was attacked by jaundice, at the first approach of which he observed morsels of undigested food to have passed by stool, then fulness in the epigastric region, followed by white stools and yellow urine. An emetic brought up the half digested food of two days, and with this some morsels of veal perfectly unchanged, which he had eaten the first of these days for dinner. By two grains of calomel, taken every night, in four days he evacuated much *viscid mucus*,
his

his urine became limpid in the night, although very yellow through the day, but by two doses more of calomel, followed by tincture of rhubarb, he had many proper stools, followed by one of pure mucus resembling jelly, after which, by horse exercise he was perfectly restored to health.

Three years from this period, in the beginning of February, after having been frequently wet in riding, he was seized with pain in the right breast, of the same kind as usually preceded *gastrodynia flatulenta*, to which he had been subject. He took an emetic, threw up a tea-cupful of pure bile, and was free from pain: but his stools became white and his urine yellow. He had again recourse to calomel, but without any effect, till he increased the dose to ten grains at night, followed by an aloetic and alkaline cathartic in the morning. These produced a copious evacuation of the alvine fæces, followed by about a pint of pure mucus resembling jelly, besides much which was extremely viscid. From this time the symptoms were alleviated, and by moderate cathartics the disease appeared to be perfectly removed.

In the beginning of May in the same year he was able to walk from twelve to fourteen miles a day without fatigue, till he happened to go ten miles with a scorching sun in front, and a cold north wind behind, by which he was much exhausted, and the next day perceived at dinner such convulsive motions in his under-lip, that whilst eating it was incessantly drawn in between his teeth. At night he was restless, and the next day had white stools, yellow urine, constant chilliness, with a slow pulse, and so weak as scarcely to be perceived. Strong cathartics were resorted to with considerable doses of calomel, followed by tartarised kali, all which brought away much *viscid mucus* and relieved the symptoms; but they speedily returned. He had then frequent occasions to remark limpid

pid urine by night, although by day his water was strongly tinged with bile.

In this situation he applied to Dr. Fothergill, of Bath, who considering that merely to evacuate the viscid mucus left the glands relaxed to pour forth a fresh supply, resolved to try the tonic plan. With this intention he gave steel, columba root, and aromatics, which soon perfected a cure.

CASE II.

A counsellor aged 37, after protracted grief, took to a sedentary life, and instead of wine, his usual beverage, drank spirits in too great abundance. The consequence was, that with slow fever he lost his appetite and became ictical. After various remedies had been tried in vain, he took two emetics, each composed of tartarised antimony one grain, with fifteen grains of ipecacuanha, and was perfectly restored to health.

Some years after this, *jaundice* returned again with greater violence than before, his spittle became yellow, and every thing tasted bitter. He became costive in the extreme, and when he had stool by clysters, the fæces were compact as clay: his urine was brown, and let fall a thick and copious sediment. Rhubarb, bitter extracts, balsams, sedatives, and antispasmodics, all excited nausea, and even vomiting.

In this situation the only medicine he could bear was a mixture of glauber salts, nitre, vitriolated kali, and crab's claws, in wine and water with lemon juice, in small but frequent doses. He had a cataplasm at the region of the liver composed of wormwood (*artemisia absinthium*), water germander (*teucrium scordium*), chamomile flowers, and cummin seeds, boiled in wine. This was applied warm, and when cooled was frequently renewed.

At the end of two months, he had a spontaneous discharge of alvine *faeces*, *dry, clay-coloured, and most abundant*, which continued for four days, when they began to assume a yellow colour, and he soon recovered health, appetite, and strength.

Hoffmann remarks upon this case, that he has always observed cataplasms and fomentations highly beneficial in obstinate jaundice, and frequently attended with instantaneous relief of all the symptoms, which have reverted on the omission of these external applications.

CASE III.

Baron Van Swieten in his Commentaries relates the case of an old lady aged 60, who had been icterical for twelve years. At first the paroxysms were periodical, but latterly it was a confirmed and continued jaundice tinging the whole body black, except the eyes, which were of a deep yellow.

By his orders she persisted for two years in the use of whey with juice of grass in spring, Spa water in summer, and honey with soap in winter.

At the end of eighteen months a copious evacuation of argillaceous and most offensive matter, interspersed with calculi, succeeded, and continuing for six months, with a manifest relief of all the symptoms, she was perfectly cured. It must be added, that to support her strength, the professor indulged her with a generous diet.

CASE IV.

A gentleman aged 50, sedentary and accustomed to good living, yet mixing with a generous diet much milk and

acid fruits, became, after protracted grief, cachectic. His countenance was livid and much suffused with bile; he lost his appetite and strength; suffered much by flatulence and borborygmi in his bowels; had difficulty of breathing, and complained of costiveness. His pulse was weak, sometimes intermittent, and always unequal. *Jaundice* followed with swelling of his feet, and after a time he became hydropic.

For this complaint he called in a physician, famous for the cure of dropsy, who gave him an extract of *elaterium* and *emula* one dram, which being repeated, evacuated both up and down a great quantity of *viscid mucus* (*αἷμα καὶ κατὰ fortiter expurgabatur ingens viscidæ copia*), and diminishing the swelling of his feet, left him with a hope of being speedily restored to health. But as the appetite for food did not return, Hoffmann was consulted, who ordered balsamics and corroberants, which came too late.

On dissection, water was discovered in his chest; and biliary concretions, one of which weighed three drams, were taken from the gall-bladder. The liver and spleen were flaccid, and the blood in them was very black.

CASE V.

A lady aged 30, thin, of the *sanguineo choleric* constitution, and of an *irritable* temper, sedentary and imprudent in her diet, having been for three months obstructed, was seized with such acute pain in the hypogastric region, that she could scarcely hold herself upright. This symptom was followed by a bilious diarrhœa, which, being stopped, was succeeded by heart-burn and frequent syncope. After some days her countenance and urine became yellow, her stools white, and she had acute pain at the pit of her stomach.

Hoffmann

Hoffmann being consulted, ordered his anodyne with essence of saffron, castor, and orange-peel, in equal quantities, and some drops of oil of mace, of which mixture she took 30 drops every three hours, applying at the same time *antispasmodic* fomentations to the region of the liver. After three days he gave her two scruples of rhubarb, with one scruple of cream of tartar and six grains of nitre. For her common drink, he ordered milk and water. By perseverance in this regimen she was perfectly relieved from all her distressing symptoms.

CASE VI.

A lady aged 60, of a phlegmatic habit, had rheumatic pain for near twelve months in her right shoulder; but for two months this pain appeared to be transferred to the right side under the false ribs, where for six weeks it continued to such a degree, that she could neither sneeze nor scarcely breathe. Her countenance was livid, her stools white, her urine thick and tinged with dark brown. After a time this pain suddenly vanished, and the patient perceived an explosion in the affected side, which brought a bitter taste into her mouth, and communicated the same to every thing she eat. In this situation she took an emetic, brought up an amazing quantity of bile, soon after which her stools became tinged again with yellow.

CASE VII.

A lady aged 42, of moderate stature, and of sanguine temperament, sedentary, and a coarse feeder, enjoyed her health, till about ten years since she was exposed during menstruation to severity of cold. From this time her monthly discharge became irregular in all respects, in duration, quantity, and periods, and at the end of two years

she was attacked by *jaundice*. This by proper treatment was removed, but returned in half a year, and attacked her commonly without the least warning every month. Yet the last paroxysm was preceded by these symptoms: she had acute pain in the back and between the shoulders, with costiveness; vomiting succeeded; and then her skin became suffused with jaundice.

Hoffmann ordered exercise with abstinence from dried and salted meats, gave her broth with the juice of grass, chicory and asparagus, and for her common drink he recommended a decoction of china root, with sarsaparilla. He persuaded her to take rhubarb, with aperitive salts alternately every day; between her meals he gave his balsamic elixir, and about the monthly period he ordered his anodyne with essence of saffron, castor and amber, three times a day. When at any time she had pain and *spasm*, with flatulence, he caused a carminative emollient clyster to be injected. By these means the paroxysms of jaundice were rendered less frequent, till they ceased in the perfect establishment of health.

CASE VIII.

A boy aged 12, after eating immoderately of unripe grapes, was seized with bilious fever, succeeded by *jaundice*, in which a hard swelling was perceived in the region of the liver; his urine resembled ink, and the alvine fæces for three days were black. Hoffmann ordered absorbents with rhubarb and a small quantity of nitre in small doses, to be frequently repeated. He gave butter-milk for his common beverage, and caused the cataplasm described in Case II. to be extended over the right hypochondrium, and thus in a short time he perfected a cure.

CASE

CASE IX.

A gentleman aged 40, who from his youth had been devoted to Bacchus, and had never lost an opportunity of prostrating himself before the altars of the Cyprian goddess, in recompence for all his services, became debilitated and afflicted with the gout. This gentleman, after a fit of anger, was suddenly attacked by *jaundice*, with the most distressing symptoms; for at intervals he was tormented with most agonizing pain in the stomach about the pylorus, attended with cold sweats, and a total loss of appetite. By degrees, the yellowness of his skin was turned to black, and being repeatedly put into a warm bath, all the *spasmodic* symptoms were not only aggravated, but extended to the urinary bladder, more especially at night, producing an *ischuria*. *Atrophy* succeeded, with extreme debility and coldness of the extremities; all which went on increasing, till he paid the last debt of nature.

Hoffmann, on dissection, found the intestines of a dark colour, and much inflated; the urinary bladder thickened and covered with black spots; the liver hard and greenish in appearance; the gall-bladder black and filled with a viscid humour resembling pitch; the cystic duct much straitened, and the duodenum with the pylorus, and part of the colon, tinged of an obscure yellow, and corroded in their external coats.

CASE X.

A beautiful lady of high fashion, of the sanguine temperament and delicate complexion, when pregnant with her first child, about the eighth month, became icterical, and so continued till she was delivered of her child. Soon

after a second conception, *jaundice* returned, and continued obstinate for some time after her delivery.

Hoffmann being then consulted, had occasion to observe, that his patient indulged herself in indolence and sleep, that she drank too much wine with the most nutritious ale, and that she was habitually costive. He therefore restrained her drink to wine and water ; and, conceiving this affection to arise from *plethora*, he caused her to be bled about the third or fourth month of pregnancy, and again the seventh and the ninth. When costive she took rhubarb, and thus she was enabled to present her husband with three sons, without the least return of jaundice.

Hoffmann in his fourth volume records a curious case of stubborn jaundice, cured wholly by the repetition of emetics.

Genus LXXXIII.

Green-Sickness.

The symptoms are discoloration, or livid paleness of the skin even of the lips, laxity and flaccidity of the muscles, with fullness of the veins, and cedematous swelling of the feet ; remarkable whiteness in the tunica albuginea ; pulse frequent, small, and feeble ; extreme lassitude, dyspnœa and palpitation, attending muscular exertion, particularly in going up stairs, which is followed sometimes by syncope ;

syncope; general debility, mental torpor, and universal coldness, dyspepsia, flatulence and costiveness; appetite both deficient and depraved; pain in the back and loins; amenorrhœa. Van Swieten thus briefly and elegantly defines this disease. *Chlorosi laborat debilis puella totum corpus laxo œdemate tumet; pallent et frigent omnia.*

SECTION I.

OF THE CAUSES REMOTE AND PROXIMATE OF CHLOROSIS.

THE occasional causes are, Inactivity; poverty of diet, with acids, viscid aliments, and a superabundance of watery or of unfermented vegetables; impure air; humidity; stifled anger, fear, terror, and protracted grief; ungratified desires and hopeless love; excessive evacuations, whether by hæmorrhage, or the operation of emetics and cathartics; previous diseases, particularly fevers, and ill cured intermittents; and stoppage of the catamenia, by whatever cause produced, for this symptom of the disease in question is both effect and cause.

Hoffmann, for the proximate cause, assigns a depraved state of the fluids arising from loss of tone in the solids, and more particularly in the chylo-poetic vessels.

In this opinion he discovers his usual sagacity,

for the cause here assigned accounts for all the symptoms. They continue as long as this subsists, and this being removed, they vanish. With this also the occasional causes perfectly agree, for all of them, without exception, tend to destroy the tone of the stomach, and thereby to deprave the fluids, which derive their properties from the action of the solids. But besides this affection of the stomach, there is certainly a considerable degree of torpor in the lymphatic system, as appears by the universal increase of bulk, and by the œdematous swelling of the legs. We observe also remarkable debility in that organ which gives motion to the blood; for we have the venous plethora, which is produced by diminished energy of the heart when unable to overcome the elasticity of the arteries, and to distend them to their natural size. And, as a direct evidence of deficient energy with want of excitement in the heart, we have the frequent, small, and feeble pulse. When, in addition to all that has been hitherto suggested, we consider the mental torpor, the livid colour, and the loss of vital heat; can we hesitate in ascribing all these symptoms to deficient *oxygenation* of the blood?

The consent between the stomach and the lungs has been frequently insisted on; and in chlorosis calls for particular attention. A vast variety of substances, applied immediately to the stomach, have the power, as I have fully stated, of exciting the
action

action of the lungs and of assisting them to oxygenate the blood: and the lungs, when they supply the system with a sufficiency of oxygen, thereby assist the stomach in its office of digestion. But when the blood is well oxygenated, the absorbents are excited to more vigorous action; vital energy is increased in the heart and arteries; the spirits rise, cheerful activity succeeds to indolence and gloom, the countenance regains its florid hue, and a genial warmth is diffused over the system.

SECTION II.

OF THE INDICATIONS OF CURE IN CHLOROSIS.

FROM this view of the proximate cause, the indications of cure will be,

1. To obviate the occasional causes of the disease.
2. To restore tone to the stomach and intestines.
3. To administer vital air.

Hippocrates and all his followers have observed, that in certain cases of chlorosis, marriage is the only cure. In other cases it is sufficient to change the air, take exercise, adopt a more generous diet, and to regulate the passions. It is thus that the first intention may be answered,

To answer the second intention we begin with an emetic, which may be followed by gentle cathartics to clear away viscid mucus from the first passages. For in chlorotic cases, this never fails to be collected, and when present, not only either causes or aggravates all the symptoms, as I have fully explained in treating hypochondriasis, and in fixing the proximate cause of melancholia; but, by interposing a tenacious substance between the living fibre and the medicines received into the stomach, it effectually prevents a cure. This Van Swieten has well stated thus: *Dato prius leni vomitorio, vel purgante ex pillulis Ruffi vel similibus, SABURRA MUCOSA in primis viis hærens educitur, ne aliorum medicamentorum efficaciam impediat.* Hoffmann, to cleanse the stomach and the intestines from what he calls *cruditates, viscidæ, mucidæ, acidæ*, orders either vitriolated or tartarised kali to be frequently repeated: and if the bowels are not sufficiently cleared by these, he recommends myrrh, gum ammoniac, rhubarb, extract of wormwood, cinnabar, amber and salt of amber, in equal parts, of which two drams made into twenty pills may be given at a dose, either increasing or diminishing the quantity as occasion may require. Should the costiveness be obstinate, he would advise the following:

℞ Mannæ Elect. ℥ij. Cremoris Tartari, ʒj. Rhei et Nitri, pur. ʒfs. Aq. font. ℥viiij. M. f. H. m. s.

That

That is,

Manna two ounces; cream of tartar a dram; rhubarb and nitre of each half a dram; water eight ounces.
To be taken in the morning.

To restore the tone of the stomach, Hoffmann recommends an elixir to be made with myrrh, amber, saffron, orange-peel, and the extracts of gentian, wormwood, carduus benedictus, and the lesser centaury, not in spirit, but in weak lixivium of tartar.

These bitters are certainly possessed of tonic powers; but the most efficacious medicine is *steel*, which in chlorosis seldom fails to cure. Van Swieten, after clearing the intestines from mucous saburra, ordered a medicated wine with aromatics and steel filings, of which he elegantly says, *Dum his utitur; incipit oriri major calor, levis quasi febricula; quotidie incipit subsidere laxis partium omnium tumor et redit amœnus rubor in cute, labiis, et gingivis.* Hoffmann had adopted precisely the same practice, and gives distinctly the same character of steel. The two forms preferred by him were iron filings sprinkled with rain water and exposed to the heat of the sun, till the whole becomes a rust; and the other form is a martial tincture made with iron filings in cider exposed to the solar rays.

Dr. Griffith in this disease gave his myrrh and steel mixture according to the formula already mentioned

mentioned under the treatment of phthisis in the preceding volume.

The formulæ 77, 78, and 82, of my Vade Mecum, are excellent in this disease, but in 77 the bark may be omitted.

All these preparations will be rendered much more active and efficacious if the patient inspires highly oxygenated air, and takes sufficient exercise. Vide the letters published by Dr. BEDDOES, from Drs. Thornton, Carmichael, &c. printed for Johnson, St. Paul's Church-yard.

Class IV. LOCALES.

LOCAL DISEASES.

THE distinctive character of this class is,
Morbid affections, which are partial.

The orders of this class are eight.

1. *Dysæsthesiæ.* 2. *Dysorexia.* 3. *Dyscinesiæ.*
4. *Apocenoses.* 5. *Epischeses.* 6. *Tumores.* 7. *Ectopia.* 8. *Dialyses.*

Of which the pathognomic symptoms follow :

1. DYSÆSTHESIÆ.

The senses injured or destroyed by the imperfection of the organs.

2. DYSOREXIA.

The appetites deficient or depraved.

3. DYSCINESIÆ.

Motion impeded or depraved from an imperfection of the organ.

4. APOCENOSES.

Superabundant flux of blood, or humours without pyrexia.

5. EPISCHESES.

5. EPISCHESES.

Suppression of excretions.

6. TUMORES.

Partial swellings without inflammation.

7. ECTOPIA.

Parts displaced.

8. DIALYSES.

Solution of continuity.

Class IV. LOCALES.

Order I. DYSÆSTHESIÆ.

THE senses injured or destroyed by the imperfection of the organs.

In this order we have nine genera.

1. *Caligo.* 2. *Amaurosis.* 3. *Dysopia.* 4. *Pseudoblepsis.* 5. *Dysœcœa.* 6. *Paracusis.* 7. *Anosmia.* 8. *Ageusia.* 9. *Anæsthesia.*

Genus

Genus LXXXIV. *Caligo*.*Darkness.*

SIGHT diminished or destroyed by the interposition of a dark body between the object and the retina.

In this genus Dr. Cullen includes five species.

1. *Caligo lentis. Cataract.* The symptoms are, opacity behind the iris in the posterior chamber of the aqueous humour, to be discovered by inspection; the iris contracts by a strong light, and in the shade expands; vision is less perfect in proportion to the quantity of light reflected from an object; minute objects appear to be covered with a mist increasing in density, as the opacity extends.

In the incipient state, or even previous to the appearance of the cataract, there is sometimes head-ach; and the approach of the disease is announced by *muscæ volitantes*.

This opacity may be either in the crystalline lens itself, or in its capsule; or it may arise either from a membrane formed in the posterior chamber of the aqueous humour; and therefore easily to be distinguished by inspection, or from portions of inspissated pus floating in the aqueous humour, and moveable by the slightest inclination of the head.

The

The latter constitute the spurious cataract; the former only is the genuine.

The occasional causes of cataract are commonly external violence, sudden exposure to great heat after cold, and to strong light after obscurity. From these last circumstances it may perhaps arise, that cataracts abound in Spain, more especially at Madrid, where my friend Gimbernati extracted more than a hundred in one year. In addition to these causes we may remark from Lommius, as quoted by Hoffmann, that in some cases cataract originates from affections of the stomach, and this seems to be rendered in some measure probable, when head-ach precedes a cataract.

In some cases the lens has spontaneously recovered its transparency. Mr. Wathen mentions two cataracts in one patient having been thus dispersed, after continuing 18 years. It is well known, that the capsule is absorbed after a cataract has been extracted, and that after couching nature sometimes excites the action of the absorbents to carry off, as an extraneous body, the cataract itself. The same effect is often produced by external inflammation of the eye, and for this reason it is that cataracts occasioned by contusion are more frequently absorbed, than those which proceed from constitutional affections. Sometimes indeed it happens, as in the case of one of our princes, that from external inflammation the absorbents carry off

off both the crySTALLINE and the vitreous humour, leaving only a bag of water.

It was upon this principle that my friend WATHEN PHIPPS, to cure a cataract, which it was not proper to extract, excited violent inflammation in the eye by means of corrosive sublimate, and thus caused the diseased lens to be perfectly absorbed. His grandfather records a case, in which the operator being obliged to desist, because he could not fix the eye; in about a fortnight from that time the patient began to see a little, and in less than a month perfectly recovered his sight.

As to the medical treatment of cataract little can be said. It has certainly been cured by electricity. As this effect must in all cases have been produced by the absorbents, calomel, which excites their action, seems to promise some relief, but I do not recollect of having seen it tried.

When medicines fail, the only hope is from extraction. In such circumstances the first point to be determined is its fitness for the operation, on which we are assisted in our judgment by the publications of Mr. Wathen, who in this line is the most experienced practitioner in Europe. He observes that if the eye can discern a bright light, and if on sudden exposure to light the pupil contracts, if the eye retains its natural size and figure, if the cataract is not red, blue, yellow, brown, or of a snowy whiteness, but of a pearl or light grey colour, and if it was preceded not by sensations like

those produced by flies moving before the eyes, but by a mistiness hanging over objects and increasing with the disease: in these circumstances the cataract is in a fit state for operation, but in opposite circumstances the case must at least be doubtful.

As to the mode of operation, I shall not here repeat, what in his works he has clearly pointed out, but having had frequent opportunities of seeing him extract, I am decidedly of opinion, that no country practitioner should ever presume to undertake the operation, nor any chirurgeon, even in great cities, who is not almost in the daily habit of performing it.

2. *Caligo Corneæ.* The cornea is composed of many lamina, which are liable to be separated by stagnant lymph, and this according to the quantity may produce either semi-pellucid specks, or perfect and complete opacity. Specks may be removed with safety by means of lapis calaminaris and sugar in equal parts, either blown upon them through a small quill, or applied with a pencil brush. The leucoma, if extensive, may require cathartics with calomel to excite the action of the absorbents, and as astringent applications to the part to brace the relaxed vessels.

An *hernia* of the cornea, with prolapsus of the uvea, called *staphyloma*, requires astringents. M. Gimbernat, of Madrid, has cured many by dropping three times a day a few drops of a very strong cold infusion

infusion of myrtle leaves into the eye, keeping the bowels soluble by cooling cathartics, and making the patient avoid spices, spirits, and whatever increases the motion of the fluids.

Sometimes the cornea is suffused with blood, when there are no symptoms of inflammation, as may be seen in scrophulous subjects. In this case our dependence must be on tonics and astringents externally and internally applied.

Excrescences from the cornea may be taken off by a thread, by the knife, or by an escharotic, which may be composed of sugar, ten grains to one grain of alum finely powdered; after which the eye must be washed for some days with brandy and water, then with the following astringent collyrium.

℞ Zinci vitriolati, ʒj. Aq. Rosar. ℥j. M. f. Solu-
tro. Cola.

That is,

White vitriol a dram, dissolved in a pint of rose water and filtrated.

Or the following, adopted from the Germans, may be perhaps preferred :

℞ Margarit. ʒj. Cerussæ acetat. gr. vj. Zinci vitriolati, gr. iij. Aq. Rosar. Aq. Plantaginis, aa ʒj. M.

That is,

Mother of pearl one scruple; sugar of lead six grains; white vitriol three grains; rose water and plantain water, of each one ounce.

3. *Caligo pupillæ*. The closing of the pupils, which may be occasioned by inflammation of the iris.

4. *Caligo humorum*. This may be produced either by effusion of blood, of pus, or of milk, as mentioned by Hagenot, into the chambers of the eye; by deficiency of aqueous humour; by its morbid abundance, as in dropsy of the eye; or by dissolution and disorganisation of the vitreous humour, which is the amaurosis sychisi of Sauvage.

5. *Caligo palpebrarum*. In this species the eyelids may be fixed to the eye by the adhesive inflammation; or the two lids may be united by the same process; or the superior lid may be closed either by palsy of the muscle, called *elevator palpebræ superioris*; by tubercles and warts thickening the membranes; by fleshy excrescences, by steatomatous tumours, or by cancer.

These five include the twenty species of Sauvage, not excepting his *caligo venerea*, although unnoticed by Dr. Cullen. True it is, that the infants of prostitutes and of women infected with the lues, often suffer blindness; but then this blindness is not of any particular species, for it may arise either from cataract, or from morbid affections, either of the cornea or of the humours of the eye.

Genus LXXXV. *Amaurosis.**Gutta Serena.*

SIGHT diminished, or destroyed, without visible injury to the eye: the pupil mostly dilated and immoveable.

SECTION I.

OF THE HISTORY OF AMAUROSIS.

AMAUROSIS sometimes comes on suddenly, more especially if produced by violence, whether by concussions or by wounds. Sometimes the sight is gradually lost, as in old people and in paralytic subjects. Sometimes again the gutta serena is periodical, rapid in its progress, and continues only for a few hours or days, after which it suddenly and spontaneously departs, yet frequently returns, as may be observed in hysterical and in parturient women. Sometimes we find it associated with head-ach, vertigo, sleepiness, and ringing in the ears: at other times it appears unconnected with these symptoms.

It is commonly preceded by the appearance of dust, cobwebs, and flies, called *muscæ volitantes*, and when recent has vision the clearest in a strong light.

SECTION II.

OF THE PROXIMATE CAUSE OF AMAUROSIS AND
DISTINCTION INTO SPECIES.

THE proximate cause of amaurosis is, interruption of the nervous influence in the optic nerve or retina, which may be either perfect or imperfect.

Sauvage enumerates seventeen species of this disease; but Cullen, transferring two of these to *caligo pupillæ*, where certainly *amaurosis a synchisi* should not be placed, has included the other fifteen in his own four species, viz.

1. Amaurosis *compressionis*. 2. Amaurosis *atonica*.
3. Amaurosis *spasmodica*. 4. Amaurosis *venenata*.

Without particularly stating my objections to his second and fourth species, as being included in the third, I shall only make some observations on his first.

The *pressure*, forming his specific character, may be either on the thalami of the optic nerves, or on the nerve itself in any part of its extent, and may be made by exostoses produced by the syphilitic virus; by steatomatous, or scrophulous tumours; by calculi, as noticed by Bonet; by *lymph*, as happens after serous apoplexy and palsy; by *blood*, either extravasated or in its proper vessels, as happens either from external violence, or from
internal

internal causes, as after acute fevers and the sanguine apoplexy.

This *pressure* on the optic nerve by distended vessels may arise from a strong determination to the head, which may be caused by *spasm*, and this again may be occasioned either by *poisons* or by any acrid matter, particularly in the alimentary canal. What numerous causes have we here, each requiring a specific mode of treatment to itself! yet all are included in one species!

Surely these observations are sufficient to evince the impropriety of the distinctions made by Dr. Cullen. I shall therefore venture to suggest a more natural division, and shall endeavour to establish the following species.

1. Amaurosis *sanguinea*, related to the PYREXIAE, has symptoms of plethora, and frequently begins with deep-seated pain in the head, or distressing weight at the bottom of the eye. It follows acute fevers and the *sanguine apoplexy*, and it is frequently occasioned by violent concussions, such as may produce extravasation of the blood, whether by blows, by falling from a considerable height, or by sneezing. It may likewise be occasioned by anger; by violent muscular exertion, as in parturition; by the hot-bath; or by whatever causes a determination to the head. On dissection the arteries in the orbit of the eye have been found exceedingly distended, and extravasations of blood have been dis-

covered compressing the optic nerves in patients who had suffered by amaurosis. This species comprehends the first and fourth species of Sauvage, which are his *traumatica* and *plethorica*.

2. Amaurosis *spasmodica*, related to the NEUROSES, has symptoms of debility and irritability. It follows convulsive and spasmodic affections, and is peculiarly the disease of *hysterical* and *epileptic patients*. It has been observed to attend intermittents, atonic gout, and hemicrania, which came on after childbirth. It is often occasioned by colic and constipation of bowels, particularly by colica pictonum, by the irritation of calculi in the kidneys, and by stoppage both of the hæmorrhoidal and of the menstrual flux. It is likewise consequent on the sweating of the feet imprudently repressed, on the exanthemata repelled, or any herpetic eruptions checked; and it is particularly induced by excessive indulgence in the most exhausting of all sensual pleasures. It is said to be occasioned also by application of stramonium to the eyes.

This comprehends eight species of Sauvage, among which we find his *amaurosis a spasma*, caused by spasmodic constriction of the *annulus moderator* of Valsalva. This ring is formed by the four strait muscles with the obliquus major, all which arise from the bottom of the orbit, and together embrace the optic nerve. The cause here assigned is certainly adequate to the effect produced. But besides

besides this we must recollect, what has been delivered in the preceding volume, on spasmodic stricture, as the occasional cause of *apoplexy*; and more particularly what I have said upon the subject, when accounting for the determination to the brain in *mania hysterica*.

3. *Amaurosis serosa*, related to the *CACHEXIÆ*, has symptoms of relaxation, debility, and torpor. It is indeed a genuine *CACHECTIC* disease, arising from morbid affection of the lymphatic system, being produced either by increased action of the exhalants, or by diminished action of the absorbents. It is the disease of hydropic habits, and attends *apoplexia serosa*. I need scarcely add, that it is occasioned by poverty of diet, exhausting diseases, hæmorrhages, anxiety, protracted grief, hard study, vigilance, the application of cold after exercise, by dram-drinking, and by every kind of intemperance.

This species is the *amaurosis pituitosa* of Sauvage.

4. *Amaurosis organica* has none of the preceding symptoms, or at least not as connected with this affection of the eye.

It is occasioned commonly by external violence, such as wounds dividing the optic nerve itself, or by such effulgency of light as may be sufficient to change the organic structure of the retina. But Bonetus discovered the optic nerves atrophic and wasted to half their usual size, which must have arisen from some internal cause, and my friend M. Gimbernat in

in the place of the retina had once occasion to observe a bony substance, which must have been either an incrustation, or the ossification of that medullary expansion of the optic nerve, produced by the same process as ossifications in the brain. Mr. Gimbernat has preserved this curious production in his Museum at Madrid.

5. *Amaurosis symptomaticæ.*

a. Amaurosis venerea, the consequence of impure connexion. In this species hydatides have been discovered by Boerhaave on the retina, and exostoses very frequently produced by the venereal poison, are apt to press upon the optic nerve.

b. Amaurosis scrophulosa, in scrophulous habits. In this species Sauvage discovered by dissection strumous glands incumbent on the optic nerve, and various tumours producing the same effect have been noticed by Hoffmann.

As to the *amaurosis foricariorum* of Sauvage, I know not where to class it, nor do I believe that the nocturnal scavengers of London are acquainted with this wonderful disease: yet such is the authority of Ramazzini, from whom Sauvage has adopted it, that I cannot doubt of its existence. As however it is sufficient for these men to cover their eyes with glasses in order to avoid the dire effects
of

of their needful, although humble, occupations, we need not be very anxious to discover the pathology of this disease.

SECTION III.

OF THE INDICATIONS OF CURE IN AMAUROSIS.

THESE must depend on the nature and cause of the disease, for no medicine has ever been discovered, which can cure indifferently every species of the same disease.

I shall therefore consider what is the proper mode of treatment in the several species of amaurosis.

1. Amaurosis *sanguinea*.

The indications of cure are precisely the same as in *apoplexia sanguinea*, to which I must refer the student. It is for this reason, that Hoffmann, if the pulse admits of such evacuations, recommends bleeding, by leeches applied to the temples, by the lancet from the feet, or, in preference to both, either from the frontal vein or from the temporal artery. With the same view of diminishing pressure in the brain, he advises to cleanse the first passages by cooling and most gentle cathartics, and the great intestines by carminative clysters. With these remedies he enjoins strict temperance.

2. Amaurosis

2. Amaurosis *spasmodica*.

The indications of cure are the same as in palsy and epilepsy, which the student may consult.

We must here be particularly careful to obviate, first the occasional, then the predisponent cause of spasmodic affection. If, as very often happens, there is irritation in the alimentary canal, it must be removed by gentle cathartics and carminative clysters. If the irritation should be from the hæmorrhagic effort in the uterine vessels, nature must be assisted by emmenagogues of the antispasmodic order combined with tonics. If from atonic gout, attention must be paid to that disease. If the stimulus is mental, the angry passions must be restrained. If the sweating of the feet has been repressed, if exanthemata have been repelled, or if herpetic eruptions have been checked; the same treatment must be adopted, as recommended by Hoffmann in his *tussis ferina*, which is to be found in my section vi. of *catarrh*.

Hoffmann particularly recommends calomel with balsamics and corroborants, which in many cases obviate both the remote causes of the disease.

Dr. Collin of Vienna, since the year 1773, has introduced the *antica montana* to the notice of physicians, as a powerful tonic in cases of amaurosis, and some of my friends in Spain have proved its efficacy. He gave from two drams to half an ounce infused in boiling water, with an ounce of syrup of maiden hair, (*adiantum capillus veneris*) for a
dose,

dose, and he assures us, that in nine cases it perfected the cure. As it is a penetrating aromatic bitter, it promises to be a valuable acquisition in a variety of spasmodic affections.

Electricity is of all antispasmodics, the most speedy in its operation, and in cases of amaurosis has very frequently been found effectual. Mr. Wathen and Mr. Phipps have cured many patients by that means.

A generous diet is admissible in this disease, yet every species of intemperance must be carefully avoided. The patient must shun the extremes, and the sudden alternations of heat with cold.

3. Amaurosis *serosa*.

The indications are precisely the same as in *apoplexia serosa*. Emetics, cathartics, diuretics, blisters, setons, and sternutatories, are highly proper, and may be followed up with spirit. The absorbents may be excited to action by calomel, and particularly by superoxygenated air. Of this I have been witness in the practice of my friend Dr. THORNTON, more especially in the case of Patterson.

4. Amaurosis *organica* admits of no relief.

5. The symptomatic affection must be referred to the primary disease.

Genus LXXXVI. *Dysopia*.

SIGHT depraved, requiring one certain quantity of light, one particular distance or position.

Dr. Cullen has five species. 1. *Dysopia tenebrarum*. 2. *Dysopia luminis*. 3. *Dysopia diffitorum*. 4. *Dysopia proximorum*. 5. *Dysopia lateralis*.

These coincide with as many species of *amblyopia* in Sauvage; but as with these this learned professor has associated two others which evidently belong to different genera, Dr. Cullen has remitted one of them to *caligo*, the other to *amaurosis*.

1. *Dysopia tenebrarum*, in which objects to be seen require the strongest light.

This species Sauvage informs us was epidemic in the vicinity of Montpellier, chiefly near the rivers, where soldiers in particular, who mounted guard by night, were the first to suffer.

It was cured by evacuants, such as emetics, cathartics, diuretics, diaphoretics, blisters, and bleeding.

Boerhaave mentions a variety of this species arising from contraction and immobility of the pupil, which he considered as incurable.

2. *Dysopia luminis*, in which objects to be seen require obscurity.

This must arise from extreme sensibility of
the

the retina, as in cases of inflammation, with a peculiar conformation of the iris. When it arises from inflammation, the cure is obvious.

3. *Dysopia dissitorum*, near-sightedness.

4. *Dysopia proximorum*, in which near objects are indistinctly seen.

These require the aid of the optician.

5. *Dysopia lateralis*, in which objects to be seen require an oblique position.

This may arise, 1. From the obliquity of the pupil. 2. From want of transparency in some part of the cornea. 3. From obliquity of the crystalline. 4. From want of sensibility in a part of the retina. 5. From the habit of squinting, in which case alone relief can be expected. This, according to circumstances, may be obtained either by proper spectacles or by a proper mask.

Genus LXXXVII. *Pseudoblepsis*.

SIGHT depraved, creating imaginary objects, or representing them different from what they are.

Sauvage has entered fully into this most curious subject, and in his two genera of *suffusio* and *diplopia*, has taken notice of all the optical deceptions which arise from morbid affections of the eye.

But

But as these may be regarded chiefly as symptomatic of some primary disease, I shall not here repeat his observations. They most commonly attend either fever or spasmodic affections, and then originate in preternatural determination to the brain. In the first case the proper remedies are the tepid pediluvium, bleeding, carminative clysters, refrigerant cathartics, and every part of the antiphlogistic regimen. But if the determination to the head arises from spasmodic affection, the principal attention must be to remove the stimulating cause, then to invigorate the general habit.

If the eyes have been fatigued by nocturnal studies, or distressed by immoderate effulgence, they must be permitted to repose, and the tonic plan must be pursued.

Genus LXXXVIII. *Dyscoea*.

Hearing diminished or destroyed.

SECTION I.

OF THE CAUSES OF DEAFNESS.

I. THE *meatus auditorius externus* may be closed by,

a. Inspissated wax, which sometimes acquires the hardness of a stone.

4

b. Membrane

- b.* Membrane formed in the meatus, which may be rendered thicker by collecting wax.
- c.* A fleshy excrescence or polypus succeeding an ulcer.
- d.* Swelling of its glands.
- e.* Extraneous bodies dropt into the ear.

2. The *membrana tympani* may be morbidly affected by,

- a.* Relaxation, which may be occasioned by humidity, or by the discharge of ulcers.
- b.* Preternatural tension. In this case the persons hear best in damp and foggy weather.
- c.* Becoming callous or even long, as happens to other membranes.
- d.* Rupture occasioned either by external and mechanical violence; by the concussion of loud sounds, or from within, through the Eustachian tube, by sneezing. Or the solution of continuity may be occasioned by acrimonious pus.

3. In the *tympanum*

- a.* The small bones may either lose their power of motion by adhesive inflammation, or may be destroyed by caries.
- b.* The muscles serving for the motion of these bones may be morbidly affected either

by spasm, by palsy, or by inflammation and suppuration, which is the more readily induced because of their connexion with the Eustachian tube.

c. Next to wax in the auditory passage, the most common cause of deafness is obstruction in the *Eustachian tube*. When I was in Edinburgh, M. Bradewood, now of Hackney, was there teaching the deaf and dumb to understand and speak. He had then about twenty scholars, who were all born deaf. Upon examination I discovered that in the major part of these the Eustachian tube was closed. In violent fevers this effect is very frequently produced by inflammation, as happened to the patient whose case of bilious autumnal fever is related in the beginning of my first volume. Sometimes the tube is closed by viscid mucus, as in catarrh, on the going off of which the hearing is suddenly restored and the passage is opened by a loud and surprising snap. It often happens that venereal virus either produces exostoses in the bony part of the tube, or ulcers, with the adhesive inflammation in the muscular part, and the passage is obliterated. It is sometimes closed by polypus.

4. The *internal ear* may be morbidly affected

a. By

- a. By redundance or deficiency of aqueous fluid in the labyrinth.
- b. By inflammation and suppuration of the periosteum.
- c. By caries of its bones.

5. The *auditory nerves* are subject precisely to the same affections as the optic nerves, and for these, therefore, I must refer the student to what I have said on *amaurosis*.

SECTION II.

OF THE CURE OF DEAFNESS.

1. WHEN we are to examine a patient, who complains of deafness, we must begin with the external ear, and for this purpose we must contrive to throw a sun-beam into the *auditory passage*. Should this be obstructed by extraneous bodies, they must be extracted; if by inspissated wax, which is most frequently the case, it must be softened either by ox gall, by oil of bitter almonds, or by warm milk with four drops of aqua kali, then washed, by injecting frequently sage tea with honey. The ox gall or oil must be put into the ear at night, and the passage must be syringed the next morning. The syringe should have a silver pipe with numerous perforations at the end, some lateral, others ob-

lique, but none direct, lest the membrane of the drum should be mechanically injured. After injecting this infusion, the ear must be kept warm, and no cold liquids must be drank. This operation must be repeated every day, even for a month, or till the wax is cleared away.

If there is a superfluous membrane, it must be pierced; if a polypus, it must be extirpated either by ligature, by the knife, or by a caustic, which may be introduced by means of a tent thrust through a canula adapted to the ear.

If the glands are swelled, a few drops of oil of almonds with camphor will allay the pain, and gentle cathartics with small doses of calomel will reduce them. Should they suppurate a decoction of barley and agrimony will cleanse the ulcers.

2. If the *membrana tympani* is relaxed, the hearing will be worst in foggy weather, and will be quickened in a time of frost. For this, tonics externally and internally applied are proper, such as cold bathing, cool air, exercise, a generous diet, bitters, bark, and steel, and a cold infusion of tormentil may be injected into the passage of the ear, once every morning.

Should this membrane be affected with preternatural tension, oil of almonds may be dropt into the ear at night. When we suspect that deafness arises from laceration, or from erosion of the *membrana tympani*, the person must be made to take a full inspiration

spiration of air into his lungs, then stop his nostrils and his mouth, and endeavour to expire. Should air escape by his ears, we may be certain that we have discovered the cause of deafness, and need look no further.

3. To discover whether one or both the Eustachian tubes are closed, let the expedient mentioned in the preceding section be resorted to, and if they are open the air will be felt pressing the membrana tympani. If nothing is felt, the tubes are closed. Diemerbroeck remarks, that when these tubes in catarrh are closed by mucus, if you stop both ears, and with a stick between your teeth, strike the strings of a musical instrument, you hear no sound, and that by this method he examined his patients; but the preceding trial will be fully sufficient for our purpose.

If the Eustachian tube is closed by mucus, it will be proper to try *sialagogues* followed by cephalic snuff, or some more efficacious sternutatory, which may be found in the class *errhina* of my Vade Mecum. Should these prove insufficient a proper catheter may be introduced into the tube through the nostril, as Dr. Monro of Edinburgh has practised.

4. The diseases of the *internal ear* are not easily distinguished; but these, it is apprehended, very seldom happen, because the parts are far removed from injury. When however either the muscles,

the membranes, or the bones of the ear, participate in the general affections of the system, the general treatment will extend its beneficial effects to them. The diseases of the system may come under the class either of pyrexia, of neuroses, or of cachexia; and so may all the diseases to which the internal ear is subject. In all dubious cases, therefore, the attention must be turned towards the general state and condition of the system, and according to these the practice must be governed.

5. Affections of the *auditory nerve* are, perhaps, as common as those of the optic nerve; but unfortunately they are not so readily distinguished. In *amaurosis* we can have little room to doubt, because when there is no visible injury, when the parts are all transparent, and when the pupil is dilated and immoveable, it is evident, that there must be obstruction of the nerve; but in the ear all the internal parts are hid.

If, however, either apoplexy, palsy, epilepsy, vertigo, head-ach, or loss, or even imperfection of any other sense has either immediately preceded, or attends the deafness, we may have reason to suspect that there is pressure on the nerve.

This pressure on the auditory nerve may be produced by

a. Blood, and may arise from either plethora, and therefore require evacuants with a vegetable diet and constant exercise; or it may be induced, as it
very

very often is, by spasmodic affection and determination to the head, which may be either permanent or periodical, and may return either regularly or at uncertain intervals. In these cases the same treatment precisely is required as in *amaurosis sanguinea* and *amaurosis spasmodica*, to which I must request particular attention.

b. Serum, with symptoms of relaxation, debility, and torpor, as in *amaurosis serosa* and in *apoplexia serosa*, under which the proper treatment will be found.

c. Steatoma. d. Exostosis, which, if produced either by scrophula, or by the venereal virus, will require the same remedies as have been ordered in those diseases.

SECTION III.

CASES OF DEAFNESS.

CASE I.

A patient, at first seized with blindness, was afterwards affected with deafness, and finally with total privation of all the animal functions. On dissection, Drelincourt discovered a steatoma between the cerebrum and cerebellum. See Duverney, p. 134.

CASE II.

A girl who had been deaf for many months, was at the same time pale, low spirited, and complained of deficient

catamenia. After taking hyoscyamus albus daily for six weeks, she perfectly recovered her hearing, her colour, and her flesh. She began with one third of a grain, and gradually increased the doses to seven grains a day. See Sauvage, Vol. I. p. 753.

CASE III.

A gentleman of high rank in Holland, aged 40, of the sanguine phlegmatic habit, indulging himself in eating, became very corpulent, and at the same time lost his hearing, which was always worst in rainy weather. Hoffmann being consulted, ordered strict abstinence and much exercise. He forbid all broth, fat meats, eggs, fish, and boiled flesh, allowing only half a pound of roast meat every day, with biscuits instead of bread. For his common drink he was ordered a decoction of china-root, grass and sarsaparilla, which he likewise drank early in the morning before he rose from bed, to promote a perspiration. He was allowed but little sleep, and only a moderate quantity of wine. This regimen, preceded by venesection and a thorough cleansing of his bowels, soon restored him to his perfect hearing, after he was reduced half an ell in bulk.

CASE IV.

A lady, aged 60, of a strong constitution, yet subject, when coſtive, during seasons of rain, to heaviness and pain in her head, with some degree of deafness, was suddenly seized with total loss of hearing in the left ear, and difficulty of hearing in the right. By the advice of Hoffmann, after some months she had tried other remedies in vain, she took a dram of rhubarb with an ounce of coffee made into an infusion, which was repeated at intervals,
and

and she put a clove of garlic alternately with a few drops of essence of colocynth and musk into her ear. By these means her hearing was restored. Had they failed, the professor would have ordered a few grains of ammonia pp. with a small quantity of castor to have been put into the ear.

CASE V.

A veteran professor, who for 16 years had lost the hearing of his right ear, fearing the same misfortune for the left, applied to Hoffmann, who finding his bowels constipated, ordered cathartic pills. These, among other ingredients, were composed of calomel, cinnabar, aloes, jalap, and salt of amber with Peruvian balsam. But the good old man, wrapped up in the profoundest meditations as he walked, instead of one scruple, consisting of 14 pills, took the whole quantity prescribed, being no less than 120 pills. In less than two hours he had excruciating pain in his intestines, with nausea and frequent faintings; yet he had only four motions: violent spasmodic pain in the right side of his head, more particularly of the ear, succeeded, and raged to such a degree as to deprive him of rest. This was however followed by a dreadful explosion, like the discharge of a cannon, which removed the pain, and his hearing perfectly returned.

CASE VI.

A military præfect in the vigour of youth, having taken cold during a mercurial salivation, lost his hearing altogether, and complained of a weight in his head. After two months, the Prince of Orange sent him to Hoffmann, who ordered the following cathartic:

R Gum

℞ Gum Ammon. Extract. Rhei, Aloë, Calomelan.
Cinnab. aa. ʒss. Sal. Succin. Croci, Castorei, aa.
gr. xij. Balf. Peruv. q. s. f. Mass. Pilul. Ex
Scrupulo uno f. Pill. xx. quas pro dosi alternis
diebus fumat.

That is,

Gum ammoniac, rhubarb, aloes, calomel, cinnabar, of
each half a dram; salt of amber, saffron, castor, of
each twelve grains; Peruvian balsam, sufficient to
make a mass of pills, one scruple of which made into
twenty pills may be taken every other day.

With this he ordered a sparing diet, abstinence from wine,
and the warm pediluvium twice a day. He put a blister
to the nape of the neck, gave him a sternutatory powder,
and put cotton with a few drops of what he called his bal-
sam of life into the ears. By these means his hearing was
restored.

CASE VII.

A Dutch count, aged 69, of the sanguine temperament,
much disposed to anger, temperate, robust, and accustomed
from his youth to the fatigues of hunting and of war, com-
plained of vertigo, more especially in going down stairs,
with great weakness of head and pain in the cervix after
deep meditation, or any remarkable intensity of thought.
His mouth and lips were inflated and distorted, his hand
trembled when he wrote, and the left side of his face was
spasmodically affected. His left eye was inflamed, and on
his tongue he had some pustules, which distressed him with
a burning heat. His hearing was almost destroyed, but that
of the left ear was much the worst. He had been sud-
denly seized with the paralytic affections about a year and

an

an half before, on returning home after having been exposed to humidity and cold. In other respects the count was vigorous, rode a hunting, and performed all the functions of life with ardour. Yet his alacrity was greatest after meals, and after dinner he could both write without tremor, and indulge intensity of thought without feeling any remarkable weakness in his head.

It must be added, that he had been accustomed formerly to bleed frequently in the foot, but that latterly he had lost blood by the arm only, twice a year, at the equinoctial periods, and that he had formerly been open in his bowels, but now complained of costiveness.

Hoffmann attributing, as he informs us, *the paralytic affection, the vertigo, the deafness, and the distressing weakness of the head after intensity of thought*, to one and the same cause, a superabundance of serous fluids, and being persuaded *that a determination to the head was supported by constipation of bowels*; ordered such cathartics as, considering the age of his patient, he could venture to prescribe. These were rhubarb, salt of tartar, crocus of antimony, and crabs claws, given twice a week. He ordered oil of amber with aqua ammoniæ, and what he calls *tinctura tartari*, to be taken twice a day. The result of this curious case is not communicated.

Genus LXXXIX. *Paracusis*.

Dr. Cullen has two species; 1. That in which sounds are heard, but not with the usual conditions. 2. That in which the sensation is excited by internal causes. But Sauvage of these makes two genera,

nera, *paracusis*, and *syrignus*, the first containing four, the latter eleven species, of which I shall here take notice.

1. *Paracusis barycoia* is the affection in which loud sounds create confusion in the hearing. It is attributed to rigidity and rheumatic affection in the muscles, which move the malleus and the stapes.

2. *Paracusis oxycoia* is confusion of hearing, arising from extreme sensibility and intolerance of sounds, which is induced by inflammatory and spasmodic affections. The marchioness Parisina, labouring under cephalalgia and hysteric cough, was so distressed by the voice of her attendants, that not only the pain of her head increased, but it extended to her chest; and her cough was wonderfully aggravated. Some patients are thrown into convulsions, or become delirious, even by the slightest sounds.

3. *Paracusis duplicata*. Double hearing.

A musician, who excelled upon the German flute, walking in a cold rain at night, was seized with a catarrh, in consequence of which, when playing the flute, he heard a double sound, isochronous, but not in harmony, and therefore so offensive, that he was obliged to lay aside his flute. This symptom ceased with the catarrh.

A similar case continued for many months.

4. *Paracusis Willisiana*. This species requires
loud

loud noises to assist the ear in distinguishing articulated sounds. Dr. Willis records four cases, one of which required a drum to be constantly beating. One deaf person heard well in a carriage, and another when the bells were ringing near him.

Sauvage, as I have stated, enumerates eleven species of *syrismus*, in which imaginary sounds of different kinds are excited by internal causes. The principal of these it will be sufficient merely to enumerate :

1. *Syrismus criticus*. 2. *Syrismus a debilitate*.
3. *Syrismus plethoricus*. 4. *Syrismus cephalalgicus*.
5. *Syrismus catarrhalis*. 6. *Syrismus vertiginosus*.
7. *Syrismus a ventriculo*. 8. *Syrismus ab oxycœa*.

His three other species, *sibilus*, *susurrus*, and *bombus*, make part of the generic character, and therefore should not appear as species.

When this disease is so distressing as to require medical assistance, we must determine whether it is connected with the PYREXIÆ OR NEUROSES; whether it is a symptom of the sthenic or of the asthenic diathesis; that we may know how to treat it.

If the patient is athletic or plethoric; if the pulse is full, hard, frequent, and strong in the carotid arteries; if his distress increases when he is recumbent and warm in bed; if it is attended by vigilance, by pain in the head, and by other inflammatory symptoms; if it has been relieved by hæmorrhage;

rhage; it is connected with the PYREXIÆ, and requires evacuants with the antiphlogistic regimen.

But if the patient is of a relaxed and irritable habit; if he has been exhausted by previous diseases, or by any species of intemperance; if he has suffered by hæmorrhages or excessive evacuations of any kind; if he is reduced by penury; if he has been subject to hysterical, epileptic, or other nervous diseases; it is connected with NEUROSES, and requires chiefly cordial stimulants with tonics and astringents.

If again we find it connected with *spasmodic* affection, it will be needful, not merely to obviate as above the predisponent cause, but to remove the occasional causes, either by anthelmintics, by emmenagogues of the tonic and antispasmodic orders; or by cleansing the first passages, whether with emetics or gentle cathartics, assisted by carminative clysters, all which will relieve effectually the determination to the head, as I have fully stated under *mania hysterica*.

Genus XC. *Anosmia*.

Smell diminished or destroyed.

THE power of smelling may be diminished or destroyed, precisely as the sight and hearing, by pressure on their respective nerves; by extreme dryness

of the pituitary membrane, or by its being covered with mucus; by polypus obstructing the passage of air into the nostrils, and by destruction of the parts, whether it be by ozæna or by caries. From these circumstances Sauvage has derived his species, which it will be sufficient to enumerate.

1. Anosmia catarrhalis. 2. Anosmia ab ozæna.
3. Anosmia apolypo. 4. Anosmia syphilitica. 5. Anosmia verminosa. 6. Anosmia a siccitate. 7. Anosmia paralytica.

The treatment must be taken from the primary disease.

Genus XCI. *Ageusia*.

Taste diminished or destroyed.

THE pathology of this affection appears to me to have been universally misunderstood. That the tongue is not the organ of taste will appear from hence, that if the nostrils are closed, or if the velum pendulum palati is drawn up so as to prevent the free current of air by that passage, the taste of whatever is taken into the mouth will be prevented; or if the tongue is protruded, and a sheet of paste-board is interposed between the part protruded and the nostrils, sapid substances may be placed upon the tongue without exciting any taste.

Hence

Hence it is, that the smell and taste are so intimately connected, as they are universally observed to be; and hence it follows, that whatever affects the former will equally affect the latter, and that the diseases are the same in both.

Genus XCII. *Anæsthesia.*

Loss of Feeling.

SAUVAGE enumerates four species.

1. *Anæsthesia ab spinâ bifida.* Of this he saw six cases, in the space of ten years, at Montpellier. To such an authority I bow down with reverence: but certainly it is not a common symptom of the disease, nor, unless I am much mistaken, is it mentioned as such by either Morgagni or by Haller.

2. *Anæsthesia plethorica.* This he takes from Ludovici, and upon the authority of that author it must rest; but I can scarcely conceive how a few drops of blood taken from the ranula should obviate plethora and restore universal feeling to the nerves.

3. *Anæsthesia nascentium.* This seems to be *asphyxia*.

4. *Anæsthesia melancholica.* The singular case here

here recorded by Sauvage, is most remarkable, both for its symptoms and its cure: but as no reason is assigned for inoculating this patient with the itch, it seems to be imperfectly related.

Class IV. LOCALES.

Order II. DYSOREXIÆ.

The Appetites deficient or depraved.

IN this order we have eight genera.

1. Bulimia. 2. Pica. 3. Polydipsia. 4. Satyriasis. 5. Nymphomania. 6. Nostalgia. 7. Anorexia. 8. Anaphrodisia.

Genus XCIII. *Bulimia.*

Appetite for food voracious or canine.

A voracious appetite may be occasioned by inanition, as happens to those, who are exhausted either by long fasting or by disease. It may arise also from an acid in the stomach; from a superabundance of gastric juice; and from indigested fœces. Or it may be produced by worms. And when there is more than common irritability in the nerves of the stomach, the food may be speedily rejected.

These symptoms are commonly increased by external cold, when it is not extreme.

The proper remedies, according to the nature of the cause, may be absorbents; fat meats, oils, butter, wine, brandy, tobacco, opium, spices, iron, emetics, anthelmintics, bitters, and Peruvian bark.

Genus XCIV. *Pica*.

Appetite depraved with strong desire for unnatural Food.

OF this Sauvage enumerated six species, five of which Dr. Cullen has mentioned, without however giving them his sanction. The longings of pregnant women are whimsical, capricious, and not in the least to be accounted for; but the depraved appetite of children for absorbents, of chlorotic virgins for the same, for spices, and for the most sapid substances, may be considered as the voice of nature. The same may be said of the cravings we frequently observe in sick people, of which Dr. Whytt was always ready to indulge. Every practitioner must have met with instances of these. They are indeed innumerable. Such desires are instinctive, like those of brutes, which always guide them right.

In children and chlorotic virgins, the cause of pica must be sought for in the alimentary canal, and the cure

cure will be found in emetics and gentle cathartics, followed by bitters, bark, and steel, with a generous diet, fresh air, and constant exercise. To relieve this disease, no medicine can excel the cachectic *Powder of Hartmann*, recommended by Sauvage. It is composed of crabs claws, steel filings, cinnamon and sugar.

Genus XCV. *Polydipsia*.

Excessive Thirst.

POLYDIPSIA is seldom seen as an original disease. Yet one instance I have met with in the sister of Mrs. Tudor, at the Crown inn, Reading, who is otherwise in perfect health.

Thirst is commonly symptomatic of fevers, fluxes, dropfy.

It attends every kind of evacuation when excessive, being the voice of nature calling loudly for liquids to supply the deficiency caused by this discharge.

When the fluids are thickened, so as not to pass freely through their proper vessels, nature becomes impatient for a fresh supply of diluents; and when acrid substances have either been received into the stomach, or generated in the first passages, she pleads powerfully for aqueous fluids to wash them speedily away.

away. Thus it is commonly when spices, spirits, alkaline substances, salted meats, or rancid oils in considerable quantities, have been taken into the stomach, and thus more particularly in case of poisons.

The most common cause of *thirst* is heat, to diminish which, if excessive, as happens after strong exercise and in fevers, a copious perspiration is required, and a plentiful supply of aqueous fluids to support that discharge. Nature then calls for cold liquids, rather than for warm, and for acescent drinks, rather than for such as contain ardent spirits. In such circumstances, as Dr. Brown has most judiciously observed, wine increases thirst, and excites both nausea and vomiting; whereas in hysteria, typhus, and all cases of debility, water augments the thirst, which is thereby hurried on to nausea and to vomiting, but effectually relieved by wine or spirits.

The reason for these distinctions I have already sufficiently explained.

The pathology of polydipsia, as an original disease, has never been explained, nor, as far as my recollection goes, has it ever been removed by medicine.

Excessive thirst, when symptomatic, must be cured by curing the primary disease.

Genus XCVI. *Satyriasis*.

Excessive and violent desire for Coition in Men.

IF the student recollects, what I have delivered on irritability, stimuli, and habits, he will fully comprehend the nature of the disease in question, and will quickly understand why it is seldom if ever seen among the laborious peasants of country villages, whilst it is the scourge of indolence, intemperance, and vice, in cities.

Morbid irritability is the predisponent cause of satyriasis, and this we know is founded in debility, which is increased by every species of intemperance, but more particularly, and to a most astonishing degree, by that to which the disease itself is constantly inciting.

The occasional causes are to be sought for in mental and material stimuli, in wine, too great an abundance of animal food with spices; but, above all, a diseased imagination, heated by vicious company and conversation, or by improper books.

If the student will consult what has been said on the *vesaniæ*, particularly on *dreaming* and *delirium*, he will see that mental stimuli are both more permanent and violent than the material. When therefore the imagination itself is become the seat of this disease, the symptoms will be rendered most distressing.

As to the method of cure, we cannot do better than to adopt nearly the plan referred to by Sauvage, which proved successful in two cases. It began by moderate emetics; then the patients took milk, sulphur, æthiops mineral, and cinnabar of antimony, with benzoine and ammonia. The diet was moderate, being confined to four ounces of animal food and a small quantity of wine per day. But the most essential part of the cure, as it should seem, was that which followed, viz. bark, orange-peel, and vitriolated iron, with the cold bath and gentle exercise.

The subsequent prescription comes recommended with the authority of Sir John Pringle as a powerful antiaphrodisiac.

℞ Lign. Guaiac. un. 3. Lig. Junip. un. 2. Rad. Chinæ, un. 1. Argent. Viv. in linteo humido ligati, Antimon. Crud. in linteo ligat. ana, un. 1. post debitam cum aqua font. infusionem coquantur ad ℥ 6. Sub finem coctionis addendo Rad. Glycyrr. un. 2. Colat. Capiat. un. 30—60. omni quotidie per 30 ad 50 dies.

Yet in addition to this also it must be observed, that tonics are certainly required to obviate the predisponent cause, and that gentle exercise in the open air is a powerful tonic. Violent exertions would exhaust the vital energy and increase debility: but nevertheless it will be found expedient to push the exercise as far as possible without producing this effect,

fect, because in this case the quantity of animal food may be increased, and then muscular exertion will continue to be a powerful tonic. Besides by experience it is found, that when a due quantity of vital energy is expended in this way, nature is not solicitous to seek relief from any other quarter, but quietly sinks into refreshing slumbers.

Nocte fatigatum somnus, non cura puellæ,
Excipit ; et pingui membra quiete levat.

The patient must likewise endeavour to procure some agreeable employment for his mind, in order to obviate the mental stimulus, at the same time most carefully avoiding such places, such society, and such books, as have been accustomed to inflame his imagination and to excite his passions.

If by these means he acquires some degree of fortitude and resolution, a cure may be expected, because by degrees evil habits may be broken ; whereas by indulgence every evil habit is confirmed.

It is the property of a stimulus, either to produce action, or to exhaust the irritability of the part to which it is applied. If action is produced, and any kind of drain from the system is established ; nature provides a regular supply, and becomes impatient whenever that evacuation ceases. This may be observed in the hæmorrhoidal and in the menstrual discharge, in periodical hæmorrhages, such as epistaxis, and in those persons who at stated seasons have been accustomed to be bled. It is

from this principle alone that plethora is increased by venæsection.

Again, when nature has been taught to act on the slightest irritation, she becomes impatient under the common stimuli, and is thrown into convulsive or spasmodic action by those which would have otherwise been endured without commotion.

In the extreme debility of typhus, in hysteric affections when severe, or when a person has long been secluded from the light, how irritable is the retina ! how impatient under the stimulus of light ! After long confinement with silence and solitude, how readily are such patients convulsed by the stimulus of sounds ! The same may be said of every other stimulus, even of blood in the arteries of one who is exhausted and dying of an hæmorrhage.

If from fortitude and resolution the stimulus is endured, the irritability of the part to which it was applied will be exhausted, and, according to circumstances, it may be hours, weeks, or months, before the irritation is renewed. This may be observed with respect to hunger, to parturient pain, and particularly to the appetite before us in those animals, with which we are best acquainted, of the domestic tribe.

Genus XCVII. *Nymphomania.*

THIS disease, which is the same with the preceding, is common in warm climates. The effects, as described by Juvenal in his sixth satire, are most humiliating to human nature. It acknowledges the same causes with satyriasis; but as females, more especially in warm climates, have a more irritable fibre, they are apt to suffer more severely than the males.

As a natural disease, it requires tonics and astringents; as moral, it calls for moral arguments: in both cases the prudential cautions recommended in satyriasis are expedient. But, from what I have had an opportunity to observe in Spain, I must further add, that young persons of delicate sentiments and tender consciences must be careful not to mistake a mere natural desire for moral turpitude, lest distress of mind should increase the predisponent cause of this morbid affection, which is debility, attended by irritability, and lest by rivetting this too vivid idea in the mind, it should there prove a constant stimulus to excite desire and aggravate that distress which they are impatient to relieve.

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Genus XCVIII. *Nostalgia.*

Impatience when absent from one's native home, and vehement desire to return, attended by melancholy, loss of appetite, and want of sleep.

THIS disease is equally familiar to the Swiss and to the peasants of the Asturias, who have quitted their native mountains, and in many cases has proved fatal. It commonly deranges the digestive functions, and commits the greatest ravages in the alimentary canal, inducing flatulence, costiveness, atrophy, and death.

Dr. Hamilton, of Ipswich, records a curious case in a Welch recruit, A. D. 1781. This young man was of a gloomy countenance, and complained of weakness. His pulse was frequent and small. He had little appetite; his sleep was disturbed by starting, he was atrophic, and his strength was so reduced, that he could not leave his bed, yet he had no pain, no thirst, no cough. Neither wine, cordial, stimulants, nor other tonics, had the least effect, for his pulse daily became quicker and smaller.

Evening exacerbations and morning sweats succeeded. His nails became incurvated, and the tunica adnata of his eyes pellucid, attended by debility and emaciation in the extreme.

In this situation his sagacious physician obtained
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from the commanding officer, and communicated to his patient, a promise of a furlough for six weeks.

On this promise his appetite and strength returned; in a few days he was able to get up, and in two months he left the hospital, being then perfectly restored to health.

Genus XCIX. *Anorexia.*

Appetite impaired.

DR. CULLEN very properly considers *anorexia* as symptomatic of other diseases, but chiefly of dyspepsia; yet, for the benefit of students, he takes it as a genus, and reduces nine out of the thirteen species, enumerated by Sauvage, to two. The other four he considers as uncertain. His two species are,

1. *Anorexia humoralis*; and 2. *Anorexia atonica*: but in my apprehension he might have reduced them both to the *atonica*, because *anorexia pituitosa*, *anorexia biliosa*, and the *anorexia a saburra*, which are the three species of Sauvage, included in the *anorexia humoralis* of Cullen, all arise from *atony*, either of the mucous glands, or of those which secrete the gastric juice.

1. When the mucous glands are relaxed, the stomach will be lined with viscid mucus; digestion will

will be impeded, and bile may regurgitate; in consequence of all which, the appetite for food, as well observed by Boerhaave in his aphorisms 70, 71, will be impaired. The proper remedies in these cases are emetics, rhubarb, steel, and aromatics, temperance, exercise, and air, but particularly *vital air*.

The *anorexia melancholica* of Sauvage, arranged by Cullen under *his atonica*, is stated to arise from fear and grief, which relax the mucous glands, load the first passages with slime, and thereby separate between the living fibre and the gastric juice.

2. When the glands, which secrete the gastric juice, become atonic, this solvent will be deficient, either in quantity or quality; and in either case the appetite for food will be impaired.

This affection of the glands may be a symptom of palsy, and of comatose affections, or it may be induced by violent and exhausting stimuli topically applied, such as opium and ardent spirits in excess. This constitutes the *anorexia paralytica* of Sauvage.

It is however probable, that the same causes, which derange one set of glands in the stomach, disturb at the same time the action of the other, more especially in cases of *anorexia paralytica*, and for this reason it is that Sauvage recommends emetics and cathartics. Yet, if the emetics should not bring to light a quantity of viscid mucus, we may be certain that these glands only, which secrete the gastric

tric juice, are injured. In this case not emetics and cathartics, but cordial stimulants and tonics, such as opium and ether, with bitters and aromatics, will be expedient.

This observation more particularly applies to the *anorexia arthritica* and to the *anorexia exhaustorum* of Sauvage, both very properly arranged by Cullen under his *anorexia atonica*.

In cases of fever, loss of appetite arises from two causes, 1. From viscid mucus lining the stomach, and separating, as I have stated, between the living fibre and the gastric juice. 2. From the fever itself, if of the ardent or inflammatory kind, because nature then requires and loudly calls for, not such substances as abound with hydrogen, but cooling diluents, with acids and acescent fruits, as I have fully explained in my observations on respiration and vital air, when treating of continued fever in my first volume, which, that I may avoid repetition, I must request the student to consult. Indeed the young practitioner should always have it deeply impressed upon his mind, that when the system is supplied by the lungs with *oxygen*, HEAT, by decomposition of the *vital air*, is generated in proportion to the quantity of *oxygen* absorbed in respiration by the blood: but that when the system is saturated with *oxygen* by the stomach, and receives it, not from an elastic fluid abounding with caloric, but from either solids or from non-elastic fluids, no such supply
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of VITAL HEAT ensues, and that the quantity of heat must therefore sensibly diminish.

It is probable that nature, in her efforts to relieve herself, may, in ardent fever and in extremity of heat, supply a less than usual quantity of gastric juice, and then in both these cases loss of appetite will follow; and will be properly arranged under *anorexia atonica*.

The *anorexia neophytorum* of Sauvage arises, like his *pituitosa*, from mucus accumulated in the alimentary canal, and may be cured by rhubarb and magnesia, to which half a grain of calomel may be added to advantage.

That the young practitioner may not mistake inability to suck in new-born infants for *anorexia*, I may here transiently observe, that when the tongue is tied, they seize the teat and try to suck, but instantly manifest disappointment and distress.

Genus C. *Anaphrodisia*.

Impotence.

DR. CULLEN enumerates two species. 1. *Anaphrodisia paralytica*. 2. *Anaphrodisia gonorrhoeica*; the former a paralytic affection of the muscles, and the latter the consequence of extreme debility.

When impotence appears, as the dregs of satyricalis,

alis, there can be little expectation of relief from medicine; but when it is merely the consequence of general debility, a generous diet, with tonics and astringents, assisted in their operation by exercise and air, particularly by *superoxygenated air*, will speedily effect a cure.

I had whilst I was in Spain a patient, a most respectable and virtuous man, who from sickness and debility had anaphrodisia gonorrhoeica, and for this complaint had been most preposterously reduced to a vegetable diet. When he consulted me his pulse was very frequent, but so small as scarcely to be felt, and such was the irritability of his system, that he could not suffer the irritation, either of a razor on his beard, or of a comb to his head, without spasmodic affection producing *gonorrhœa*.

I ordered him animal food, with plenty of wine and the Peruvian bark, and made him undertake a journey, in consequence of which he was speedily restored to health with perfect ability to perform his functions.

Class IV. LOCALES.

Order III. DYSCINESIÆ.

Motion impeded or depraved from an imperfection of the organ.

In this order we have six genera.

I. Aphonia.

1. Aphonia. 2. Mutitas. 3. Paraphonia. 4. Psel-
lismus. 5. Strabismus. 6. Contractura.

Genus CI. *Aphonia.*

Inability to utter sounds, without either syncope or coma.

SAUVAGE has nine species of aphonia, which Dr. Cullen has reduced to three.

I. *Aphonia gutturalis*, arising from tumefaction of the fauces, and particularly of the glottis, which is the *aphonia catarrhalis* of Sauvage. This may be produced by either angina or catarrh, and must be treated accordingly.

II. *Aphonia trachealis*, from compression of the trachea, by aneurism of the carotids, or of the bronchia, by either aneurisms of the aorta and of the heart, or by tumors in the lungs, such as abscess, vomica, steatoma, scirrhus.

III. *Aphonia atonica*, arising, 1. From division, whether by erosion or by mechanical violence of the recurrent nerves, as happens sometimes in the extirpation of glands in the neck, whether strumous, cancerous, or steatomatous. 2. From paralysis of the recurrent nerves induced by spasm and occasioned by affections of the stomach.

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The nervous communication between this organ of digestion, and the larynx is maintained by the *par vagum*, which descending along the œsophagus, as it enters the thorax, sends back the recurrent nerves to be distributed wholly in the larynx, and is itself lost in the pharynx, lungs, and heart, but chiefly in the stomach.

Dr. Cullen very properly observes, that the *aphonia MELANCHOLICA*, *aphonia paralytica*, *aphonia temulentorum*, *aphonia hysterica*, and *aphonia ab antipathia*, are symptomatic.

The treatment therefore is the same in each as that of the primary disease.

Genus CII. *Mutitas*.

Inability to utter articulate sounds.

SECTION I.

OF THE SPECIES OF DUMBNESS.

1. *Mutitas paralytica* is a *paralytic* affection induced either by mechanical injury, or by pressure. It frequently precedes or follows *apoplexies*, whether serous, sanguine, or spasmodic. The treatment in such cases therefore must be sought for under *apoplexy*. The *mutitas traumatica* of Sauvage, denominated

minated *mutitas atonica* by Cullen, is *aphonia*, and not *mutitas*.

2. *Mutitas spasmodica*. Hoffmann mentions several cases of *mutitas*, which he calls *aphonia*, arising from the stimulus of worms in the first passages. He attributes the effect produced to spasmodic contraction of nervous parts in the lower belly, by which the blood is impelled with force into the tongue, and there stagnating, press upon the nerves. This pathology may certainly be just, or the determination of blood to the superior region may be caused by spasmodic constriction of the diaphragm in the manner I have explained in *mania hysterica*. But I am rather inclined to account for this effect by referring at once to sympathy of parts. This consent between the stomach and the tongue, may be maintained either by means of the first cervical, or by means of the intercostal, which sends branches to the stomach, and the ninth pair, which distributes branches to the tongue.

Such cases may be readily distinguished by the common symptoms of worms, and easily cured by anthelmintics.

3. *Mutitas narcotica*. Loss of speech may arise from the action of narcotics, of opium, of atropabelladonna, of hyoscyamus, or it may be induced by ardent spirits.

Highway robbers, in the vicinity of Montpellier, according to Sauvage, are said to have compelled the
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the persons whom they plundered, to drink infusion of thorn-apple (*datura stramonium*), which rendered them speechless for two days.

4. *Mutitas a siccitate*. Loss of speech may be caused by dryness, foulness, and inflexibility of tongue, as sometimes occurs in malignant fevers.

5. *Mutitas surdorum*. Want of speech in those who are born deaf.

These persons may easily be taught to understand what is said by watching the motion of the lips of any one who speaks to them, and without much difficulty may learn to speak. The first who taught this art was a Spanish monk. Ammanus of Amsterdam, and Wallis in London, followed in the same line. My old friend Henry Baker made some improvements, and Pereira was eminent at Paris; but the two gentlemen, who may be said to have perfected this art, were the Abbé l'Epeé in France, and Mr. Bradewood of North Britain, the latter now established at Hackney.

The Abbé, I understand, has published an admirable treatise on this subject, and it is to be hoped that Mr. Bradewood will not suffer his own observations and improvements to be lost.

SECTION II.

CASES OF MUTITAS.

CASE I.

A young lady, aged 18, of a relaxed habit, florid countenance, and plethoric, having exposed herself to cold whilst her courses were upon her; these were suddenly obstructed, she was seized with violent head-ach, and all the blood vessels in her face became distended. She passed a restless night, and in the morning she was speechless. For four days she scarcely eat or drank, and had little rest at night. A physician ordered a clyster to relieve her costiveness, and took three ounces of blood from the foot. As however she continued speechless, Hoffmann was consulted.

Finding the pulse frequent and full, he took away seven ounces of blood, and administered essence of castor, with aqua ammoniæ, and his mineral anodyne. Of this mixture he gave thirty drops every fifteen minutes in some infusion of lilies of the valley. A strong perspiration soon broke out all over her body, the swelling of face subsided, her sleep was refreshing, and after continuing the medicine through the day, her voice was perfectly restored.

CASE II.

A man aged 80, of a spare habit, accustomed to lose blood three times a year, but always healthy, was persuaded, on account of the long continuance of excessive heat, to omit his usual evacuation, till he was suddenly deprived of speech, and of all sensation.

Hoffmann observing that his eyes were much inflamed,
and

and that his arteries beat strong, ordered him to be bled immediately, to have an emollient clyster, to take nitre in small doses at short intervals, and to drink infusion of balm, carduus, betony, with flowers of sage, and rosemary.

These medicines procured relief, and after some continuance perfected a cure.

CASE III.

A healthy boy, aged 11, lost suddenly the power of speech, and was affected with spasmodic constriction in the muscles of his neck and back. For these complaints he took anthelmintics, antispasmodics, and tonics, which brought away fifteen worms, but for five weeks left him speechless.

Hoffmann being consulted, ordered,

℞ Aſæ foetid. Myrrh. Elect. Extract. Tanaceti, Rhei, Aloes, Calomel. aa ʒj. Extract. Croci, gr. vj. Effent. Castorei, q. s. ut f. Maſſ. Pilul. cujus ex ſcrupulo, f. Pill. xx. Quarum ſeptem bis in ſeptimana ſumendæ ſunt interjectis ſequentibus.

℞ Sal. Cathart. Amar. gr. xv. Nitri purific, Corallinae, aa. gr. vj. M. f. Pulv. mane ſumend,

That is,

Aſa foetida, myrrh, extract of tanſy, rhubarb, aloes, calomel, of each one dram; extract of ſaffron fix grains; eſſence of caſtor ſufficient to make pills; of which take ſeven grains twice a week, interpoſing the following powders.

Take bitter purging ſalt fifteen grains, nitre and coralline of each fix grains, for one powder.

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These medicines, with a strengthening plaster to his neck, soon restored the use of speech.

CASE IV.

Sauvage mentions a boy, who having passed, by the use of anthelmintics, thirty worms in twenty days, recovered his speech which he had lost.

Genus CIII. *Paraphonia*.

Depravation of Voice.

DR. CULLEN has six species, which are well distinguished.

1. *Paraphonia puberum*, in which the voice, about the time of puberty, becomes harsh and dissonant. It is curious to observe the provision made by nature to announce this internal change in the system by external characters, for no sooner does virility take place, than a beard begins to grow, and the tone of the voice sinks four or five notes lower than it was before.

2. *Paraphonia rauca*, in which from dryness or flaccid tumor of the fauces, the voice becomes deep, hoarse, and dissonant.

In both these cases the vocal chords, extended
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from the arytaenoides to the thyroid and cricoid cartilages, may be perhaps unequally relaxed, and the muscles, whose office it is to stretch them, may have lost their tone. This opinion seems to be rendered probable from hoarseness following excessive exertions of the voice, and being cured by tonics.

When hoarseness is a symptom of catarrh, it must be relieved by attention to the primary disease.

3. *Paraphonia resonans*, in which the nostrils being closed, the voice is harsh and sibilant.

This varies according as the nostrils are closed by the velum pendulum palati; by mucus in coryza, and catarrh, or by a polypus, as happens sometimes in venereal cases.

4. *Paraphonia palatina*, in which the uvula is either wanting or divided, either naturally, or by erosion of venereal virus. The voice is hoarse, and in speaking the countenance is much distorted. It may be relieved by a silver palate.

5. *Paraphonia clangens*, in which the voice is harsh, acute, and clangent, as in hectic and consumptive patients, when ulcerous inflammation extends to the larynx, producing tension and immobility of the vocal chords.

6. *Paraphonia comatosa*, *snoring* produced by inspiring with the mouth wide open. The larynx descends; the tongue forms a deep channel longitudinally,

dinally, its basis is depressed, and the velum pendulum, relaxed, bends downward. When the person snores with his nostrils closed, the tongue expands, and makes a wider channel. When the mouth is shut, he cannot snore; nor can he snore with ease when the tongue is forcibly depressed and the nostrils are closed.

Genus CIV. *Psellismus*.

Vitious articulation respecting sounds.

DR. CULLEN enumerates seven species, Sauvage eleven. I shall however pay little attention to the specific names, and content myself with describing such defects as are most common, with their cure.

1. *Hesitation* is a trick, a contracted habit of attempting to speak without clear and distinct ideas.

The best remedy for this defect is to study the mathematics, to watch against distraction of thought, and never to speak upon any subject without having first thoroughly digested the arguments and facts to be adduced, with a connected method of arrangement. When the blacksmith is at a loss where to direct his hammer, he smites upon the anvil.

2. *Stuttering*

2. *Stuttering* or *stammering*.

This likewise is a contracted habit.

The tongue has for its motion four pair of muscles, beside those which belong to the os hyoides, and innumerable muscular fibres, by which it is contracted, expanded, elevated, or depressed, protruded forwards or retracted in a multiplicity of ways. These will assist it among other offices to assist in forming letters, syllables, and words.

For the same purpose it is amply furnished with nerves, having two considerable branches from the fifth pair, and the same number from the ninth, beside some filaments from the par vagum. These with their numerous papillæ, when the epidermis has been removed, are discovered on the upper surface of the tongue, where the office assigned them is to direct its motions.

At this ample supply of muscles and of nerves we cannot be surprised, when we consider that, independently of directing the food in the acts of mastication and deglutition, it is the principal modeller of sounds in speech. For although some of the letters only have been called linguals, whilst others are denominated dentals, gutturals, and palatines, yet in every one of these the tongue is the prime agent, and must, by determinate motions, assist to form them all.

Yet when once the habit is acquired, no sooner is a determinate motion of the tongue required, than it instantly obeys, and even seems to prevent volition,

volition, as the fingers of the musician, without consciousness, find the strings. All this now depends on habit; but let these associated motions be thrown into confusion by some nervous affection, producing discord and action, and the habit, instantly disturbed, is no longer useful; the chain is broken, and calls for strong mental efforts to renew it. In the musician, who has learnt his art by rules, it may require a little recollection only to join the broken threads; or, by taking up the piece from the beginning, if his confidence does not fail so as to produce nervous affection and fresh confusion in his associations, he will get rid of his perplexity. But the stammerer, not having learnt to speak by rule, cannot with the same facility extricate himself. With him all depends on habit, and as it is probable that shame, disappointment, and distress, will produce the same effect more readily a second time, it will be in vain for him to recommence a chain of thought and expression, which, without tranquillity of mind, he will never be able to pursue.

For this reason Mr. Henry Baker, who taught stammerers to speak plainly, always began with teaching them the alphabet by rule; then led them on to syllables, and from syllables to sentences. When his pupils, whilst reading or speaking, began to stammer, he took notice by what letter they were thrown into confusion, and stopped them instantly; he gave them time to recollect themselves; and then made them practise single words, or short sentences, abounding

abounding with that letter. After this he made them repeat the sentence often which had created their perplexity, but slowly at first, and with much deliberation, as musicians practise, when they find their fingers at a loss to execute new and difficult combinations in a piece of music.

By this method, employing three hours in a week, he cured the stammerer in the space of a few months; and as from its simplicity he was apprehensive that other teachers might adopt his plan, he exacted an oath from all his pupils that they never would reveal his secret.

In most cases of stammering the nerves are affected, and the system is too irritable. It is then truly a disease; belongs to the neuroses; and, like all other spasmodic affections, calls for medical assistance.

To effect a cure in such cases requires tonics, strict temperance, with a generous diet, cool air, exercise, bitters, bark, steel, and the cold bath.

3. *Literal omissions and mistakes.*

Some people have acquired a habit of omitting particular letters wherever they occur. The most common defect is to omit the R. Many drop both R and L, yet by a little attention they might recover both. For the R they need only raise their tongue to the roof of their mouth, and, breathing strong, make its point vibrate; and by practising frequently such tremulous motion of the tongue, they

they will acquire the habit of pronouncing this letter with facility. In the same method, by inquiring how other persons move the tongue, they will learn to form every letter.

It is for want of this knowledge and attention, that many people substitute one letter for another, B for P, D for T, and F for V, or frequently L for R, and sometimes even T for C and S for G, or the reverse of these. From the same neglect it is that Frenchmen universally when they speak English put T for Th.

Genus CV. *Strabismus.*

Squinting.

THIS habit is commonly acquired in the cradle, by being always in the same position respecting the place from whence light proceeds. It is however frequently brought on by imitation or by accident, such as having a mark on one side of the nose to attract the eye.

It is sometimes the effect of weakness and of spasm, in which case it calls for tonics; or it may be a *paralytic* affection, and require the same treatment with that disease.

When it proceeds from extreme near-sightedness, or from the eyes having different focal distances
for

for perfect vision, it is incurable. But if it is caused by any removeable blemish of one eye, it belongs to some primary disease, and must therefore be considered merely as symptomatic.

The only mechanical contrivance in common use, and that certainly a valuable discovery, is, to have a mask with two funnels or hollow cones, each with a small apex to coincide with the axis of the orbit, one of which apertures may be occasionally closed, in order to compel the most distorted eye to act. That however the eyes may be taught to assist each other in judging of magnitudes and distances, it will be sometimes necessary to use a bandage, without these funnels, having only small apertures directly in the visual line; and in this case the person must be attentive to use both eyes at once.

Genus CVI. *Contractura.*

A permanent and rigid contraction of a joint.

OF this we have two species; for the contraction may arise either from an affection of the muscles, or from diseases of the joints.

I. Contraction of the muscles with rigidity, arising from,

A. *Inflammation,*

A. *Inflammation*, as in arthritis and rheumatic affections, which may terminate in ossification.

B. *Spasmodic affections*, particularly in *raphania*. Sauvage considers one species of *dry gangrene*, which he calls *necrosis ustilaginea*, as originally spasmodic, producing first rigid contractions, then atrophy and gangrene. This by his description, although occasioned by feeding on diseased rye, from which it derives its appellation, seems to be the same disease with the *gangrene of old people*, so well described by Pott, and cured by the exhibition of opium in large doses.

C. *Palsy* of the antagonist muscles occasioned by rheumatism, by colica pictonum, and particularly, in Bohemia, by the use of austere wines extracted from unripe grapes.

D. *Scurvy*, in the second stage of which patients commonly lose the use of their limbs from permanent contraction of the flexor tendons.

2. Contraction from stiffness of the joints, arising from *anchylosis*. This may be produced in consequence of deficient synovia; or the capsular ligament

may

may be ossified; or the bones, after fracture, may be united by the process of adhesive inflammation; or finally, exostoses may be formed in consequence of *rachitis*, of *scrophula*, or of the *venereal poison*.

Class IV. LOCALES.

Order IV. APOCENOSES.

A superabundant flux of blood or humours, without pyrexia or increased impetus of the fluids.

In this order we have six genera:

1. Profusio. 2. Ephidrosis. 3. Epiphora. 4. Ptyalismus. 5. Enuresis. 6. Gonorrhœa.
-

Genus CVII. *Profusio*.

Loss of Blood.

THIS must be either passive hæmorrhage, of which I have already treated under the fourth order of the first class, or, as the effect of mechanical injuries, requires the assistance of a surgeon.

Genus

Genus CVIII. *Ephidrosis*.*A violent and morbid Sweating.*

SAUVAGE has 20 species; but among these one alone is idiopathic. This, of which he met with three cases, is independent of fever, and unconnected with any other visible disease. He cured it by cathartics, acidulated drinks, and milk.

The other species, although merely symptomatic, I shall subjoin.

1. *Ephidrosis febrilis*. 2. *Ephidrosis febricosa*. In the first of these the sweating may be either critical and salutary, or it may be injurious; in which last case the coverings must be diminished, or the patient may be taken out of bed. In the second of these species, which is the symptom of intermittent or remittent fevers of a peculiar type, the fever is so far from being relieved by the sweating process, that it is aggravated, and that in proportion to the evacuation. It is cured by cathartics followed by the bark.

3. *Ephidrosis hætica*. 4. *Ephidrosis exanthematicum*.
5. *Ephidrosis synoptica*. 6. *Ephidrosis scorbuta*.

7. *Ephidrosis a saburra*, occasioned by a load of indigested fordes in the alimentary canal. I remember a remarkable case of this in Dr. Frampton, rec-
tor

tor of Bremhill in Wilts, who for many years had every night such profuse perspiration, that his bed-clothes were as if they had been dipped in water. To this circumstance he attributed his freedom from gout, to which he conceived himself to have a legitimate title. Sauvage records the case of one who, from verminose saburra, passed no less than forty pounds in one day by sweat.

8. *Ephidrosis lactea*.

9. *Ephidrosis mellea*, of the colour and consistence of honey.

10. *Ephidrosis vinosa*, of the colour of red wine.

11. *Ephidrosis viridis*.

12. *Ephidrosis nigra*. 13. *Ephidrosis lutea*. Both these were produced by fulminating gold.

14. *Ephidrosis urinosa*.

15. *Ephidrosis cruenta*, in scurvy, and from the arm-pits in patients of a relaxed habit.

16. *Ephidrosis cærulea*, in the paroxysm of an epilepsy.

17. *Ephidrosis acida*. 18. *Ephidrosis arenosa*.

19. *Ephidrosis lateralis*. This was observed in a woman, who through the whole course of her life, excepting the times of pregnancy, never had any sweating on the right side, but always, whether spontaneously or by medicine, on the left.

For these remarkable cases Sauvage quotes Bartholini, Haller, and other practitioners of established credit.

Genus CIX. *Epiphora*.

Lachrymation.

THE flow of tears may be caused either by superabundant secretion, or by deficient transmission to the fauces. The former may be occasioned either by mental passions; by the sense of pain, or by any stimulating substance either in the eye itself, or applied to the pituitary membrane, and exciting action in the lachrymal gland merely by consent.

Deficient transmission of the tears may be caused by want of action, obstruction or compression of the capillary tubes, which convey them from the angle of the eye to the lachrymal sac, by similar affection of the sac itself, or by obstruction of the nasal duct.

Hence the several species enumerated by Sauvage.

1. *Epiphora a pathemate*, as in acute diseases, and in passions of the mind.

2. *Epiphora ophthalmica*. 3. *Epiphora calida*.

These accompany different species of *ophthalmia*, in which there is redness, heat, pain, and itching of the eyes. The cure is performed by curing the *ophthalmia*.

4. *Epiphora*

4. *Epiphora frigida*, follows inveterate ophthalmias, but is not attended by itching, heat, or pain. It may be occasioned by hard study, and seems to arise from loss of tone in the capillary tubes.

5. *Epiphora arthritica*, a symptom of retrocedent gout.

6. *Epiphora ab ectropio*, caused by inversion of the inferior eyelid, whether by wounds, by combustion, by relaxation, or by internal excrescences, which destroys the channel designed by nature to convey the tears from the secreting gland to the absorbing tubes.

7. *Epiphora ex rhyade*, occasioned by erosion of the caruncula lachrymalis, producing pain, irritation, and spasmodic constriction, of the ducts which convey the tears into the lachrymal sac.

8. *Epiphora ex variolis*, produced by a pustule of the small-pox, which either simply obstructs the lachrymal canal, or producing inflammation of the membrane, causes the opposite sides of the sac to adhere by the first intention.

9. *Epiphora ex ægilope*. 10. *Epiphora ab anchilope*. These, as well as the preceding, when confirmed, produce *fistula lachrymalis*.

To understand the nature of these it will be needful briefly to explain the structure and diseases of the lachrymal canal. This I shall take the liberty

of doing from a manuscript copy of most incomparable lectures on anatomy and surgery delivered by Mr. Cline, to which I shall subjoin such observations as the subject may require, with the mode of treatment recommended by Mr. Wathen.

When the tears, secreted by the lachrymal gland, have performed their office in washing the cornea, to keep it constantly both clean and moist, they are conveyed by the eyelids to the inner canthus, where two capillary tubes absorb them. These tubes proceed horizontally nearly a quarter of an inch, then open by two separate orifices into the lachrymal sac, which descending half an inch, enters a bony circle formed by the orbital and nasal processes of the superior maxilla, where the duct is much contracted; but having traversed this narrow passage, it expands and enters the nose by a large aperture, under the upper lamina of the *os spongiosum*. Here it serves to moisten the inner membrane of the nostrils.

This lachrymal duct may be obstructed in a variety of ways.

A. By *viscid mucus*, and then we have *anibilops lachrymofo-mucosus* of Sauvage. To remove this we may first empty the sac by pressure, then drop some detergent fluid into the eye, which will pass into the sac, and repeat this operation; or a surgeon may fill the sac with quicksilver in the manner recommended by Mr. Blizard, and practised by my valuable friend Mr. Wathen, in Pall-mall.

B. By

B. By *pus*, which constitutes the *anchilops purulentus* of Sauvage. This begins with *inflammation* of the sac, which is rendered evident by redness, heat, shooting pain, and pulsation in the tumor, and terminates in suppuration. During the inflammatory stage the antiphlogistic regimen must be pursued: but when pus is formed it may be washed away, as in the preceding case.

C. By *adhesive inflammation*.

D. By *granulations*.

E. By *caries and exostoses*, as in scrophulous and venereal cases, which obliterate the bony passage.

F. By *compression* of polypus, hordeola, and encysted tumours, which the surgeon must remove.

The consequence of obstructions in the lachrymal duct, however occasioned, will be *epiphora*, that is a flux of tears trickling down the cheeks, where they cause irritation and inflammation with excoriation of the integuments; and the stimulus of distention in the sac ultimately produces ulceration and an abscess. Nature then having relieved herself, proceeds to heal the wound, and here perhaps the disorder terminates. Should however the patient frequently relapse, she may yet at last effectuate her purpose, and then quietly repose.

My friend Mr. Wathen, in the year 1791, saw a

lady aged 61, who had a *fistula lachrymalis* for many years, which repeatedly broke and was healed by superficial dressings. In this case, notwithstanding the bones were known to be carious, and no means were ever tried either to open the natural passage or to form an artificial one, the obstructed duct became pervious, the tears resumed their proper course, and the ulcer healed.

When it becomes needful to open the lachrymal duct for the radical cure of *fistula*; the proper time for this operation will be, when the sac is distended and inflamed, but before ulceration, or even the thickening process has begun; after which a suitable probe must be introduced to remove the cause of this obstruction. A golden tube may then be introduced, in the manner recommended by Wathen, which, as practised by him, or by his able partner and grandson Mr. Phipps, occasions little pain, is executed in a few minutes, and in four days is perfectly healed without leaving any vestige of the wound.

Genus CX. *Ptyalismus*.*A Salivation.*

SAUVAGE has 20 species, which it may be proper to enumerate.

1. *Ptyalismus nauseosus*, occasioned by consent of parts between the fauces and the stomach, when stimulated by indigested food. It is cured by emetics.

2. *Ptyalismus a pyroxi*, differs from the former only in having acid taste in the mouth and heart-burn.

3. *Ptyalismus a laxitate*, as in *paralytic* patients, and in drivellers. Relieved by tonics in every shape.

4. *Ptyalismus variolosus*, in confluent *small-pox* in adults, continuing commonly eleven days, and then succeeded by swelling of the hands. It is a salutary evacuation.

5. *Ptyalismus scorbuticus*, attending *scurvy*, to which it must be referred.

6. *Ptyalismus hypochondriacus*, a common symptom in melancholic patients, who acquire the habit of spitting, which increases indigestion, flatulence, costiveness, and loss of strength.

7. *Ptyalismus artbriticus*, caused by atonic gout, and sometimes an attendant on gouty tooth-ach.

8. *Ptyalismus phthysicus*. This may be regarded as one of the first symptoms of approaching *phthysis*. It prevails chiefly in the mornings, and the saliva has a saltish taste.

9. *Ptyalismus viridis*, which was observed by Dr. Huxham in a case of jaundice, and after continuing some time cured the patient of his jaundice.

10. *Ptyalismus aphtosus*, attended a case of synocha with angina.

11. *Ptyalismus gravidarum*, attending the first months of pregnancy.

12. *Ptyalismus catarrhalis*, a symptom of catarrh.

13. *Ptyalismus a carie*, when the bones of either jaw are carious.

14. *Ptyalismus febrilis*, attended an intermittent at Leipzig.

15. *Ptyalismus syphiliticus*, occasioned by venereal ulcers in the fauces.

16. *Ptyalismus mercurialis*, to be relieved by liver of sulphur, as first practised by the ingenious Dr. Garnet of Harrowgate, and described in his letter to Dr. Beddoes.

17. *Ptyalismus a calculo*. Several instances have been recorded of salivation arising from calculi in the duct of the sublingual gland, and ceasing when these cretaceous concretions have been extracted.

18. *Ptyalismus*

18. *Ptyalismus purulentus*. In this singular disorder the patient for more than three years discharged purulent sanies from the maxillary sinus, which were carious, yet in other respects he enjoyed perfect health.

19. *Ptyalismus urinosus*, recorded by some writers of authority.

20. *Ptyalismus lapponicus*. It is a symptom of Lapland colic, which when most severe is terminated by spontaneous salivation.

Genus CXI. *Enuresis*.

Involuntary discharge of urine without pain.

SAUVAGE has nine species.

1. *Enuresis infantum*. Children of a weak and irritable fibre are most subject to involuntary discharge of urine, and particularly whilst they sleep. Such children from debility sleep sound, yet from irritation or distention in their bladder, are apt to dream that they are in a convenient place for this evacuation. The proper remedies are, 1. Tonics and astringents. 2. To drink little after dinner and nothing in the evening. 3. To make them empty the bladder before they go to bed. 4. To threaten and even punish them, when they transgress, for
although

although the discharge is involuntary, yet strong impressions made upon the mind when they are awake, will retain some influence on their actions when they are asleep.

2. *Enuresis paralyticorum* arises from relaxation of the sphincters, caused by compression of the nerves. It is relieved by curing the primary disease.

3. *Enuresis herniosorum*, occasioned only when, by the action of the hernia, the sphincters are prevented from contracting.

4. *Enuresis puerperarum*, arising from ulceration of the bladder in hard labour. This effect is produced by compression of the neck of the bladder against the pubis by the head of the child, which brings on mortification of the part, and separation by the ulcerative process. This also has been frequently produced by unskilful use of the forceps, when the operator has not only taken the pubis for his fulcrum, but has injudiciously continued his pressure too long upon one spot.

5. *Enuresis calculosa*, is caused either by a calculus in the neck of the bladder, by founding, or by dividing the sphincter when cutting for the stone.

6. *Enuresis a fistula*. This sometimes arises from virulent gonorrhœa, when venereal ulcers in the urethra admit urine into the cellular substance, where it produces abscess and fistula. If this communicates with the bladder the discharge of urine is incessant.

In

In this case the opening by the knife must be extensive.

7. *Enuresis gravidarum*. This disease attends not only pregnant women in the last months of pregnancy, but those also who have born many children. In the first case a proper suspensory bandage will give relief; in the latter tonics external and internal, general and topical, are called for.

8. *Enuresis catamenialis*. This case is curious; and shews that, in obstructed catamenia, the hæmorrhagic effort, renewed monthly, although insufficient to produce the desired effect, excited action in the bladder by consent of parts. The young lady in question had been troubled with enuresis to the age of puberty; but when she became a woman, she remained for three years free from this complaint, till her courses were suppressed by washing her feet in cold water. From this time every month for three nights she had enuresis, with total want of sleep, and eight days before this monthly period, and for as many after it, she had head-ach, tumour in the hypochondria, and œdematous swelling of her feet, or even hæmoptysis. But if at any period the flux of urine failed, then all these symptoms were much aggravated, and continued till enuresis was restored.

9. *Enuresis asparganosi*. From suppression of milk after childbirth. It is cured by strong cathartics.

Genus CXII. *Gonorrhœa.**A preternatural Flux from the Urethra in Men.*

SAUVAGE enumerates seven species, which Cullen has reduced very properly to four.

1. *Gonorrhœa dormientium*, in which the seminal fluid is emitted during sleep, with erection and libidinous dreams.

To understand the nature of this affection, let the student consult what has been delivered on sleep, vigilance, dreaming, and delirium. He will then be able to trace the effect produced, to mental and material stimuli, to spices and spirits, or to wanton imaginations cherished in the day.

For the remedy of this disease, I must refer him to what I have said on *satyriasis*.

2. *Gonorrhœa laxorum*, in which the seminal fluid is emitted during vigilance, with libidinous desire, but without erection.

3. *Gonorrhœa pura*, in which the seminal fluid is emitted without erection or libidinous desire, and when there has been no impure connexion.

This debilitating discharge produces, among other distressing symptoms, loss of appetite, indigestion, flatulence, and costiveness; paleness, prostration of strength and atrophy; loss of sleep, head-ach, and defective

defective memory; blindness, epilepsy, and palsy, with a depression of spirits bordering on despair.

Patients may be reduced to this deplorable condition in consequence of exhausting diseases, when these have produced relaxation, debility, and irritability, in the extreme, as in the case of *anaphrodisia gonorrhoeica* already mentioned; but it is commonly the punishment of vicious habits, whether of the social or of the *solitary* kind. The treatment must be the same as in *satyriasis*.

4. Gonorrhœa *impura*, in which, after improper connexion, a purulent discharge, attended by dysuria, proceeds from the urethra. This afterwards is followed by increased secretion and the flux of mucus.

For the cure I must refer to *syphilis*.

Hoffmann has recorded eleven very interesting cases of gonorrhœa, from which I shall select the following:

A young man, infirm from his infancy, and atrophic at the age of seven, recovering health and strength, at the age of fifteen, learnt from a vicious companion an evil practice, in which, when alone, he daily indulged himself for many years, without suspecting, till it was too late, that he had offered violence to Nature, and that she never pardons the offender.

The first notice he received of her displeasure was by such excruciating pain as rendered him unable to walk. His understanding, memory, and sight, were the next to suffer loss; his pupils were wonderfully dilated, his eyes were distressed with pain, and their lids were daily closed with
gluten;

gluten; so that for a length of time, although studious, he was compelled to lay aside his books, for he could neither write nor read. He became again atrophic to such a degree that he was a skeleton; and although for two years he had the resolution to abstain from the practice which had made life a burthen, yet this reformation was followed immediately by nocturnal pollutions, and his sufferings continued without the least relief.

In this situation, at the age of 25, he consulted Hoffmann, by whose advice he pursued the following plan.

Every morning he drank asses milk with Seltzer water, and every evening he took this powder.

℞ Cornu Cervi, pp. Os Sepiæ vel Chel. Cancr. aa. ℥ss.
Succini cum instillatione, Ol. Tart. per deliq. ppt.
ʒij. Eleutheriæ Cort. ʒj. M. f. Pul. c. c. ʒj.
ex aq. Cerafor. nigr. Cyatho.

℞ Rhei. ʒj. Mannæ, ʒj. Nitri. Antimoniati, gr. 15.
Coque et Solve leni Calore in Aquæ Selteranæ, ℥vj.
Colaturæ, adde Ol. de Cedro, gtt. iij. M. f. H.
quavis quinta die fumend.

℞ Ligni Santali Rub. Citrini, Rad. Chinæ, Scorzonæræ,
aa. ʒiv. Rad. Cochorei, ʒj. Cinnamom. ℥ss.
Mastiches, ʒij. M. f. Species, Quarum, ʒij. Ex
tribus aquæ mensuris addito passularum minorum ma-
nipulo uno, per tres horæ quadrantes sunt decoquendæ
et cap. pro potu ordinario.

He was ordered to abstain from salted meats, spices, and highly seasoned dishes, and from warm liquids. He drank infusion of mint and balm in the morning, by way of tea, and, continuing for some time in the use of Hoffmann's visceral balsamic elixir, he was within six weeks restored to perfect health.

Class

Class IV. LOCALES.

Order V. EPISCHESES.

Suppression of Excretions.

IN this order we have five genera.

- | | | | |
|-----------------|----------------|-------------|----|
| 1. Obstipatio. | 2. Ischuria. | 3. Dysuria. | 4. |
| Dyspermatismus. | 5. Amenorrhœa. | | |

Genus CXIII. *Obstipatio.**Costiveness.*

SAUVAGE, who to increase the number of his genera, too often multiplies distinctions without a difference, and considers symptoms as diseases, has omitted *obstipatio*, from a persuasion that we never meet with it as a primary affection: but in this he is mistaken, as will immediately appear.

Linnaeus, Vogel, Sagar, and Cullen, differ with him in opinion, and the latter very properly not only considers *costiveness* as a primary disease, but divides it into species.

I. *Obstipatio rigidorum.*

In persons of a robust and sanguine temperament, who enjoy high health, and take much exercise, the

lacteals and *absorbents* are extremely active. Hence it is that their alvine fæces are commonly dry, hard, compact, and that they are inclined to *costiveness*. Their pulse is full and firm, their heat is high.

It is this species of costiveness which prevails in synocha.

The proper remedy for them is to keep their bowels soluble, by cathartics of the refrigerant and emollient clysters, such as cassia, tamarinds, sulphur, and tartarised tartar, with prunes, manna, and, in urgent occasions, castor oil.

II. *Obstipatio obstruētorum*, with symptoms of *spasmodic affection* in the bowels. Pulse weak, small, frequent, heat variable.

To explain the nature of this species I might refer the student to what I have said on *colic*; but as this subject is of the last importance, I shall enlarge upon it.

It appears by the experiments and observations of Wepfer and Van Swieten that,

1. If, even after death, acrid substances, or any kind of stimulus, is applied to the intestines, they contract spasmodically, not merely in the stimulated parts, but often in the adjoining parts, to a considerable extent, so as completely to obstruct the passage. Van Swieten, with the point of his dissecting knife, stimulated the stomach of a dog some minutes after the animal was dead, when it immediately and forcibly contracted to one sixth of its antecedent capacity.

2. In

2. In living animals, acrid substances, such as arsenic, exhibited internally, or corrosives externally, applied to the coats of the intestines, cause them to contract forcibly, permanently, and closely, as if they were tied with cords. And whilst they are contracted in some parts, they are violently inflated in others, which being much distended become paralytic, and lose their power of contracting.

Wepfer observed, that as long as the acrimonious substance continued in the bowels its morbid effects were permanent, and that as often as flatus was forcibly expelled it was reproduced immediately. When he had given half a scruple of corrosive sublimate to a dog, which operated with violence both up and down, on opening the abdomen the inflated stomach came out, and being pressed, discharged flatus by the mouth, but was soon again distended by fresh flatus.

He had occasion likewise to observe, that if whilst any part remained constricted a similar irritation is produced in some fresh place, this part contracts, and the preceding constriction is relieved.

3. This constriction, with the consequent inflation and distention in other parts, is so permanent when strong stimulants, such as arsenic, or any virulent corrosive, has been applied to the intestines, that, in such persons as have died of colic, and in animals on whom these experiments were tried, Wepfer found it difficult to propel either the flatus

or the aliments contained between any two constricted parts.

The occasional causes of spasmodic constriction in the intestines may be, 1. *Inflammation*, for which I must refer to *enteritis* and *gastritis*. 2. *Irritation* of acrid substances, either taken into the alimentary canal or generated there, such as bile or worms. 3. *Sympathetic affection* with other stimulated parts, as the kidneys in *nephritis*; for both which colic may be consulted.

The cure may be performed by such remedies as have been already recommended in those diseases.

III. *Obstipatio debiliūm*, in weakly and relaxed patients, with pulse slow and feeble; heat very low.

Bile is the natural cathartic. When this therefore is either defective or depraved, constipation of bowels will ensue. This we have observed in *jaundice*; and we have in the Philosophical Transactions, for the year 1730, a curious case of a soldier wounded in the gall-bladder, who died of constipation.

But though the bile should not be deficient, yet if we have viscid mucus interposed between it and the living fibre, we shall have costiveness produced, as in *hypocondriasis* and *melancholia*.

The nature of the *food* must likewise be considered; for if, instead of animal food, which stimulates the intestines, the patient should have only rice, wheaten bread or milk, his bowels will be costive.

costive. Sauvage remarks on *tenesmus a scybalis*, that the efforts to evacuate the fæces in patients who live on milk, sometimes resembles those of a parturient woman.

The proper remedy is to change the diet, and to give calomel at night, to be followed by either soluble tartar or infusion of senna in the morning. But for particulars let the student consult *jaundice*, *hypochondriasis*, and *melancholia*.

IV. *Obstipatio paralytica*.

Dr. Cullen has taken no notice of this species; but it appears to me well-founded and needful to complete our catalogue.

In the *paraplexia traumatica* of Sauvage, a disease not uncommon about Montpellier, and often met with in Valencia and other countries, in which mulberry leaves must be daily gathered as the food of silk worms, the miserable object, who, by his fall, has injured the spinal marrow in the lumbar vertebræ, loses instantly all sense and power of motion in the lower extremities, his urine flows spontaneously, and he has constipation in his bowels.

This case admits no remedy.

In *tympanites* we have *costiveness* arising from paralytic affection, with loss of tone in some part of the intestines, the cure of which is to be sought for in the use of aromatics and antispasmodics combined with gentle tonics and astringents, as recommended in that disease.

Genus CXIV. *Ischuria.**Suppression of Urine.*

SAUVAGE in his inestimable nosology has, when treating of *ischuria*, left us one perfect example of methodical arrangement; and Dr. Cullen, treading exactly in his footsteps, has judiciously divided this Genus into four species, each including numerous varieties.

I. *Ischuria renalis*, preceded by disorders of the kidneys, and attended by distressing weight, or pain in the region of the kidneys, but without either swelling of the hypogastrium or sense of stimulus exciting to the discharge of urine from the bladder.

This species contains the subsequent varieties.

a. *Nephritica*, from inflammation of the kidneys.

The symptoms and the cure may be seen under *Nephritis*.

b. *Nephrolithica*, from calculi, has similar symptoms with the preceding variety, but not the pyrexia. It is preceded commonly by a discharge of gravel, of mucus, or of blood, and immediately by pale and stimulating urine in small quantities.

The

The treatment must be the same as in the preceding, and, to prevent relapse, the lithontriptics mentioned in my Vade Mecum, particularly the *aqua mephitica alcalina*, must be resorted to.

Sir John Pringle was accustomed to prescribe the following.

℞ Terebinth. Venet. v. o. s. dr. 4. Decoct Comm
pro Clyst. un. 4. Ol. Olivar. Syr. e Spin. Cer-
vin. aa. un. 1. M. f. Enem.

℞ Sem. Lini, un. 1. Pulo Glcy. dr. 6. Aq. bul. q. s.
infunde prope ignem, per horas 12. Cola ꝑ 2. Cap.
un. 3. sæpius.

℞ Rad. Pareiræ brav. un. 3. Aq. Font. ꝑ 1½. Coque
ad 1 Colat. c. un. 2. ter in die.

c. *Nephroplethorica*, from plethora, without ei-
ther pain or pyrexia, and not preceded by
any symptoms of morbid affection in the
kidneys. In the case recorded by Riverus,
it was, by a long journey in the hottest
days in summer, perfectly relieved in less
than one hour after a copious bleeding.

d. *Lunatica*, returning periodically at the full of
the moon and vanishing in five days, un-
less previously cured, as it never failed to
be by venæsection. In the case referred
to by Sauvage, the pelvis of the left kid-
ney was found to be as large as the uri-
nary bladder.

- e. *Nephrospastica*, from spasmodic affections, as in hysterical patients and in young people of an irritable fibre, when cutting teeth, menstruating, or suffering by other morbid stimuli in the system.

For the treatment consult what has been said on spasmi and spasmodic disorders in the first volume.

- f. *Nephrelmintica*, from worms in the kidneys.

- g. *Nephrothromboides*, from clotted blood, preceded by bloody urine, and occasioned by mechanical injury or by violent exertions. It is attended by paleness, small pulse scarcely to be felt, extreme debility, rigor, nausea, and slight fever, with cold sweats.

- h. *Nephropyica*, to be known by the history of the case, and by a purulent discharge through the urinary passages. De Haen recommends *uva ursi*.

- i. *Nephrophlegmatica*, in cold phlegmatic habits, discovered by the discharge of mucus, and cured by diuretics of the stimulant order, by emetics, by cathartics of the calefacient and astringent orders, assisted by horse exercise.

- k. *Nephroplegica*, from Palsy.

- l. *Suppleta*, from diarrhoea, or excessive perspiration, preventing determination to the kidneys.

kidneys. Many cases are recorded, by authors of the most respectable authority, of patients who for years had no evacuation either by urine or by stool, whilst their perspiration was enormously increased; and Platerus mentions a girl of thirteen years of age, who for many days had a discharge of water from her ear, which supplied the place of urine.

II. *Ischuria ureterica* is in many cases scarcely to be distinguished from the former. Dr. Cullen has adopted six varieties from Sauvage, coinciding in occasional causes with as many of the preceding species. But the most common is the *calculosa*, caused by calculi in their passage through the ureters.

The symptoms are pain, nausea, vomiting, costiveness, coldness of the extremities, numbness of the thigh, retraction of the testicle, followed sometimes by convulsions or by syncope.

The proper treatment is by warm bathing, clysters, which carry a warm fomentation to the part, *demulcents* and opium in repeated doses, till the spasm is relieved. Electric shocks sent through the loins have seldom failed to expedite the passage of calculi into the bladder.

The following *demulcent* mucillage may be useful in this species of ischuria.

℞ Gum. Arab. Tragacanth. aa ʒij. Aq. Font. ℥j.
Syr. ex Alth. ʒj. M. Cap. Cochl. iij. Sæpius.

F f 4

Take

Take gum arabic and gum tragacanth, of each two drams; water, a pint; syrup of althæa, an ounce. The dose may be three spoonfuls often in the day.

If the patient is plethoric, he must lose blood; and if the heat is high he must take ten grains of nitre two or three times a day. If the heat is moderate, 20 or 30 drops of balsam of copaiva may be given twice a day.

III. *Ischuria vesicalis*, with swelling of the hypogastrium, pain at the neck of the bladder, and frequent vesical tenesmus.

This species contains the subsequent varieties.

a. *Cystitica*, from inflammation of the bladder.
See *Cystitis*.

b. *Cystolithica*, from stone in the bladder. The symptoms are wandering pain and titillation about the pubis and the perinæum, with a sense of weight in the perinæum, erections, tenesmus, *dysury*, bloody urine, more especially after riding, with its frequent yet interrupted discharge. But the most certain symptom is obtained by sounding.

Relief may be obtained by uva ursi, two scruples given twice a day, or this may be mixed up with conserve of roses, as recommended in my Physician's Vade Mecum. But the most effectual cure is by solvents. These are alkalescents, which decompose the stone.

It is well known that urinary calculi are composed of calcareous earth, animal gluten, and phosphoric acid, all which principles are derived from the animal and vegetable substances on which we feed. These constitute the bones. But as the bones, which may be demonstrated, are constantly renewed, the old materials are taken up by the absorbents, and conveyed out of the system with other excrementitious matters by the kidneys. Here calculi are formed, and from thence by the ureters fall into the bladder, where by collecting fresh matter, unless evacuated, they increase constantly in size.

When such calculi are exposed to the action of mild alkalis, a double decomposition takes place, and new combinations are effected, for the alkali unites with the phosphoric acid, whilst the calcareous earth, saturated with carbonic acid, becomes carbonate of lime, and both salts are very soluble in water.

If you take salt of tartar half a dram every two hours, after the third or fourth dose your urine will become turbid, calcareous earth will be precipitated from its phosphoric acid, and this urine will turn syrup of violets green; or, if on fresh urine you put lime water, phosphat of lime will be precipitated.

Various have been the forms in which alkaline substances have been exhibited by different practitioners, Stephens, Jurin, Lane, Chittick, and Blackerie, and others subsequent to these; but the
most

most efficacious has been proved to be the *aqua mephitica alkalina* recommended by Dr. Falkoner.

Respecting Mrs. Stephen's solvent, it is curiously observed by Mr. Cline in his Lectures, that a patient, being searched by the surgeons of Bartholomew's hospital, was declared to have the stone in his bladder, and having taken this solvent was turned out as cured; in consequence of which she received five thousand pounds from parliament; but some time after this he died, when, being examined, the stone was found incysted in his bladder.

Aqua mephitica alkalina, in sufficient quantity, may be considered as infallible; for even the largest stones in a few months have been discovered to be soft, others have been eaten through like a sponge, and in most cases they come away perfectly dissolved. The common dose is half a dram of kali to three ounces of rain water, impregnated with carbonic acid by means of Parker's machine, and taken twice a day; but four times that quantity may be given with safety and with good effect. The late Dr. Crawford took no less than one ounce of kali every day without any sensible inconvenience to himself.

For the benefit of the poor, Dr. Beddoes has very ingeniously contrived to give an alkali in the form of pills; and this preparation, which I have introduced in *jaundice*, may be found under that disease.

Dr. Fordyce in his lectures recommended thirty grains of kali to be taken every day, and delivered it as his opinion, that a larger quantity will not produce
more

more effect. He says that benefit will be found from this small quantity in six weeks.

Dr. Percival speaks highly of soft water, and assures us, that Malvern spring dissolves calculi without other medical assistance.

c. *Cystospastica* from *spasm* in the sphincters of the bladder, which may be either idiopathic or sympathetic, and must be distinguished by attention to the remote cause.

Spasmodic affection is one of the most common causes of ischuria, and is often to be blamed when *caruncles* stand accused of this effect. For when there is an ulcer in the bladder or in the prostate gland, any acrimony in the urine, such as a prevailing acid, will occasion spasm. Dr. Ingenhousz had a patient, whom he cured by *aqua mephitica alkalina*. This gentleman had an ulcer in the prostate gland, and his sagacious physician detected a predominant acidity in his urine by means of what he calls his *charta probatoria*, which is a strip of paper dyed with *litmus*, for this, before he took the alkaline water, was turned red by the urine, and afterwards, when the urine became saturated with alkali and ceased to irritate the ulcer, was always blue.

For more general information respecting the cure consult *spasm*.

d. *Cystoplegica*,

d. *Cystoplegica*, from *palsy* of the bladder. See *obstipatio paralytica*.

e. *Polyurica*, from distention after long retention of the urine.

It is cured effectually by the introduction of a catheter, and if neglected terminates in inflammation, gangrene, death.

f. *Cystopyica*, from ulcerations in the bladder, and requires demulcents, with the *aqua mephitica alkalina*.

g. *Cystothromboides*, from clotted blood, to be distinguished by antecedent symptoms.

h. *Cystophlegmatica*, from mucus; consult *nephropneumatica*.

In both these cases the catheter must be introduced.

i. *Ectopocystica*, from hernia of the bladder or from prolapsus of its interior tunic.

k. *Cystoproctica*, from pressure by the rectum inflated, inflamed, distended by hardened faeces, or obstructed by hæmorrhoids.

l. *Hystercystica*, from pressure of the uterus when gravid, distended by tumours, or prolapsed.

m. *Atretarum*, from pressure arising from retention of the menstrual flux in the vagina, and requiring assistance from the surgeon.

IV. *Ischuria urethralis*, with swelling of the hypogastrium, frequent vesical tenesmus, and pain in some part of the urethra.

This species contains the subsequent varieties.

- a. *Perinæalis*, from some tumour in the perinæum, whether indolent or inflammatory, and to be treated accordingly.
- b. *Urethrolithica*, from calculus in the urethra, easily to be distinguished, and to be cured either by venæsection and opium, by anodyne and relaxing fomentation, by oil injected, or by the knife.
- c. *Urethrophlegmatica*, from mucus in the urethra.
- d. *Urethromboides*, from clotted blood.
- e. *Urethropyica*, from pus in the urethra.
- f. *Urethrobymenodes*, from a membrane closing the urethra.
- g. *Urethrelmintica*, from a worm closing the urethra.
- h. *Urethritica*, from inflammation in the urethra.
- i. *Carunculosa*, from fungus, callosity, and scirrhous tumours either of the canal, or of the prostate glands, in which the caustic recommended by John Hunter is infallible, but requires a very skilful hand to introduce it.
- k. *Hydrocelodes*,

- k. *Hydrocelodes*, from rupture of the urethra opening into the scrotum.
- l. *Cryptopyica*, from the retraction of the penis into the body.
- m. *Peridesmica*, from stricture by a thread, an expedient adopted by weakly and timid boys to prevent watering their beds.
- n. *Phimofica*, from phimosis, or closing of the prepuce by inflammation.
- o. *Aspadialis*, from the closing of the urethra, so as to obliterate the passage.

Many of these varieties were singular cases; in none of them can the surgeon be at a loss to know what is indicated to effect a cure.

Genus CXV. *Dysuria*.

Difficulty and Pain in discharging Urine.

THIS many authors have denominated *strangury*. Dr. Cullen has six species, which embrace fifteen out of seventeen distinguished by Sauvage.

I. *Dysuria ardens*, with sense of heat, but without any evident disease of the bladder. It is induced either by spices, spirits, cantharides, immoderate exercise, or mechanical injuries, and is cured by demulcents,

I

or,

or, when urgent, requires the antiphlogistic regimen. Sir John Pringle was used to give the subsequent emulsion.

℞ Camph. gr. xv. Amygd. Dulc. Decort. n. iij.
 Simul. Tritis, adde Paulatim. Aq. Font. q. s. Co-
 lat. Solve Salis Rupell. ʒiij. M. f. Emulſio c. c.
 Co. iij. Tertia quaque horâ.

That is,

Camphor fifteen grains; three sweet almonds ground to-
 gether, with sufficient water to make an emulsion;
 Rupell salt three drams. Take three spoonfuls every
 three hours.

II. *Dysuria spasmodica*, from spasmodic affection of the sphincter caused by consent. The common occasional causes of *spasm* may be seen in my first volume. This species includes the subsequent species of Sauvage, which, as being symptomatic, may be referred to their primary diseases.

a. *Dysuria hysterica*, a symptom well described by Sydenham in his treatise on hysteria as sometimes mistaken for calculus.

a. *Dysuria nephralgica*, occasioned by irritation in the kidneys, whether from calculi or from acrimonious urine. This includes the *dysuria ab ulcere renum* of Sydenham.

b. *Dysuria rachialgica*, from irritation in the bowels, producing colic. Citeſius, from whom

whom Sauvage has taken this disease, recommends emetics and drastic cathartics, with oily preparations interposed between them.

d. *Dysuria diabetica*, which seems to be the same with *hysterica*, with this distinction, that limpid urine is discharged only the instant food has been received into the stomach. Dr. Doulas, who describes this disease, saw it in an hysterical patient, in whom it continued for many months without thirst, but attended by atrophy and nocturnal feverishness.

e. *Dysuria herpetica*, from suppression of herpetic eruptions. Dr. Cullen has taken no notice of this, but it seems to be of kin to the *hysterica*, and it certainly belongs to the *spasmodica*.

III. *Dysuria compressionis*, from the pressure of adjoining parts, as in pregnancy; hernia of the bladder; obliquity of the womb; or retention of menstrual blood, occasioned by imperforation of the hymen.

IV. *Dysuria phlogistica*, from inflammation of adjoining parts. This may be induced by *inflammation* of the urethra, or by phlegmonic affection of the prostate glands, as happens frequently in *sypilis*; by *hemorrhoids*, when protruded from the anus, they

they stretch the nerves of the urethra; or by *hysteritis*. For all these the primary disease must be consulted.

V. *Dysuria irritata*, with signs of stone in the bladder. See *ischuria vesicalis*.

VI. *Dysuria mucosa*, with copious discharge of mucus. Lieutaud calls this disease a *catarrh of the bladder*; and Hoffmann, who was consulted in one case, calls it a most rare affection. In the case recorded by him, the hæmorrhoidal flux was converted into *dysuria mucosa*. This learned professor recommended Spa water, cascarilla bark, with essence of amber; and for the common beverage, a decoction of liquorice, sarsaparilla, scorzonera, and chicory roots, with fennel seeds.

Genus CXVI. *Dyspermatismus*.

Seminis in actu venereo tarda, impedita, et ad generationem insufficiens emissio.

THE student, should he happen to be consulted in such cases, must consider what is the condition of the urethra. If that is free from disease and pervious, his enquiries will be directed to three points.

1. To debility and deficiency of vigour.
2. To irritability and spasmodic affection.
3. To excess of vigour.

In the first case tonics and astringents are required; in the second, antispasmodics, combined with tonics; in the third case, evacuants, strict temperance, and refrigerants; that is, acids and ascescents must constitute the chief articles of diet. In this way the noble young Venetian, who by his ambassadors consulted all the most eminent practitioners in Europe, was at last relieved.

Genus CXVII. *Amenorrhœa.*

Menses wholly or partly obstructed, without Pregnancy.

THAT this excrementitious discharge should be regular as to quantity and quality, and that it should observe the monthly period, is essential to health. When it is obstructed, nature makes her efforts to obtain for it some other outlet, either by the eye, the ear, the gums, even by a carious tooth, by the stomach, the lungs, the bladder, or even by the tip of a finger; and from whatever part it is evacuated, it has the same property of not coagulating,

ing, like living blood. Nay, so important is this property, that if twice the usual quantity is evacuated with the power of coagulation, even from the same vessels, the same benefit is not received, much less when taken from other vessels by the lancet. See Hunter on the Blood.

When these efforts of nature fail, the consequence may be, 1. Pyrexia and pulmonic affection, which may terminate in phthisis. 2. Spasmodic affections, hysteria, epilepsia, mania, apoplexia. 3. *Chlorosis*; according to the general habit and disposition of the patient.

Hence three species of amenorrhœa naturally present themselves to our consideration.

I. Amenorrhœa *plethorica*, with a full strong pulse.

Van Swieten in his comment has the subsequent remark.

In the plethoric we observe good blood and vessels pervious, yet so distended, that they cannot re-act on their contents. But as soon as by venæsection the quantity of blood has been diminished, the action of the vessels is renewed, and even whilst the blood is flowing from this vein the menses have been suddenly restored. To such patients strict temperance, or even a vegetable diet, with much exercise, must be prescribed.

II. Amenorrhœa *spasmodica*, in irritable habits, and attended by other spasmodic affections. The

G g 2

predisponent

predisponent cause is debility. The occasional causes are either sudden frights, or the action of cold at the time of menstruation, as happens after dancing in warm rooms, then drinking cold liquids, washing in cold water, or being suddenly exposed to the natural air. This seems to induce spasmodic action in the extremities of the uterine arteries. The proper *emmenagogues* in this species seem to be antispasmodics, such as assafoetida, myrrh, camphor, castor, and the warm pediluvium, in the application of which last we may profit by the cautions of the judicious Hoffmann. If the pulse is full, he recommends venæsection, and if the feet are cold, he advises friction, before immersing them in warm or even in tepid water. But though antispasmodics are thus indicated, the most effectual means of relieving constriction in the extreme arteries is by increasing their action, which may be accomplished by stimulants and tonics. The best stimulant in this case is electricity, and the most efficacious tonic is steel and *vital air*, to which must be added exercise, and a generous diet.

III. Amenorrhœa *atonica*, with weak pulse and a relaxed fibre. We have here a general flaccidity of the system, and consequently debility, with torpor causing weak action in the vessels of the uterus.

In this species the indications of cure are, to restore tone to the system in general, and to excite the action of the uterine vessels in particular. The

tonics

tonics are the same as in the preceding species, and the most efficacious form for exhibiting the steel is in filings mixed with conserve of roses. Five grains of the filings may be given three times a day, increasing the dose. This wonderful and universal distributor of *oxygen* restores vital heat to the extremities, and colour to the cheeks, raises the spirits, increases both the appetite and strength, and in a few weeks makes the catamenia flow.

I have very often prescribed the subsequent

℞ Ferr. Vitriolat. ʒj. Sach. Alb. ʒij. M. f. Pulv.
c. c. ʒj. Ter in die superbibendo, Aq. Pulegii,
ʒij.

Take green vitriol a dram; white sugar two ounces; mix. The dose is one dram three times a day in penny-royal water. To be continued.

For the encouragement of the student, I can venture to assure him, that in thirty years experience, these chalybeates have never failed to cure, even when hectic had appeared, and symptoms of phthisis had created much alarm for the safety of the patient.

Some practitioners place their chief dependance on exciting the uterine vessels by consent with the rectum, when stimulating emmenagogues are passing through the alimentary canal; but I have never had recourse to these.

As to the *amenorrhœa difficilis* of Cullen, in which

the catamenia flow sparingly and with much pain, we may remark from Dr. Fothergill, that the patient may take purified opium one grain every hour till the pain goes off.

For further information I must refer the student to the cases and observations of Dr. Whytt, in his inestimable treatise on nervous diseases, from page 176—182.

Class IV. LOCALES.

Order VI. TUMORES.

Partial Swellings without Inflammation.

THIS order comprehends fourteen genera.

1. Aneurisma. 2. Varix. 3. Ecchymoma. 4. Schirrus. 5. Cancer. 6. Bubo. 7. Sarcoma. 8. Verruca. 9. Clavus. 10. Lupia. 11. Ganglion. 12. Hydatis. 13. Hydrarthus. 14. Exostosis.

Genus CXVIII. *Aneurisma.*

A soft Tumour on Arteries with Pulsation.

THIS may be either active or passive, either from increased action of the blood against the coats of the artery, or from diminished resistance of these coats
when

when they have been strained, bruised, or wounded. The former always happens near the heart, the latter in the extremities. By an invariable law of the animal economy, pressure on a part produces its absorption. But here it is curious to observe the efforts of nature to relieve herself. When an aneurismal sack in the aorta presses against the back-bone, the absorption begins at the external surface of the artery, where it comes in contact with the bone, and continues till the whole is absorbed, leaving the bone in contact with the blood. The surrounding parts then strongly unite by the adhesive process, and form a channel for the blood, which channel is thus preserved intire, even when the bones themselves have been absorbed in consequence of pressure.

Thus it sometimes happens where no assistance can be derived from art. But should the aneurism be near the surface, the skilful surgeon will continue to assist the weakened artery, and to resist the pressure of the blood, till the coats of the artery have recovered their tone.

My friend Mr. Gimbernath, of Madrid, has contrived an instrument by which he has cured many deplorable cases of aneurism in the popliteal artery. It is composed of a steel plate perforated in the middle by a screw to regulate the pressure, and kept in its place by two steel rings, the superior ring to grasp the thigh immediately above, and the inferior ring to embrace the leg just below the knee. Each

ring consists of five pieces, of which one, rivetted to the steel plate, is connected with two others by horizontal joints to admit of bending the knee, either in sitting or in walking. From these proceed two other pieces, with which they are connected by perpendicular joints, and which being opened, admit the limb. These might clasp together in a variety of ways, but for the sake of neatness, and that the same instrument may be adapted to a leg of any size, one piece enters into the other and catches by a spring.

The end of the screw which perforates the plate is rivetted to a smaller plate, which supports the pad or compress, and thus the patient can give that degree of pressure which is needful to support the weakened part.

By similar contrivances he relieves other cases of aneurism, even that of the carotid arteries. In recent cases this method has made perfect cures, and in cases of long standing it has prevented rupture of the artery. When this however fails, relief may be procured by *double ligatures* above the aneurism, in the manner first practised by John Hunter.

Genus CXIX. *Varix.**A soft tumour on veins without pulsation.*

WHEN varices press upon the bones they should be either relieved in the manner already described in cases of aneurism, or when that proves ineffectual they must be extirpated.

Of *hæmorrhoids* I have already treated in my first volume, under hæmorrhages, the fourth order of the pyrexia. For external application the Spanish physicians recommend their unguentum malorum infanorum; but as that fruit is not to be obtained in England, the ung. alb. camphorat. with a few drops of ol. buxi, may supply its place. To this a few drops of laudanum may be added, if occasion should require it.

To keep the body cool and open give the following to the size of a nutmeg twice a day.

℞ Elect. Linitiv. un. 2. Flor. Sulph. dr. 3. Nitri puri, dr. 2. Magnes. Alb. dr. 1. Ol. Carui, gtt. 3. Syr. ex Althæ. q. s. f. Elect. c. c. M. N. M. bis die.

Genus CXX. *Ecchymoma.*

A black and blue swelling either from a bruise, or from morbid extravasation of blood, as in typhus, the plague, and scurvy.

WHEN such injuries have been received as naturally produce extravasation, the part should instantly be kept warm as blood, and if it is a part which can be immersed, it should be steeped for a considerable time in brandy. In this way I have seen the worst contusions pass without the least appearance of extravasated blood.

But if extravasation has taken place, and to a great extent, we must have recourse to venæsection and moderate cathartics with warm diluents, a cool regimen and topical applications in the form of poultice or fomentations, to keep the parts warm, and gently to stimulate the vessels.

If the tumours get less, and do not inflame, they may safely be left to nature, for the absorbents will take up the extravasated blood. Even should inflammation follow, we must still endeavour to promote a resolution of the tumour, which may be frequently obtained by *pressure*, when applied to a degree just beyond the point of ease, for this sets the *absorbents* of the part to work for the purpose of removing, when it is removeable, the pressing substances,

stances, one of which in the present case is the extravasated blood.

Should however these attempts be frustrated, the inflammation may be safely left to suppurate; after which it will be treated as an *ulcer*.

Genus CXXI. *Scirrhus*.

A hard tumour commonly of a glandular part, indolent, and not readily suppurating.

THE proximate cause seems to be want of action in the vessels of the part affected. This we collect from a consideration of the remote causes, which are such as either debilitate the system in general, or destroy the tone of the vessels in parts subject to their action. The same appears from hence, that weakly, relaxed, and *scrophulous* patients, with women at the change of life, are most liable to have indurated glands.

The indications of cure, naturally deduced from this view of the disease, will be to excite the action of the absorbents.

This may be accomplished by evacuants, which excite their action by consent, accompanied by topical applications, and followed by general tonics.

For an evacuant we cannot have one more efficacious in this case than calomel, which may be
taken

taken at night, and carried off in the morning by a gentle cathartic of rhubarb, fenna, and cream of tartar.

Many, for the external application, use mercurial ointment. Van Swieten recommends acetous fomentations, and a liniment composed of gum ammoniac with vinegar of squills, which he adopts from Hildanus, and the form of which I find preserved by Hoffmann.

Gum Ammon. un. 1. Olei Amygdalar, et Olei Liliorum Alb. Pinguedinis Gallinæ ana un. 2. Succi Cicutæ, un. 4. Aceti Scillet. un. 2. M. et digere per 24 horas, et spissum fiat linimentum.

Dr. Simmons, in a case of scirrhus testicle, gave hemlock (*conium maculatum*) in powder, beginning with a scruple, and increasing the dose to a dram a day, and at the same time corrosive sublimate a quarter of a grain per day, and in fourteen days the scirrhus began to mend.

In the south of Spain the physicians assured me, that they found the *conium maculatum* very efficacious in curing the scirrhus tumours, more especially when assisted by mercurials. Certain it is that the *conium* in warm climates is a more active medicine than it is in our more temperate and humid island.

All this must be understood of recent cases; for when the inveterate scirrhus is much enlarged, and becomes hard like stone, the preceding remedies
 1 would

would come too late, and nothing remains but either patience or the knife.

This however is not the case in one species of scirrhus, the *bronchocele*, for that, when even inveterate, may be carried off by the absorbents.

Sauvage, who makes *bronchocele* a genus, includes in it four species.

1. *Bronchocele botium*, which I should rather call *bronchocele steatomatosa*.

2. *Bronchocele ventosa*, which belongs to *pneumotosis*.

3. *Bronchocele sarcoma*, which I suspect to be *steatomatous*.

4. *Bronchocele aquosa*, the only species noticed by Boerhaave, which belongs to *anasarca*.

The scirrhus bronchocele is clearly steatomatous, and as such may be speedily cured by soda. It is very frequent in the vale of Pewsey, and during thirty years I have never failed to cure it in all who have applied to me for my advice.

I formerly gave lozenges of burnt cork, burnt sponge, and pumice-stone, in equal parts, and always found this sufficient without any other medicine or application; but latterly, considering that it is the alkali of these lozenges which combines with the fat collected in the thyroide gland, and makes a soap, I have confined myself wholly to burnt sponge,
which

which abounds with foda. This is made into lozenges, one of which, weighing half a dram, is put under the tongue every night.

℞ Spongiæ exustæ, ℥iij. Syr. ex Althæa, q. s. f.
Trochisci 60 horum unus h. s. lingua suppositus
ibi per noctem lente deliqueſcat.

Genus CXXII. *Cancer.*

A hard tumour of a glandular part, painful and obstinate, which terminates in the foulest ulcer.

WHAT I have said respecting scirrhus in the preceding genus is applicable to cancer, that deplorable disease to which all the glands of our machine are subject. The eyes, the nose, the tongue, the palate, the cheeks, the lips, the groin, the axillæ, the uterus, and the breasts of women, are the parts most frequently infected, and those in which its ravages are most severe.

In women it commonly appears about the time when menstruation ceases, and the first alarming symptom is perceived when they move their arms backward so as to put the fibres of the pectoral muscle on the stretch. On examination, they then discover a small lump, perhaps not bigger than a hazel nut. On recollection they commonly remark, that two or three months prior to this period, they
had

had a small discharge of blood from the nipple, which stained their linen. This symptom proves that some alteration is taking place in the structure of the breast. The tumour goes on enlarging, sometimes rapidly, till the whole glandular substance becomes scirrhous. The superficial veins then become conspicuous, tortuose, enlarged, and very black.

When the tumour is much increased, one part of it appears softer than the rest, and when ulcerated discharges a sanious ichor, but no pus. Pain then becomes constant, the ulcer spreads, and a luxuriant fungus arises, which it is not easy to restrain.

The discharge, usually copious, excoriates the skin, and produces excruciating pain, which gradually destroys the patient.

Before ulceration takes place in the external surface, the axillary glands are much enlarged, which arises probably from an absorption of the cancerous virus, and the tumour, at first moveable, becomes fixed to the pectoral muscle.

In the beginning of this disease the swelling may be retarded by the antiphlogistic regimen in its full extent, and by external applications. In this state electricity with the exhibition of hemlock have done great things, particularly in Germany and Spain, where it is of a superior quality, and mercurials, both internally and externally, may be safely tried. But in England the flores martiales (*ferrum ammoniacale*) have been the most successful medicine. This preparation of iron may be given in any kind
of

of mucilage, and not only alleviates pain, but diminishes the tumour. Mr. Cline, in his lectures, particularly mentioned the case of a lady in which the flores martiales constantly produced these effects after other medicines had been tried in vain. From his account of this lady there is much room to hope he will be able to perfect a cure.

The famous cancer powder of *Plunket*, exhibited by Martin of Pennsylvania, and given by both these quacks with no contemptible success, has been detected to be arsenical. This medicine is perhaps the most active tonic in the materia medica, and deserves to be fairly tried in all desperate cases, where a powerful tonic is required. A good preparation of it by Dr. Fowler has been already mentioned in my first volume, as used with great success in intermittents.

When, notwithstanding these endeavours to check the progress of the tumour, it continues to increase, there is at least one source of hope remaining for a cure, which is by speedy extirpation. But should this be thought inexpedient, and should the ulcer continue to extend its limits, even then pain and all offensive smell may be prevented by the external application of carbonic acid air, in the manner first practised by Dr. Ewart, and described in his publication. When I was at Bath last winter he had a lady under his care, whom I visited. As the ulcer was covered, I could form no idea of its condition or of its disposition to heal; but she was perfectly

perfectly freed from pain, and there was not the least offensive smell.

The application here described can never be injurious, nor is it attended with difficulty; for when the bladder is agglutinated to the breast, it may easily be filled with the carbonic acid air from another bladder, in which it has been collected. This supply may be derived from the surface of fermenting liquors by a syringe, and by the same instrument may be forced into the bladder, which serves as a reservoir.

Genus CXXIII. *Bubo*.

A suppurating tumour of conglobate glands.

BUBOES may be symptomatic of scrophula, of syphilis, or of the plague; and, as Sauvage judiciously observes, may be either scirrhus, phlegmonic, or œdematous. Of these varieties the phlegmonic are easily resolved and quickly suppurate; the œdematous resolve, but never suppurate; the scirrhus resist resolvers, yet never suppurate.

I. *Scrophulous buboes* call for tonics, preceded by gentle cathartics; in them the metallic oxyds are particularly useful.

II. *Pestilential buboes* are critical, yet require to be
VOL. II. H h opened

opened by the lancet, and to be assisted by poultices to expedite their suppuration.

III. *Syphilitic buboes*, being frequently ill managed by ignorant practitioners, demand a particular discussion.

These tumours in the lymphatic glands of the groin, arising from impure connexion, are more or less painful according to the third degree of *inflammation*, which depends on the quantity and quality of the absorbed virus with the irritability of the system. The cure therefore might be attempted, as I have fully explained, when treating of the *PHLEGMASIÆ*, in my first volume, either 1. by resolution; or 2. by suppuration; but the latter should be carefully avoided. My reason for this opinion is, that when a syphilitic bubo suppurates, it becomes a kind of secretory organ, whose action is increased by the stimulus of oxygen in the atmospheric air, whilst the secreted matter, which not only retains its specific nature, but acquires virulence by contact with the air, being absorbed in great abundance, produces general infection in the system.

The cure therefore by resolution should be preferred to suppuration.

This may in most recent cases be accomplished by venæsection, general or topical, by cathartics, and principally by friction with mercurial ointment, because by this application the small quantity of syphilitic

philitic virus contained in a bubo, although taken up by the absorbents, carries with it the proper antidote, as it circulates throughout the system.

Should however the bubo have acquired such an extent of inflammation, as not to be resolvable, the suppurative process must be then promoted by cataplasms and fomentations; and, when it arrives towards maturity, it must be opened either by the lancet or by caustics.

In this state the subsequent absorption must be carefully prevented by keeping the ulcer clean, and the system must be guarded from general infection by mercurial ointments.

Genus CXXIV. *Sarcoma.*

A soft excrescence resembling flesh, not painful.

THESE excrescences arise from different parts of the body. From 1. The carunculæ lachrymales. 2. The eyelid, either externally, or internally. 3. The Sneiderian membrane. 4. The gums. 5. The scalp. 6. The back. 7. The uterus. 8. The vagina. 9. The cremaster muscle of the scrotum.

When it is derived from the Sneiderian membrane, it arises from a very narrow basis, but grows larger as it proceeds either through the nostrils or turns back into the throat. As this kind of

H h 2

excrescence.

excrecence, known by the name of *polypus*, has but few blood vessels, it may be removed without hazard, either by ligature or by the forceps, accordingly as it is situated, either near the anterior opening of the nostrils, or higher up. When this operation has been effectually performed, the *polypus* returns no more, and the hæmorrhage, which follows, may be stopped by thrusting lint up into the nostrils.

When it affects the testicle, it is known by the name of *sarcocoele*, and arises commonly from contusion of that tender organ. In some cases the injury extends no farther than the testicle; but in others it creeps along the cremaster muscle, situated on the outside of the tunica vaginalis, and stretches away, over the spermatic vessels, to the inguinal ring. In the first case the extirpation may be performed with safety; but when sarcoma reaches to the ring, little good can be expected from the operation, nor can it be prudently advised. This will be evident if we consider, 1. That the excrescence may have penetrated the inguinal ring itself, and have passed into the abdomen, where the knife cannot be used. 2. That to attempt a ligature of the spermatic blood vessels so high up as the ring will be difficult and dangerous in the extreme, because they retract, when cut; yet if this ligature were not secured the patient would be lost.

When sarcomatous excrescences arise from other parts of the body accessible to ligatures, they may be extirpated with ease.

Genus CXXV. *Verruca*.*A wart.**A tumour hard, scabrous, and void of sensation.*

WHATEVER produces inflammation at the root, or death in the wart itself, as happens by the application of a caustic, will excite action in the absorbents to separate not only between the living and the dead, but between the sound parts and the diseased. For it is a general law of the animal economy, that if a part is organically injured, the sound part beneath relaxes, and shews distinctly the limits of the disease, so that a separation begins to take place although the actual death or destruction of the part, as by a caustic for instance, has not reached so far. It is upon this principle, as John Hunter has observed, that arsenic, superficially applied, removes tumours.

From what has been said it will appear to be nearly a matter of indifference, as to the effect, what kind of caustic, actual or potential, is applied. Some remove their warts by the juice of celandine (*chelandonium majus*), some by spurge (*euphorbia helioscopia*), others by juice of houseleek (*sempervivum tectorum*). Some prefer the actual cautery, others are better pleased with either burnt alum, with blue vitriol,

with vitriolic acid, or with the lunar caustic, and others again are satisfied with ligatures, when they can be applied.

The *verruca syphilitica* belongs to *syphilis*. After curing the primary disease, the tops of these warts may be cut off, and then a little powder of savine may be applied to them.

Genus CXXVI. *Clavus*.

A Corn.

A thickening of the cuticle, hard, lamellated.

THE best instrument for cutting corns is a pair of scissars, short in the blades and sharp in the points, because by these there is no danger of going suddenly so far as to make them bleed, provided the person operates on his own corns.

A radical cure may be obtained by suffering them to grow freely without pressure, and this effect may be obtained by sticking plasters, accumulated in proportion as the corn grows up, if each plaster has a hole in the middle for the corn to penetrate. This however requires more attention than most people can command.

Genus

Genus CXXVII. *Lupia*.

A cyst under the skin, soft, moveable, indolent.

THIS might have been considered as a species of scirrhus, because the matter contained in the cyst is steatomatous. When this matter is liquid and soft as honey, Sauvage calls the tumour *lupia meliceris*; when it resembles suet, he gives it the name of *lupia steatoma*.

Extirpation by the knife is safe, easy, and effectual, provided no part of it is left behind.

 Genus CXXVIII. *Ganglion*.

A hard tumour, moveable on the tendons.

GANGLIONS, upon the tendons, are inclosed in the same cellular membrane which forms their vagina, to facilitate their motion. They occupy their station also on the annular ligaments and capsulæ mucosæ, through which they pass. These tumours, although indolent, being yet very troublesome by pressing on the tendons, it becomes needful to remove them. This may in common be effected by

H h 4

exciting

exciting the absorbents, the best way of doing which is by pressure, for this, when applied to a degree just beyond the point of ease, calls forth their activity to remove, when it is removeable, the pressing substance, and that substance is the ganglion. I need scarcely add, that the pressure must be uniform and long continued.

Another method of cure is, to give repeated and hard blows with a hammer, for this, by bruising, disturbs the organic structure of the part, and thereby, according to a beautiful law of the animal economy, excites the absorbents into action for the purpose of conveying it away.

When the ganglion, by neglect, has been suffered to enlarge itself, it may be vain to attempt its resolution in these ways. Nothing then remains but to remove it, either by the knife or by a caustic. The latter in skilful hands may have the preference; but, considering the irritability of tendons, with the danger attending any violence offered to them, and the greater hazard of destroying the coats of some artery, it must be evident, that much patience and the most watchful attention are required, when in such a delicate situation we advise the application of a caustic.

My friend M. Gimbernat, being required to remove a large ganglion on the wrist of the princess royal of Spain, which was close to the radial artery, after having tried in vain what could be done by pressure,

pressure, had recourse to caustics, which were so slowly and so cautiously applied as to require more than twelve months for perfecting a cure.

Genus CXXIX. *Hydatis.*

A cuticular vesicle filled with an aqueous fluid, resembling that which arises from combustion, but not painful, unless when broken.

ALTHOUGH these cuticular vesicles are called hydatides, it is not meant by this appellation to imply, that they contain *tæniæ hydatigenæ*, which are found in cases of encysted dropsy, nor, as I apprehend, do they require medical assistance.

Genus CXXX. *Hydarthus.*

A white swelling on the joints, chiefly in the knees, small at first, not discoloured, very painful, and destroying the mobility of the joint.

It is a disease of the lymphatics in the part affected; for either the exhalants are relaxed, or the absorbents become atonic, in consequence of which there

there is an accumulation in the sinovial glands, which by *pressure* causes irritation, and in the end ulceration of the parts.

The predisponent cause seems to be laxity of the solids, and the occasional cause commonly is some contusion.

The indications of cure are to excite the action of the absorbents and to brace the solids; the former by emetics and cathartics, but particularly by setons, by burning moxa on the part, and by repeated blisters round the joint; the latter by tonics and astringents, particularly by bark and steel.

Let the student consult further what has been said on scrophula.

Genus CXXXI. *Exostosis.*

A hard tumour on a bone.

THE bones are subject to the same diseases as other parts of the animal machine, for they equally abound with nerves, arteries, veins, cellular membranes and lymphatics. The interstitial parts of this contexture we see occupied by phosphorated lime and gluten.

This appears by injections, when accurately made, for the calcareous earth may be carried off by marine acid diluted much with water, and the animal
gluten

gluten may be washed away, after which the preparation being placed in oil of turpentine, the vascularity of the texture will be beautifully distinct.

Bones are not for any given period unalterably the same, but are incessantly wasting and renewed. Nay such is their renovating power, that in case of fracture they soon form a callus; and in cases of *necrosis*, whilst the absorbents carry off the dead portion, proper vessels go to work to surround it with new bone, which at the two extremities connects itself to the living portions of the old.

In this operation we admire the efforts of nature to relieve herself; but as in every thing beneath the sun, good and evil are intimately blended; and as it sometimes happens, that the laws provided for the health and well-being of the animal may give occasion to disease; so is it here, for this ossific faculty, to which we are indebted for health, strength, locomotive power, nay for the support of our animal existence, in certain circumstances, produces morbid ossifications and exostoses, which may either destroy us, if they are the cause of apoplexy, or render life a burthen, when they occasion either epileptic fits or palsy.

It is commonly active inflammation in a bone, which lays the foundation of the disease in question, and this may be occasioned either by topical violence or by constitutional affections.

The topical violence may be from either wounds
or

or contusions, and the constitutional affection may be rachitis, syphilis, scorbutus, scrophula.

Hence Sauvage enumerates the subsequent species of exostosis.

I. *Exostosis benigna*, occasioned merely by wounds, pressure, or contusions, and attended by the mildest symptoms, yet incurable, unless by extirpation.

II. *Exostosis rachitica*. This species attacks rickety children, and such adults as have been formerly subject to *rickets*. It is incurable; for amputation cannot remove the cause.

III. *Exostosis cancrofa*. In this the tumour is brown, and the veins are varicose; but the most certain symptom is *cancer* in any other part.

IV. *Exostosis scrophulosa*. It is distinguished by the common symptoms of *scrophula* in the glands, the upper-lip, and the eyes.

V. *Exostosis scorbutica*. For the symptoms, the gums, the teeth, the skin, must be examined, and the treatment must be the same as in the primary disease.

VI. *Exostosis syphilitica*. It is the consequence of impure connexion, and the species may, from that circumstance, be ascertained, provided other symptoms of inveterate lues are not wanting. These are ulcers, buboes, pustules, nocturnal pains, &c.

This

This scourge of illicit intercourse is most unfriendly to the bones. In them the syphilitic virus spreads, and in them its ravages are most severe. My friend Wathen has preserved a skull, which is like a honey-comb; and in the cabinets of surgeons I have seen ribs, the sternum, clavicles, and vertebræ, perforated in a thousand places.

Yet deplorable as are the effects of this disease, its progress may be stopped by mercurial frictions long continued; after which, if there is external caries, it must be destroyed either by burning or by potential caustics: if there is *spina ventosa*, or internal caries, an opening must be made by a trepan into the cavity of the bone and the ulcer must be cleansed.

Sauvage mentions three other species; but as they require no special attention, I omit them.

Class IV. LOCALS.

Order VI. ECTOPIÆ.

Parts displaced.

In this order we have three genera.

1. *Hernia.*
2. *Prolapsus.*
3. *Luxatio.*

Genus

Genus CXXXII. *Hernia.**A Rupture.*

THE protrusion of a soft part, which yet remains covered by the common integuments.

SECTION I.

INTRODUCTION WITH ENUMERATION OF THE SPECIES.

It is evident that hernia may be either active or passive; it may be produced either by violent exertions expelling the part; or it may happen from preternatural debility, relaxation, and diminished power of retension. In the former case we have a strong pulse with pain, heat, and tension: in the latter the pulse is weak, pain not severe, and heat is moderate. In one case it is difficult to restore the part; but when restored, it is retained: in the other to restore is easy, but not so to make the part continue in its place.

When hernia is the effect of violence, lubricants, laxatives, anodynes, and venæsection are required: but when it is the consequence of relaxation and debility, the tonic plan must be adopted, with air, exercise,

exercise, a generous diet, aromatics, bitters, bark, and steel.

Sauvage, under this genus, has introduced the subsequent species arranged by the learned and most laborious D. Cusson of Montpellier. 1. Enterocoele. 2. Epiplocele. 3. Gastrocele. 4. Hepatocoele. 5. Splenocoele. 6. Hysterocele. 7. Cystocoele. 8. Encephalocoele.

SECTION II.

OF ENTEROCELE.

ENTEROCELE is an hernia of the intestines. Sauvage, who has made this one of his genera, arranges under it no less than five and twenty species: but as these lead to distinctions which are foreign to my purpose, I shall here omit them. It is sufficient to observe, that the intestine may pass either through the inguinal rings, the crural arches, the oval foramina, the ischiatic femilunes, the umbilical ring; or after wounds through the muscles of the abdomen, according to which circumstances the hernia is called, a. *Inguinalis*. b. *Cruralis* or *femoralis*. c. *Ovalaris*. d. *Ischiatica*. e. *Umbilicalis*. f. *Ventralis*; or, from the place to which the *hernia inguinalis* descends, it is denominated *scrotalis* and *vaginalis*.

It may likewise be observed, that hernia appears in three conditions; either A, simple and incysted, which

which is, when the intestine alone is protruded with a portion of the peritonæum. B, compound and incysted, when the omentum is protruded with the intestine, but the peritonæum is not ruptured. C, not incysted when the peritonæum itself is ruptured. And in addition to these distinctions, it must be yet remarked, that the hernia may be *strangulated* or not, as I shall immediately have occasion to explain.

Of the above mentioned varieties of hernia, the *inguinalis* and the *femoralis* are the most important, as being most common and requiring most knowledge and attention.

In the *hernia inguinalis* the intestine passes through the same ring with the spermatic vessels; and in the *hernia femoralis* it escapes under the crural arch with the crural artery and vein. The circumstance which renders these two species peculiarly hazardous is, that they are more subject than the other species to be strangulated, which not only prevents reduction, but stops the peristaltic motion of the intestine, impedes circulation through the arteries, and, producing gangrene, very speedily destroys the patient.

Strangulation may be caused either by spasmodic stricture of the aperture, through which the intestine passed, or by inflammation and distention of the parts protruded.

The cure therefore must be attempted by speedy and copious venæsection, by fomentations, and by manual operation.

The

The method of *reduction* practised by my valuable friend M. Gimbernat, of Madrid, is so ingenious, and at the same time so successful, that I shall give it in detail. He places the patient on his side opposite the hernia, with his body a little bent and lower than the pelvis, in order to relax the muscles of the abdomen. With the same intention the head is brought forwards towards the chest, and in the *hernia femoralis* he elevates the thigh, on which the hernia is, yet so as not in the least to obstruct the operation. Sitting then by the bedside, with his hand which is nearest to the patient, he grasps the tumour at its base, which is the upper part, and with his three first fingers he compresses it all round to diminish its diameter, at the same time with the fingers of the other hand he pushes the apex, which is the lower end of the tumour, upwards and inwards, to direct it towards the crural arch, because it cannot be reduced in any other direction. He has sometimes found that more than one hour was required for this operation. When the patient is fatigued he ceases both to press and push, but yet never quits his hold, and when he renews these efforts he increases gradually their force.

Of numerous hernias, treated by him in this way, and many of them desperate, those, which have not been reduced, have been very few.

It may be needless to add, that this method is improper if the tumour is inflamed and very painful, for in such circumstances there is no safety for

the patient unless in the cruent operation, that is in the dilatation by the knife, of the part which causes the strangulation.

This operation in the *inguinal* and *umbilical hernias* is safe and easy, but, by the usual methods, in the femoral hernia, it has been found both difficult and dangerous in the extreme. Yet in the way first practised by M. Gimbernat, the reduction of hernia femoralis may be rendered the most simple and most safe of any cruent operation practised in cases of strangulated hernia, for neither the epigastric arteries nor the spermatic vessels can be injured by his bistoury.

For the *cruent operation*, in *femoral hernia*, after the sac has been properly laid open, the patient must be placed upon his bed, as for the reduction, and, if the intestine is found, the operator must endeavour to reduce it. For this purpose a little more of the intestine must be drawn out of the abdomen, because sometimes the strangulated part is affected by such strong spasmodic constriction, as not to allow a passage to the fæces contained in the protruded portion of the intestine. This frequently is the only impediment to reduction, and is commonly overcome if there is no adhesion, by bringing to the arch a part of the intestine, which, not having suffered strangulation, will not be constricted like that which has laboured under it without remission for hours or for days.

If, as rarely happens, the reduction cannot be obtained

tained in the way above described, it will be needful to divide the part which causes the strangulation. But, previous to this operation, the patient must evacuate his urine, that his bladder may be free from danger of being wounded by the bistoury.

When therefore the patient is stretched upon his bed, so as to present the part most commodiously for the operator, a director, or grooved probe, with a channel of sufficient depth and a blunt point, must be introduced along the internal side of the intestine, that is between the intestine and the pubis. This must be directed obliquely inwards, till it has passed the crural arch, the entrance to which will be perceived by increased resistance, and its having passed will be ascertained when the point of the director rests upon the pubis. Then, with his left hand, if the hernia is on the right side, or with his right hand, if it is on the left, the operator keeping the point of his director firmly resting upon the branch of the os pubis, in such a position that the back of the director shall be turned to the intestine, and its groove towards the symphysis pubis, when consequently the two edges will be turned one of them downwards, the other towards the crural arch, he must with the other hand introduce into the groove of the director a bistoury, with a narrow blade and blunt point, till it enters the arch, which will be known, as before stated, by a little increase of resistance. The bistoury must then be very cautiously pressed forward to the end of the

groove, and, employing both hands in concert, the operator must conduct both instruments together close along the branch of the pubis towards its symphysis, so as at the same time to draw them out.

By this easy operation the duplicature or expanded aponeurosis of the abdominal muscles, which is turned inwards and upwards more than an inch, and which forms the crural arch, is divided from its internal border, to the depth of about seven lines, and within four or five lines of its angle, at its insertion along the crest of the pubis. The remainder of this duplicature is left attached to the inferior pillar, of which it is the continuation.

This simple incision being thus accomplished without the smallest danger, the internal border of the crural arch, which alone forms the strangulation, is considerably relaxed, and the parts are reduced with the greatest facility.

Pregnant women must be much inclined to the side opposite from the hernia, that the uterus may not be injured.

After the operation, the lips of the incision must be brought together and secured by dry stitches, over these a simple compress with unguentum ceræ must extend two inches beyond the suture to prevent the introduction or even the access of air. On this, dry lint and other compresses must be supported by convenient bandage, and the patient must keep his bed, with the thigh elevated and the body incurvated, so as to relax the abdominal muscles and prevent

prevent strong pressure of the intestines against a weakened part. In five or six days the dressing may be changed, and when the patient rises from his bed he must wear for a great length of time the *spica bandage*. Temperance with quietness must be recommended, and costiveness must be avoided.

When this salutary operation has been neglected, all the distressing symptoms become aggravated; pain, sickness, nausea, and vomiting, the fruitless efforts of nature to relieve herself, ensue; and as these prove vain, she withdraws her vital energy from the strangulated portion of the intestine, now rendered not only useless but worse than useless, leaves that part to mortify, and then excites the needful action of the absorbents to make a separation between the living and the dead. Nor do her efforts terminate in this separation, for unless death prevents, which is most frequently and speedily the case, the adhesive inflammation may take place between the external teguments, and the superior portion of the intestine, so as to form a new anus, or the two living portions may unite and remedy the evil.

Van Swieten records three curious cases, in the first of which, after the hernia had continued eight years, it mortified and cast off a portion of the intestine in length about eight fingers, yet in less than five weeks the economy of nature was perfectly and spontaneously restored.

In the second case, when the length of six fingers had perished by gangrene, the surgeon passed a

thread through the mesentery, and retained both the living ends of the intestine in the aperture of the wound, with a view of making this serve the purpose of the anus: and in a month these living parts were perfectly united.

The third was still more remarkable, for in this the duke of Brunswick's surgeon cut off a considerable portion of the intestine, after which putting the superior extremity into the inferior, he slightly fastened them together by a suture, and replaced them. This patient lived afterwards in perfect health, till at the distance of twelve months she had a pleurisy, and died. After death the parts were found united, and were preserved in the cabinet of Heister.

Queralto, first surgeon to the Spanish army, is reported to have performed this operation with success, by introducing, as above stated, the superior extremity into the inferior after he had separated the part destroyed by gangrene.

SECTION III.

OF EPIPLOCELE.

EPIPLOCELE is an hernia of the omentum, either simple, compound, faccated, or not faccated. It is most common in the umbelical ring, but it may be seated in the other parts, which are subject to interocele. It is attended by much pain, more

especially when the patient attempts to walk erect, but it is not affected by efforts to evacuate the fæces.

It may safely be extirpated by ligature.

SECTION IV.

OF GASTROCELE.

GASTROCELE is an hernia of the stomach, caused by violent efforts in vomiting or lifting weights, more especially after the muscles of the abdomen have been wounded.

It is specifically distinguished by pain in the stomach after eating, by loss of appetite and vomiting, but more especially by ease in an horizontal position.

The cure is to be effected by reduction, by wearing a truss, by relaxing the muscles of the abdomen, by strict temperance, and by tonics.

SECTION V.

OF HEPATOCELE AND SPLENOCELE.

HEPATOCELE is an hernia of the liver.

The cases adduced were in new-born infants and in the umbelical ring. These seem to have been from natural defect in the organization, for the liver is not a floating viscus.

SPLENOCELE is an hernia of the spleen.

Two cases are adduced by Ruysch and Hildanus. In both the spleen was much enlarged and scirrhus.

SECTION VI.

OF HYSTEROCELE.

HYSTEROCELE is an hernia of the womb.

It has been occasioned by violent muscular efforts, by blows on the abdomen at the time of gestation, if preceded by either wounds or abscess, because these in the abdomen do not cicatrize so well as in parts that are at rest. Ruysch relates the case of a woman, who becoming pregnant after an ulcer had been healed in the lower part of the abdomen, the tumid uterus descended into a dilated sac of the peritonæum in that weakened part, till it hung with the included foetus at her knees. Yet when her full time was come, the midwife reduced this wonderful hernia, and in a natural way she was safely delivered of a son.

SECTION VII.

OF CYSTOCELE.

CYSTOCELE is an hernia of the urinary bladder.

It may pass either by the foramen ovale, the inguinal rings, or the crural arch. It is always affected
by

by the presence or absence of urine in the bladder, and may be therefore readily distinguished from other species. When inflamed, it is attended by acute pain, heat, fever, vomiting, and hiccough. In this case the antiphlogistic plan must be pursued to prevent a gangrene.

The reduction must be attempted in the same way as in *hernia intestinalis*. After which, if it has been reduced by taxis, a proper truss must be applied, but if by the *cruent operation*, then the spica bandage must have the preference.

SECTION VIII.

OF ENCEPHALOCÉLE.

ENCEPHALOCÉLE is an hernia of the brain.

This has been frequently seen in new-born infants, arising from defect of ossification in the cranium, and in adults after part of it has been removed by fracture, by caries, or by the trepan. In such cases a portion of the brain has been protruded by the natural distention communicated to it at every inspiration. To prevent this, and to secure the brain from such pressure, as would produce deep sleep, apoplexy, death, the apertures are usually covered by metallic lamina chiefly of lead, adapted to their shape and size, with shoulders to keep them from falling through the cranium.

Genus

Genus CXXXIII. PROLAPSUS.

The protrusion of a soft part uncovered.

DR. CUSSON, and after him Sauvage, considers this as a superior order to be distinguished into genera and species ; but we shall be contented with noticing these as so many species and varieties.

I. *Exophthalmia* is a prolapsus or protrusion of the eye, which according to these nosologists may be,

a. *Exophthalmia hydropica*. The bulb of the eye increases gradually, and the sight is gradually impaired. The cornea is elevated and the iris seems to be sunk. The pupil becomes almost immovable, pain is felt at the bottom of the eye, and there is involuntary flux of tears. It is in truth only a *dropsy* of the eye, known by the name of *hydropthalmia*, and belongs to *caligo*.

It is cured as *dropsy*, and if need be, the paracentesis must be resorted to.

b. *Exophthalmia purulenta*. This follows in consequence of violent inflammation, external and internal, produced by the irritation and distention in *exophthalmia hydropica*.

dropica. This accumulation of pus in the chamber of the eye is called *hypopyon*, and requires the lancet. It belongs properly to *caligo*.

c. *Exophthalmia cancrofa*. It is attended with intensity of pain and total destruction of organic structure. No relief is to be expected but in extirpation.

d. *Exophthalmia traumatica*. To be treated as a wound.

e. *Exophthalmia a protuberantia*. This properly speaking is the only exophthalmia, and the protuberance may be *exostesis*, for which see genus 131; *scirrhus*, for which consult genus 121; *hydatides*, or other encysted tumour, as in *dropsy*, or it may be merely fat; but the most common protuberance is *polypus*, which may sometimes be extracted, if not too deeply seated, and the eye may be replaced, as was performed by my friend M. Gimbernat, in a case which his son communicated to me.

The subsequent letter from one of the first oculists in our metropolis, contains a most interesting case of *exophthalmia*.

Captain P——, of America, on his arrival in England, applied to me with a complaint of his left eye. On examination I found a complete paralysis of the upper eyelid, and

and an increased prominence in the eye itself: on further investigation I found the prominence of the eye did not proceed from any enlargement of the globe itself, but from some substance occupying the posterior part of the orbit. This substance or tumour also seemed not to be confined to the orbit only, but to extend itself into the cavity of the cranium, so as to occasion an increased projection of the prominence of the os frontis on that side. These circumstances were accompanied with a constant dull heavy pain in the head, which sometimes increased to a great degree of violence, and with a sensation round the eyebrow and temple, which he described as similar to that which he experienced when the foot is said to be asleep. He was much emaciated, and a vast degree of debility was induced on the general system.

The first means employed were a large blister on the head, the internal exhibition of the hydrarg. muriat. and bark, and the external application of electricity and camphorated spirits of wine to the eyelids, and of a drop of the tinctura thebaica to the eye itself when any pain was experienced in the globe. This plan, with the renewal of the blister as frequently as possible, was continued about two months, during which time, though the pain was considerably abated, the disease seemed to gain ground. The tumour in the forehead was larger, and the eye more prominent.

A mercurial course was now adopted, and he rubbed in the ointment for about three weeks, when a violent mercurial inflammation of the eye itself took place, attended with a considerable opacity of the cornea. The bark with the hydr. muriat. was now given, and the rubbing in was entirely omitted. The eye, with proper local treatment, began soon to amend and entirely recovered. The paralysis disappeared, but the tumours continued much the same.

The

The pain in the head returned sometimes, but in a less degree, and was always removed by the blister. About this period the whole plan was interrupted by his taking cold, and being seized with an inflammation of the bowels, which for some days gave us small hopes of his recovery. When his strength allowed an examination I was surprised to find the prominence both of the forehead and eye much diminished. The general debility was so much increased as to derange his faculties at times. The bark was again given, but it always purged, and would never agree. Having seen the good effect of *fixed air* in some debilitated constitutions, I recommended his drinking freely of spruce beer. This agreed most completely, and the change in his general health, even in the space of a week, was so great as to afford the most sanguine hopes of his re-establishment.

Another inflammation now attacked the eye itself, attended with an ulcer of the cornea. For this a variety of local remedies were used, and the hydrar. muriat. again. The tumours continued gradually decreasing, the eye perfectly recovered; and by continuing these means for about two months, he quitted England not only perfectly freed from his disease, but increased in bulk and in better health than he had been for years. He has been since to America, and has returned to England; is in perfect health, and has never experienced the slightest relapse whatever.

JOHN WATHEN PHIPPS.

N. B. He continues drinking the spruce beer to this day.

Pall-Mall, Dec. 22, 1795.

II. *Blepharoptosis*, is either retraction, inversion,
or

or elongation of the eyelids, in all which cases the skilful surgeon can give relief.

In all diseases of the eye the young practitioner may consult the works of Maitre-jan. S. Yoes, Boerhaave, Heister, Bell, and Wathen; and should any operation be required, to which he feels himself unequal, he cannot do better than to consult the latter, or his grandson, Wathen Phipps, in London, who have devoted their attention wholly to this subject, and are certainly the first practitioners in Europe.

III. *Hypostaphyle*, falling of the uvula.

This may be attended by *inflammation*, and require the antiphlogistic regimen, with cooling and detergent gargles; or it may be caused by relaxation, and call for tonics.

In the first case for a gargle,

℞ Aq. Hord. ℥vij. Mel. Rosac. ℥j. Sal. Ammon.
Crud. ʒj. M. pro gargarismo.

That is,

Barley water seven ounces; honey of roses an ounce;
crude sal ammonia a dram. Mix for a gargle.

For an astringent gargle, nothing can excel the decoction of oak bark, with honey of roses and a small quantity of alum.

℞ Cort. Quercin. un. i. Aq. Font. ℔iſs, fiat Decoction
ad ℔j. Cui adde Mel. Rosac. un. i. Alum. dr. i.
M. pro gargarismo.

IV. *Paraglosse*.

IV. *Paraglosse*. Under this species we observe four varieties.

- a. *Paraglosse deglutatoria*, in which the frenum linguæ being either wanting or destroyed, new-born infants swallow the tongue.
- b. *Paraglosse glossomegistus*, from extreme enlargement of the tongue, of which the cause may be sought among those that occasion, 1. Pyrexia; 2. Neuroses; 3. Cachexia; for it may either be inflammation, or the consequence of spasmodic affections, or it may arise from some derangement in the lymphatic system. Enlargement of the tongue from *inflammation* is not uncommon, but from *spasmodic affection* is seldom to be met with. One case I saw in a lady of a certain age, who was of a relaxed and irritable habit, which returned regularly about the monthly period, after the monthly evacuation ceased. It seemed to arise from the stimulus of the hæmorrhagic effort in the vessels of the uterus, with which the tongue was affected by consent of parts. It was at last relieved by tonics and astringents.

Enlargement of the tongue from derangement of the lymphatic system is too frequently observed when mercurial salivation is carried to excess.

c. *Para-*

- c. *Paraglosse exertoria*, is caused either by *paralytic* affection of the retrahent muscles of the tongue, or by *spasmodic action* of those muscles by which it is protruded.
- d. *Paraglosse retractoria* is the inverse of the former, being a violent retraction of the tongue, either by paralytic affection of the protruding muscles or spasmodic action of the retrahent.

V. *Proptoma*. Relaxation of the scrotum, of the under-lip, of breasts in females, of the præpuce, or of the ears.

VI. *Exania*. The falling down of the rectum may be occasioned by straining either in childbirth or in efforts to evacuate hardened fæces; by the long continuance of *diarrhæa* and *dysentery*, by the operation of violent cathartics, and by either paralysis or division of the levatores ani. These causes give names to as many species in Sauvage; but, independently of these distinctions relative to the causes which occasion this disease, the prolapsus may be either simply inflamed, it may be strangulated, or it may be gangrened.

The indications of cure must have respect both to the condition of the prolapsus and its cause. The part prolapsed must be reduced by hand; inflammation must be checked by venæsection, or by leeches; by tepid fomentations, and by antiphlogistics;

giftics; and whatever is the occasional cause must be obviated.

VII. *Hysteroptosis. Prolapsus uteri.* Falling down of the womb. This may be occasioned by hard labour, or by ill management in labour, when the ignorant midwife extracts the placenta before the uterus is properly contracted. The surgeon in replacing this viscus must be cautious not to injure it, and should the part be much inflamed topical bleedings, with the gradual application of cold by means of linen cloths soaked in water and frequently renewed, must be first recommended.

When the womb has been reduced, it may be kept in its place by a pessary, and tonics with astringents must be both internally exhibited and topically applied to brace its ligaments. The same may be said of prolapsus vaginæ, which is merely a consequence of relaxation in the cellular substance, by which it is attached to the surrounding parts.

Genus CXXXIV. LUXATIO.

A dislocation or disjointing of a bone.

THIS may be discovered by inability to move the joint, when this inability arises neither from

fear of pain nor from any known disease, by a change in the external form and position of the part; by variable and interrupted pain depending on efforts to move, and by tension of the muscles opposed to the luxation.

A dislocation, when not accompanied by rupture of the capsular ligament, can be reduced by manual operation. Strong contraction of the muscles is the only obstacle to the restoration of the joint, and this sometimes is so great as to resist all the mechanical powers which can be applied.

M. Ginesta, professor of the college of surgery at Madrid, has however happily discovered, that opium internally taken and externally applied in strong fomentations to the contracted muscles, induces such a degree of relaxation, as greatly facilitates reduction. In a memoir presented to the infant college, and which will be published, he mentions several cases of long standing, restored in this way by him, after having wearied the patience and frustrated the hopes of other practitioners.

When the head of the dislocated bone has ruptured the capsular ligament, and passed through the opening, the reduction is attended with much greater difficulty, because it is scarcely possible to make the projected bone return by the same channel. This situation of things being discerned by the more limited and impeded motion of the dislocated bone, the skilful surgeon must lay open the parts concerned, and dilate the perforation of the capsular

capsular ligament, that he may be enabled to reduce the joint. In this operation the difficulty and danger will arise from the high inflammation of these parts, when exposed to the access of atmospheric air. M. Ginesta has devised a new method of performing this operation, which I may perhaps hereafter have an opportunity of communicating to the English student.

When, notwithstanding all the efforts of art, the dislocation cannot be reduced, nature exerts her efforts to relieve herself, and sometimes in the scapula and the ileum forms a new cavity, in which the head of the dislocated bone finds a resting place and firm support. For here, by a law of the animal economy, *pressure* sets the absorbents to work to remove the part subjected to its action; inflammation follows with a discharge of ossific matter, and a new articulation is produced. This with perfect rest would form an *ankylosis*, but with proper motion the articulation gains its capsular ligament, and becomes a perfect joint.

Whilst nature is thus forming a new cavity, in which the head of the dislocated bone may move securely, she proceeds to obliterate the former cavity as no longer useful.

Several joints thus formed by nature, have been dissected and preserved in spirits by my friend M. Gimbernat, and are now in the museum of the royal college at Madrid.

Class IV. LOCALES.

Order VIII. DIALYSES.

Solutions of Continuity.

IN this order we have seven genera. 1. Vulnus.
 2. Ulcus. 3. Herpes. 4. Tinea. 5. Pfora.
 6. Fractura. 7. Caries.

Genus CXXXV. VULNUS.

A wound.

COULD the divided surfaces of a wound be brought into contact without effusion of blood, the mouths of the corresponding vessels would immediately unite by *inosculation*. But even extravasated blood, if the lips of the wound are brought together, is so far from being an impediment, that it becomes a bond of union; for the superfluous blood and the red particles of the remaining blood being speedily absorbed, the coagulating lymph becomes vascular, so as to contain within itself nerves, arteries, veins, lymphatics, which form a junction with the divided vessels, and renew their communication. In this case the parts are said to *unite by the first intention*.

Should

Should however this opportunity be lost, and the mouths of the divided vessels be suffered to contract, they will throw out now no longer blood, but coagulating lymph, and the parts, being brought into contact, may yet unite by the *adhesive inflammation*, which is the *second mode of union*.

Divided parts may be brought into contact in all cases, excepting the orbicular muscles, such as the lips, either by bandage, or by dry future, that is, by narrow strips of sticking plaster, which may be placed about a quarter of an inch apart. This will be fully sufficient to effect the union, and, without any other application, will heal the wound by what has been called the first intention: but in fact this includes two operations of nature which are perfectly distinct.

Should a *scab*, for want of perfect union in this way, be formed, it should be suffered to remain, and should be covered with *egg-skin*, more especially when near a bone, as for instance on the skin; for this will expedite the union of divided parts, and at worst these can but suppurate at last, as they will inevitably do if the scab is unseasonably removed. Even in some compound fractures this practice is recommended by John Hunter, who judiciously observes, that by permitting the blood to *scab* upon the wound, the blood underneath will become vascular, and the union will be complete, although the parts are not in contact. Even when inflammation is increased by the irritation of the *scab*, and

when pus escapes from under its edges, this may be squeezed out, but the *scab* must not be hastily disturbed. Should inflammation be thus increased to a considerable degree, a poultice will relieve it, and quietly bring away the scab.

When these operations have been neglected, or where solution of continuity is attended by loss of substance; as in laceration and contusions; *suppurative inflammation* will next take place, and *granulations* will be formed, which is the *third mode of union*.

This more especially will be the process when extraneous bodies, as in *gun shot wounds*, have found a lodgment. In these cases the wound must not be opened neither lightly nor wantonly, not under the idea of hunting for the extraneous substance; for the parts themselves will bring these to the surface, and such as cannot be thus extracted give little trouble, nor do they prevent the healing of a wound. It is particularly vain to hunt for *balls* because they take a wayward course, and often find a lodgment where the surgeon would be least inclined to look for them. Even if the ball can be felt, and yet the skin is sound, it will not be prudent to extract it before the original wound is healed, because where it rests it can do no harm, and it is better to have only one wound at a time than two.

When a ball has wounded a cavity, as for example, the abdomen; if it has passed with little velocity, the parts will in some measure heal by the first intention. If it has passed with such velocity
as

as to produce a flough, the *adhesive inflammation* will take place on the peritonæum all round the wound, which will exclude the general cavity from taking part in the inflammation, although the ball shall have not only penetrated, but wounded the epiploon, the mesentery, or other part not immediately essential to life, in its passage through the body, for whatever solid viscus has been pierced, the surfaces in contact, surrounding every orifice, will unite by the adhesive inflammation, so as to form one continued canal, with which the general cavity has no communication. If any extraneous body has been carried in by the ball, it will be included in these adhesions, and with the flough will be conducted by one of the orifices to the external surface.

If the ball has wounded the liver or the spleen, these may soon acquire the healing disposition; if the stomach, intestines, kidneys, ureters, or bladder, such injuries are generally mortal, for their contents escape into the cavity of the abdomen, and universal inflammation of the peritonæum takes place, attended by pain and tension, which terminate in death. But if the wound is small and the bowels are not full, adhesions may take place all round the wound, which will confine the matter, and make it go on in its right channel.

When a ball has not penetrated any of the viscera of the abdomen, but only by contusion produced death in a part; whenever the flough comes away, the matters contained in that viscus will es-

cape, but as the *adhesive inflammation* takes place between the surfaces in contact, the new channel will be preserved intire, and cut off the communication between the external air and the cavity of the abdomen. This channel may however in time be closed, and the contents may pass by their accustomed course.

A young gentleman was shot through the body. The balls, three in number, entered on the left side of the navel, and came out behind just above the superior vertebræ of the loins. The first water he made was bloody. In less than a fortnight John Hunter pronounced him out of danger, being persuaded, that whatever cavities the balls had entered, were united by the adhesive inflammation, so as to form one complete canal, and that neither the extraneous matters, carried in with the balls, nor any slough, which might separate from the sides of this canal, nor matter formed in it, could get into the cavity of the abdomen, but must be conducted to the external surface of the body, either through the wounds or from an abscess forming for itself, which would work its own exit somewhere. Soon after this conclusion, some fæces coming through the wound confirmed him in his opinion respecting the operations of nature to secure the cavity of the abdomen: yet he feared this wound might in future perform the functions of the anus. He saw clearly that an intestine had received a bruise sufficient to kill the part, and that till the separation
of

of the flough had taken place, both the intestine and canal were still complete, and therefore did not communicate with each other; but that when the flough was thrown off, the two were laid into one at this part, and that therefore the contents of the intestine got into this wound. This symptom however gradually decreased by the contraction of this opening, till an entire stop to the passage of the fæces by it took place and the wounds were healed.

John Hunter has seen several cases in which patients have recovered after being shot through the lungs, as happened to general Monkton at Quebec; and this he attributes to the inconsiderable hæmorrhage caused by the passage of a ball, and therefore to the small quantity of extravasated blood, either in the cavity of the thorax, or the cells of the lungs. He attributes it likewise to the indisposition of gun-shot wounds to heal externally by the first intention, on account of the flough, so that extravasated matters have time to escape.

It is curious to observe, that the cavity of the thorax does not so readily fall into the suppurative inflammation from a gun-shot wound, as other cavities. This circumstance is the more favourable, because as the lungs collapse, when either wounded themselves, or when a wound is made into the chest, and is not suffered to heal by the first intention, therefore adhesion cannot readily take place.

In case of stabs, more especially by sharp instruments, if only a small quantity of blood is extravasated

fated into the cavity of the chest, the absorbents will take it up. If the quantity is great, it will produce dyspnoea, and terminate in suffocation.

Genus CXXXVI. ULCUS.

An ulcer discharging pus or ichor.

SECTION I.

OF INFLAMMATION AND ITS SEVERAL SPECIES.

To understand the distinctions needful to be made in ulcers, the student must comprehend those which have been commonly adopted respecting inflammations.

Inflammation may be regarded as one of nature's efforts to relieve herself in cases of external violence or of internal disease.

I have already considered inflammation as being either active or passive, phlegmonic or erysipelatous.

In *phlegmonic*, or, as John Hunter calls it, *adhesive inflammation*, we observe, 1. The action of the vessels much increased, as appears by strong pulsation of the arteries in and near to the part affected. 2. The vessels much distended and red globules passing into the exhalent arteries, where only the serum and coagulating lymph should go. 3. Considerable increase of size in the part inflamed proceeding

ceeding from extravasation of coagulating lymph and serum into the cellular membrane. 4. New vessels formed in this coagulating lymph. 5. Bright redness in the part. 6. Much pain. 7. Considerable increase of heat. 8. When blood is taken from a vein, it has a thick buff crust, considerably cupped, which shews strong powers of coagulation.

All these appearances demonstrate that the system is highly OXYGENATED, and that the vital energy is great. In this species of inflammation the efforts of nature in all her operations are strong, well supported, and, unless excessive, are commonly effectual. These operations are, 1. Ready union by the first intention. 2. Resolution. 3. Suppuration, constantly surrounded by adhesions to prevent diffusion of pus through the cellular membrane into contiguous parts. 4. Granulation. 5. Cicatrization. And throughout the whole of these the constitution is not readily drawn into consent. It attacks the robust, and that most frequently in winter.

In *erysipelatous inflammation* every thing above mentioned is reversed, because, as John Hunter well remarks, the blood of weakly people is weak in its living principle. It is of a darker red, loose in its texture, feeble in its powers of coagulation, and therefore appears to be deficient in its quantity of oxygen. In this species of inflammation the colour is not so bright, the pain is not so great, nor is the heat so much increased, as in the preceding. It is mostly cutaneous, and produces no adhesions; therefore

therefore the matter is readily diffused in the cellular membrane, where it propagates the evil. It comes on quickly, but, as in all cases of debility, there is disposition to act without vital energy to support that action; so, for want of sufficient power to suppurate and heal, erysipelatous inflammation is disposed to terminate in gangrene. In this species the constitution is apt to sympathize, for it commonly begins with fever, lowness of spirits, and loss of strength. It attacks weakly people, and most frequently in summer.

When vital energy is much diminished, it is scarcely possible to excite inflammation, even by solution of continuity, as may be observed in œdematous habits. John Hunter has seen the wound after tapping admit water to pass through it from the abdomen for several weeks, without being itself inflamed, or attended by the peritoneal inflammation. The same indisposition to inflame may be frequently observed in scarifications when the habit is dropical, for they continue open. He judiciously remarks, that in extreme debility this total want of inflammation is salutary, for in dropical cases, when the parts have power to inflame, but not sufficient to go through the different stages of the inflammation; this generally produces a total loss of vital power, and the short-lived effort terminates in gangrene.

SECTION II.

OF SUPPURATION.

WHEN the *adhesive inflammation* is not capable of resolution, *suppuration* follows, and the inflammatory action ceases. The extreme arteries then secrete a peculiar fluid, which in a healthy state takes the name of *pus*, blended at first with much coagulating lymph, which forms the granulations. But when the vessels are diseased; when they are weak, relaxed, and destitute of vital energy, unable to form pus, they pour forth serum and such fluids as contain either no coagulating lymph, or at least not sufficient to produce good granulations.

No suppuration can take place unless it is preceded by inflammation, for what is otherwise produced is not true *pus*; yet no perfect suppuration follows till inflammation ceases, for as one recedes, the other gradually advances.

The quality of pus depends wholly on the tone and structure of the parts by which it is produced, and whatever specific qualities the parts possess the *pus* receives. Hence syphilitic ulcers produce syphilitic matter, and cancers the cancerous matter. The same precisely may be said of small-pox, &c.

When the structure of the parts is so far changed as to emit blood, which mixes with the *pus*, the whole

whole discharge becomes putrid and offensive, but *perfect pus* will continue unchanged, sweetish to the taste, and void of smell, for weeks together, as in well conditioned ulcers we have frequently occasion to observe. In this situation it shews no disposition to form new combinations. But the discharge from ill conditioned ulcers is such a powerful solvent, that it speedily decomposes animal substances, and corrodes both lead and silver; an effect this, which is attributed by Dr. Crawford to its hepatic air, or sulphurated hydrogen, as I shall explain when I proceed to distinguish ulcers by their specific characters.

SECTION III.

OF ULCERATION.

ULCERATION is a process conducted wholly by the *absorbents*, of whose importance in the animal economy I have fully treated in my introduction to the *cachexiæ*. When it is needful, they remove whole parts; but for this purpose their action must be excited by some *stimulus*: for all other modes of destruction are either mechanical or chemical. Indeed this stimulus may be itself either mechanical or chemical, as when a dead part *presses* upon a living part, or when either secreted fluids or foreign substances, applied to any part of the body, disturb

disturb the balance of affinities, and unite with its component principles to form new combinations, which effect is distinctly to be observed in caustics. But the most common stimulus arises from disease, when the organic structure of a part is injured or destroyed.

Pressure from without, if slight, produces thickening; if strong, promotes absorption; but it is curious to remark, that pressure from within creates absorption only in that part which is nearest to the external surface of the body. And it is still more curious to observe, that *adhesive inflammation* attends the progress of ulceration to prevent the escape of pus into the cellular membrane.

The absorbents first remove those surfaces which are immediately contiguous to the irritating cause, but the ulcerative process has no power to destroy the cuticle unless by the mechanical pressure of distention.

Newly formed parts are much more susceptible of ulceration than the original. Hence it is that ulcers after being healed so frequently break out afresh, and that calluses are so readily absorbed.

Absorption may be conducted either with suppuration or without, as I have had already occasion to remark, and it is on the former of these operations that depend sloughing and exfoliation.

The ulcerating sore is made up of little cavities, and the edge of the skin is notched, thin, turned a little out and overhangs: but when the ulceration

tion stops, the edge becomes regular, smooth, a little rounded or turned in, and of a purple colour covered with a semi-transparent white. Nature then proceeds to *granulation*, that, having cleared away whatever was either useless or offensive, she may speedily repair such losses as have been occasioned by disease. It is thus that spiders, when they have devoured their prey and cast out the useless because indigestible residuum, hasten to renew the injured portions of their web.

SECTION IV.

OF GRANULATION.

GRANULATIONS are formed by an exudation of the coagulating lymph from the vessels; and in this substance new vessels originate in remarkable abundance. Of this there can be no doubt since the observations of John Hunter, who took notice, that the white substance, exactly similar in appearance to coagulating lymph, which he left one day on the surface of a sore, was become the next extremely vascular. The surface of granulations has the same dispositions, and pours forth the same kind of pus as the parts from which they are derived.

The colour of healthy granulations is a deep florid red, precisely like that of *well oxygenated blood*; but when they are of a livid red, they are unhealthy,

and shew a languid circulation. When they are healthy they rise on flat surfaces, till they are nearly level with the skin, but when they exceed this, they are unhealthy, soft, spongy, and have no disposition to skin. This condition of disease or health depends on the healthy or diseased condition of the *pus*, which, as I have noticed, depends wholly on the tone and structure of the vessels by which it is produced.

When a sore is disposed to heal, the *granulations* contract, and being assisted in this operation by a contractile power in the surrounding edge of the cicatrizing skin, draw the mouth of the wound together. Should nature stand in need of art to restrain the luxuriance of granulation, and make them adhere strongly to each other, bandages may be applied. These should not merely press upon the part, but should, if need be, embrace the limb. Dr. Darwin has judiciously remarked, that nothing so much contributes to increase absorption, for this pressure doubles the power of the arterial pulsations in promoting the ascending current of the fluid in the valvular lymphatics, and absorption prevents the increase of *proud flesh*.

In old sores of the depending extremities this caution is the more important, because the capillary arteries, having by protracted irritation lost their tone, pour forth not coagulating lymph; but serum, and the limb become œdematous.

SECTION V.

OF THE GENERAL AND SPECIAL MANAGEMENT OF
ULCERS.

FROM what has been delivered, it will appear, that to procure good granulations, it will be absolutely needful to establish healthy action in the solids, because, as we have seen, the nature of both supuration and granulation depends on the state of the secretory arteries of the part inflamed. Want of action in them occasions slow circulation and ichorous pus, with black and perishable granulations. Increased action, on the contrary, quickens circulation, and produces laudable pus with healthy granulations.

To promote this healthy action when defective, it is required, that we should invigorate the system by bark and steel, assisted in their operation by the inspiration of well *oxygenated air*, the effects of which have been particularly seen in the case of Mr. Atwood, reported by Dr. Thornton and published by Dr. Beddoes. Topical applications however are not to be neglected, to excite the languid vessels. For this purpose the metallic oxyds, particularly that of mercury, has been hitherto our chief dependance; but I shall have occasion to shew, in a case to be related, that nothing hitherto discovered, not excepting the flowers of zink, lately and most justly recommended, can for this purpose have
a higher

a higher claim to our attention than the *oxalis acetocella*.

When vital energy is either naturally lost, as happens in leucophlegmatic and dropfical habits, or has been exhausted by excitement, as in violence of inflammation; that is, in the language of the Brunonian school, when extreme debility, direct or indirect, prevails in any part, that part will die. Hence it is, that in either of these cases ulcers put on a putrid appearance, and are disposed to gangrene.

This effect may be discovered by foetor, an offensive smell, by loss of sensation, by flaccidity, and by blackness, succeeding either to whiteness or to florid redness in the part; all which together indicate deficiency of *oxygen*, as the vital principle, and of *carbon*, as the bond of union between the several elements of which animal substances consist.

It is in such circumstances that bark, steel, wine, and opium, must be freely given, and that highly *oxygenated air* must be inspired. At the same time the *oatmeal-poultice*, with a large proportion of charcoal in fine powder, as practised by Mr. Sandford of Worcester, and communicated by Dr. Beddoes, will have the most benign effect. This produces good pus and healthy granulations in ulcers, which had been foul and putrid. The cases reported by this gentleman are highly interesting, and our obligations to Dr. Beddoes, for bringing forward such a mass of information as we meet with in all his

publications on the medical use of *factious airs*, can never be sufficient acknowledged.

Should the inflammation run too high, the subsequent poultice will be useful.

℞ Farin. Aven. M. iij. Ol. Oliv. Acet. Acerrimi.
q. s. M. f Cataplasma frigidum.

Take three handfuls of oatmeal, olive oil and vinegar, of each sufficient to make a poultice ; to be applied cold.

The meal of linseed is excellent in emollient poultices.

When sores are slow in healing, particular attention must be paid to the organs of digestion, and to the whole of the alimentary canal, for it will be sometimes necessary, not merely to brace the animated fibre by bark and steel, but to cleanse the first passages, and particularly with calomel, which in doses of a grain or two every night promotes action in the absorbent system, and prevents the generation of proud flesh.

When the sore proceeds to cicatrize no dressing is preferable to white diachylon spread on lint.

FISTULOUS ULCERS require the knife.

CANCEROUS ULCERS are distinguished by their extreme sensibility and the acuteness of pain by which they are attended, by having their borders turned outwards, and by their *ichorous* discharge.

Ichorous pus is considered by Jacquin to be the residuum of benign pus, which by putrid fermentation has discharged ammonia. This substantially agrees

agrees with an observation of Dr. Crawford, who has demonstrated, that the purulent discharge of *cancers* contains ammonia and sulphurated hydrogen.

We have seen that the quality of *pus* depends wholly on the tone and structure of the parts by which it is produced; but then the tone and structure of these parts are affected by the pus, whether as immediately produced by them, or as changed by new combinations, which rapidly take place when the natural balance of affinities has been once destroyed.

Animal substances, as we have seen, consist principally of hydrogen, carbon, azot, with a small proportion of sulphur and some oxygen, all which, in favourable circumstances, tend to form separate combinations. For this purpose they must be exposed to heat, humidity, and atmospheric air. When frozen, they remain unchanged for want of caloric. When surrounded by hot air, all their moisture is evaporated, and no decomposition is afterwards effected. In a vacuum they are unalterable. But when subjected to the action of water, in the common temperature of our atmosphere, their oxygen escapes united with carbon, in the form of carbonic acid air, whilst their azot and sulphur each combines with hydrogen to form ammonia and sulphurated hydrogen. In this case the residuum is a concrete oil, resembling *spermaceti*, which is composed of carbon and hydrogen. If any of the oxygen

L 1 3

combines

combines with hydrogen, it must compose water; but if the water itself is decomposed, then its oxygen must unite both with carbon to increase the quantity of carbonic acid air, and with part of the azot to make nitric acid, whilst its hydrogen, with another portion of azot, forms ammonia.

When, with humidity and heat, animal substances are at the same time exposed to atmospheric air, its constituent parts, azot and oxygen, being uncombined, readily unite, one with hydrogen, the other with carbon, to increase the ammonia and the carbonic acid air, and this decomposition will go on till all the elements are set at liberty to form new combinations. If these substances are confined in either vital or azotic air, they are quickly decomposed, the putrid fermentation soon begins, and forms in the first carbonic acid air and water, in the latter ammonia; but in both cases we have sulphurated hydrogen. If, instead of taking either azot or oxygen separately combined with caloric, or both together, as we find them blended in atmospheric air, we unite them chemically, as in nitric acid, and subject the animal fibre to the action of this acid; we shall have a rapid decomposition, and azot with prussic acid will be emitted in abundance, which latter, as Jacquin demonstrates, is azot, hydrogen, carbon, and combined with a small portion of oxygen.

But if the animal substance is inclosed in either hydrogen gas or in carbonic acid air, no decomposition,

sition, nor consequently any new combination, can take place.

It is upon this principle that in cancerous ulcers Dr. EWART has been so successful in delivering his patients from the most distressing part of the disease, that is, the pain and the offensive smell, both which are prevented by the constant application of carbonic acid air. If any one doubts of this effect, let him put a blister on his finger, and, when the cuticle has been removed, let him expose the finger first in a vessel inverted and filled with vital air, then in a vessel filled with carbonic acid air, and he will have sufficient conviction of this truth. To obtain the former, green leaves may be exposed to the sun in glass jars filled with water and inverted. The latter may be readily collected by a syringe from the surface of fermenting liquors.

In *cancerous ulcers* the azot seems to be the most deleterious part of atmospheric air, for the oxygen excites inflammation, produces vigorous action for a time in the capillary arteries, which secrete the *pus*, and gives the coagulating lymph a disposition to form good granulations. It seems to be *carbon*, which in all cases gives firmness and cohesion to both animal and vegetable fibres, to the bones, and even to the particles of calcareous earth in limestone, this therefore has a tendency to unite the granulations.

But alas! unless the *virus* is itself destroyed, and the whole system is invigorated, the ulcer may approach towards cicatrization, but it will become

again ill conditioned, and all our labour will be lost.

SCROPHULOUS ULCERS are produced, chiefly in the lymphatic glands, by weak and relaxed vessels, which have lost their tone, and therefore have not vital energy sufficient to produce inflammation, without which, as we have seen, there can be neither *suppuration* nor *granulation*. They are distinguished by their obstinacy, by their ichorous discharge, and by having their edges irregular, smooth, and flat.

From what I have said generally on inflammation and ulceration it will be clear, that to heal *scrophulous ulcers* we must restore vital energy to the vessels of the part affected. This may be accomplished either by topical applications or by invigorating the system; but, for the reasons assigned in my observations on Mr. Atwood's case, published by Dr. Beddoes, were we confined to one of these, I should prefer the *latter*. When united, few scrophulous ulcers, I believe, can resist their efficacy.

For external application we may use the red metallic oxyds, particularly the mercurial, but to excite energetic action, no application can surpass poultices of wood sorrel (*oxalis acetosella*) as mentioned by Dr. Beddoes in his considerations on the medical use of factitious air. Since that publication I have had an opportunity of using it in two ill conditioned ulcers with excellent effect, for both of them in three days, instead of sanies and ichor,

ichor, discharged good pus. The sorrel leaves were simply bruised, and at the end of four days were succeeded by poultices made with the roots of *meadow sweet* (*Spiræa ulmaria*) mixed with the four head of butter-milk. In six weeks these applications perfected a cure in a very obstinate and foul ulcer of a finger in which the bones themselves had been diseased. The other case is so remarkable, that I shall give the minutes of it as drawn up by a young surgeon, from Madrid, who was on a visit at my house, and attended with me from the beginning.

A boy, aged 18, of a scrophulous habit with tumid glands, had his face and neck covered with ulcers, and had lost a considerable portion of his upper lip, which were both ulcerated. October 22, when he applied for my assistance, we observed, that these ulcers were pale, soft in their surfaces, and covered with a thin ichorous pus, which was exceedingly fœtid and offensive.

Want of food, of fuel, and of clothes, with the absorption of this purulent discharge from numerous ulcers, had reduced him to almost the last stage of *tabes*. His pulse was weak, small, and frequent; he was emaciated, his strength was exceedingly reduced, he was very costive, and was in such distress of pain that he seldom slept well by night.

We immediately applied the bruised leaves of *axalis* to all his ulcers, which occasioned the most distressing pain. The next day, when we renewed the poultice, we found him in much pain, but the pus was thicker and less offensive. He had scarcely slept.

October

October 24. The oxalis poultice was renewed. Less pain. The ulcers look of a more florid red ; some granulations begin to rise, the pus is increased in quantity, is thick, and has resumed a yellowish hue ; he breathes more freely, and sleeps well ; but his pulse is very weak.

October 26. Many new granulations firm and red. Pus yellowish, very abundant and thick ; all the vessels on the surface of the ulcers appear to have acquired strong and healthy action. This day we discontinued the oxalis, and in its place we substituted the spiræa poultice. Finding him costive, I gave him three grains of calomel at night ; and as the pulse continued weak in the extreme, he was ordered to take, three times a day, a wine glass full of infusion of oak bark, with marrubium and ginger.

R Cort. Quercin. un. 1. Fol. Marrub. dr. 4. Zinzib. dr. 2. Aq. Font. bul. ℥2. M. f. infus. c. c. un. 3. ter in die.

October 28. Less pain. Sleeps well. Spirits better. Appetite good. Granulations large and healthy, filling up every where to the surface of the ulcers. Suppuration of the best quality. Pulse weak and frequent. Continued the poultices of spiræa. Let him have animal food and a glass of wine every day.

October 31. No pain. Little inflammation. Granulations uniting every where. Two large ulcers healed. Costive. Let him have three grains of calomel at night.

November 9. He has continued the spiræa poultice and the oak bark. Two more considerable ulcers have been healed for some days. The lip is healing fast, and the nose looks well, but the suppuration is not abundant. His body and mind acquire strength.

November 25. The lip has been healed these twelve days, but the parotid glands continue swelled, and fresh
ulcers

ulcers are breaking out behind his ears and in the back part of his head. Continue the spiræa poultices.

November 28. The ulcer on his upper lip has broke out again; that on the nose increafes, and others appear about his head. Let him take two grains of calomel twice a week. Renew the poultices of *oxalis* on all his ulcers.

November 30. The *oxalis* has excited a good and copious suppuration. All the ulcers have acquired a healthy appearance.

December 2. Ulcer of the lip is covered with good granulations, those of the nose and ear have suppured well, and all which had broke out behind the head are healing.

December 5. The lip and nose, although covered with granulations, do not yet seem disposed to cicatrize, but the ulcers behind the head are healed.

December 6. Better in all respects. The nose is the only part which does not seem yet disposed to heal.

At this time I left Pewsey.

OBSERVATIONS ON THIS CASE.

WE here beyond a doubt discover, that the *oxalis* excites energetic action in the vessels, and brings on that inflammatory disposition in the ulcer, which is essential to the formation of good pus and of healthy granulations; for on the second day after its application the ichorous suppuration ceased, the surface of the ulcers assumed a florid red, and on the third day every character of scrophulous ulceration vanished.

This high degree of excitement continued for a time after the *oxalis* was changed for the spiræa, and
when

when it had ceased it was renewed, and healthy pus produced when we returned to it again.

May we not conclude from hence, that the *oxalis*, as a specific stimulant of vital action in the secreting vessels, should only be discontinued when inflammation runs too high, and be again repeated when this falls below the degree which is required to produce a good and abundant suppuration, charged with coagulating lymph and disposed to form healthy granulations.

It must be remarked, that in this case my chief attention was directed towards the *oxalis*; but when I have him under my care again, I shall make him regularly take his oak bark infusion and calomel, both which he neglected; I shall give him extract of cicuta, and by paying more particular attention to his general habit, which is infected with *scrophula* to a degree I have never met with before, I have little doubt but that I shall effect a cure.

Syphilitic ulcers are of two sorts, the one produced by the external application of the venereal virus; the other by absorption, which excites inflammation. Syphilitic ulcers are distinguished by their paleness and peculiar hardness, by their being free from pain themselves, but attended by pain in the bones and by other concomitant symptoms of syphilitic affection. Their cure by mercurial ointment is speedy and infallible.

Scorbutic ulcers are very foetid, foul, and apt to bleed.

bleed. The blood is putrid. The bottom of the ulcers soft and spongy, the margin swelled and livid. The neighbouring parts are œdematous and painful. A fungus, resembling liver, is constantly sprouting up as often as it is destroyed either by the knife, or by a caustic; but, whenever cut, threatens a dangerous hæmorrhage: they are obstinate, yet have no disposition to affect the bones.

In these, mercurials are highly injurious; whilst fresh vegetables and ripe fruits, with the juice of oranges and lemons, expedite a cure.

Genus CXXXVII. HERPES.

Tettars.

AN assemblage of little ulcers, itching much, and not inclined to heal, but terminating in furfuraceous scales.

I have already mentioned *herpetic eruptions* under leprosy, where they appear as a constitutional affection. But the best authors seem inclined to rank them with local diseases, and to consider them merely as *cutaneous* ulcers, wholly independent of the constitution. The observations of Dr. Garnett upon this subject are highly interesting. With Mr. Bell, he distinguishes four varieties, all taken from Sauvage.

1. *Herpes farinosus*, or *Tettars*. 2. *Herpes pustulosus*, or *scald head*. 3. *Herpes miliaris*, or *ring-worm*. 4. *Herpes exedens*, or *shingles*.

The second variety will be separately noticed under *tinea*, which Cullen has taken for a genus, although he might perhaps with propriety have left it as a species of herpes. The others, though specifically distinguished, admit one general mode of treatment for them all.

The persons most subject to *herpetic eruptions* are the young, the healthy, the plethoric, who either feed highly or drink hard. They attack chiefly those parts of the body which are exposed to the alternations of heat and cold, and are much affected by weather. Hence they appear to be inflammatory: and this idea is confirmed by a consideration of the means most effectual for their cure.

These, as we have already seen, from the communications of Dr. C. Smith, are dulcified spirit of vitriol, (sp. ætheris vitriolici) in such doses as gently to evacuate the bowels, and diluted vitriolic acid to the quantity of six drams three times a day, which prove diuretic and cathartic.

Sir John Pringle depended chiefly on the following prescriptions.

℞ Sarsæ un. 3. Aq. Font. ℥ 4. Macera per noctem,
Coq. leni igne, vase clauso ad colat. ℥ 2. Cap.
℥ ss. ter die.

℞ Cort. intern. ulmi recent. un. 2. Nitri dr. 1½. Coc-
cinel.

cinel. gr. 12. Coque ex Aq. pur ꝑ 2. ad ꝑ 1.
Adde Sach. alb. un 1. Cap. ꝑ 2. bis die.

℞ Summit. Junip. un. 3. Coq. ex Aq. Font. ꝑ 3.
ad ꝑ 2. Addendo sub finem Coctionis. Bac. Junip.
un. 1. Colat. adde Aq. Nucis Moschat. un. 1.
M. Cap. ter die, un. 1. Addendo Vin. Antimon.
gtt. 10.

The most usual remedy has been *Plummer's Pill*,
which is thus prepared.

℞ Sulph. Aurat. Antimon. gr. 4. Calomel. gr. 2.
Conserv. Cynosbat. q. s. f. Pill. No. 2. c. Pill. j.
o. n. h. s.

These cleanse the alimentary canal; and such is
the consent between the internal and external sur-
faces, that whatever operates on the one must af-
fect the other.

Harrowgate water has the same effect, and all
these unite in one intention, which is, to cool the
system and to abate inflammation.

By the analysis of Dr. Garnett it appears, that a
wine gallon of this famous water contains muriat
of soda (common sea salt) 615 grains, muriat of
magnesia 91 grains, muriat of lime 13 grains,
carbonat of lime 18 grains, carbonat of mag-
nesia 5 grains, fulphat of magnesia (Epsom salt)
10 grains, carbonic acid air 8 cubit inches, azot 7,
fulphurated hydrogen 19. We cannot therefore
wonder that it proves cathartic, and as such, that
it should diminish cutaneous inflammation and there-
by prevent ulceration. But the most interesting
fact

fact related by Dr. Garnett is, that common water impregnated with sulphurated hydrogen produces powerful effects in some herpetic cases, in which the Harrowgate water had formerly been used with good success.

This he accounts for in a manner which appears to be consistent with the most modern chemical discoveries.

He supposes, that in herpetic complaints there is a superabundance of oxygen in the blood: and it is now well known, that both liver of sulphur and sulphurated hydrogen, introduced into the system, and uniting with this substance, which is the principle both of vital energy and of inflammation, forms common water.

Sulphurated hydrogen is obtained by dissolving hepar sulphuris in water; for thus a most curious decomposition is affected, whilst the sulphur and the alkali combined accomplish what neither of them alone could do, for they take the oxygen of the water and form a vitriolic salt. The hydrogen of the water, at the same time uniting with the remainder of the sulphur, escapes as *hepatic air*, that is, *sulphurated hydrogen*.

According to Jacquin, 100 cubic inches of common water will absorb 60 cubic inches of this air; but if the quantity is increased beyond this proportion, it is decomposed by the oxygen of the atmospheric air, water is formed, and sulphur is precipitated.

The

The same practice as in herpes is recommended in the *gutta rosea*, or red blotches of inebriates, and in both the topical application of unguentum citrinum, to promote digestion, will be useful.

Young practitioners must learn to distinguish syphilitic eruption, appearing near the roots of the hair, from herpes. Sauvage indeed makes this a species, which he calls *herpes syphiliticus*, and therefore recommends mercurials.

Genus CXXXVIII. *Tinea*.

A scald head.

Small ulcers at the root of the hairs, which produce a friable white crust.

It is principally the disease of infants and of children, who have a relaxed habit, are ill fed, or gorged with food, and whose nurses neglect to keep them clean.

These ulcers, for want of being cleansed, become extremely foul, and, as the hair cannot be combed, vermin increase to such a degree, as to stimulate the part, and cause a determination to the head; the miserable sufferer, deprived of sleep, becomes pale and atrophic; and, if the disorder is neglected, it terminates in hectic.

To effect a cure, it will be needful to cut the hair very short, or even by a pitch plaster to tear them up by the roots. The head must then be cleansed with warm water and soap, or with cream and honey, after which the ulcers may be washed with a solution of corrosive sublimate in the proportion of ten grains to a pint of water. But from what I have had occasion to observe in the use of wood sorrel for scrophulous ulcers, I shall try it on the next scald head I meet with, after which I shall apply the charcoal poultice with little doubt of speedily and safely perfecting a cure.

Should the student be more inclined to follow the practice of Sir John Pringle, he may use this cerate.

℞ Emplast. de Minio. Ung. basilic. Flav. a p. æ Lignescant Simul et hujus portio crasse extendatur super lint. admoveatur capiti et bis die renovetur.

Or he may anoint with Norway pitch and sulphur every night.

The student must be cautious not to dry up these ulcers by astringent applications, before they have been properly digested, lest he should thereby bring on more dangerous diseases, either of the inflammatory or spasmodic orders. And should he be consulted, after such effects have been thus produced, he must without loss of time apply a plaster sprinkled with cantharides to the head.

In Edinburgh, some practitioners are in the habit of giving hemlock (*conium maculatum*) internally with good success. They begin with small doses, and increase gradually till they produce vertigo: then omit the medicine for a few days, and after that resume it.

Sauvage has distinguished nine species of tinea, among which we find *tinea syphilitica*; but excepting this and his *tinea humida*, when it is symptomatic of either *scrophula* or *syphilis*, they all require to be treated in the manner I have above described.

When tinea proceeds from either venereal affection or from scrophula, attention must be paid to the primary disease.

Genus CXXXIX. *Pford.*

The Itch.

Small pustules with watery heads, appearing first on the wrists and between the fingers. It is contagious.

THIS filthy, this infectious disease, caused by the little insect which Linnæus has denominated *acarus exulcerans*, is readily cured by mercurial ointment, by sulphur, and by the vitriolic acid. In the country we frequently apply a quicksilver girdle without the least apprehension of any evil consequence, or in

case of timidity in the patient, we cause him to be anointed with brimstone and hog's lard.

In cities, where the smell of sulphur would disgust, it is more common to adopt the following :

℞ Acid. Vitriol. gtt. 10. Aq. Rosar. gtt. 20. Axung.
Porcin. ʒj. Essent. Citri. gtt. 15. M. f. Liniment. m. et v. utend.

That is,

Hog's-lard one ounce; vitriolic acid ten drops; rose water twenty drops; essence of lemon fifteen drops. Make an ointment to be used morning and evening.

The patient may likewise wash two or three times a day with elder flower water, acidulated with vitriolic acid.

This plan of cure by vitriolic acid may be forwarded by an electuary of nitre one dram with six drams of sulphur mixed up in honey, of which the patient may take the size of a nutmeg three times a day.

Bathing in *Harrowgate-water* very speedily effects a cure.

Genus CXL. *Fractura.*

The fracture of bones.

IN cases of fracture the bone must be restored to its proper direction, the extremities must be in contact,

contact, the limb must be perfectly at rest, and the degree of inflammation must be regulated.

When these precautions have been neglected, it sometimes happens, that a preternatural joint is formed. The extremities of the fractured bone become rounded, smooth, and covered with a cartilage, a membranous substance embraces them all round, and, like a capsular ligament, both limits their motion and keeps them in their place.

But unfortunately, for want of proper muscles, this new acquisition is not only unprofitable, but a great incumbrance, for the limb itself is thereby rendered useless.

To remedy this evil the joint must be opened, the new capsular ligament must be destroyed, the cartilaginous terminations must be cut off, the extremities of the bone must be in contact with each other, and by rest their union must be suffered to take place.

Genus CXLI. *Caries.*

The exulceration of bones.

CARIES begins with a separation of the periosteum, attended by whiteness and semitransparency of the bone, which soon turns black, and emits a most offensive smell. Caries is divided into dry and hu-

mid, the former slow in its progress, the latter rapid, and attended both by a foetid discharge, and by considerable pain. Incipient caries, properly speaking, is *necrosis*, and in its progress we have *exfoliation*, followed by *exostoses*; but the term *necrosis* is commonly confined to the mortification of a cylindrical bone, which is attended by the production of a new bone inclosing the old one, now dead. The flat bones, owing to their peculiar structure, are subject only to exfoliation as the consequence of caries. In fact, the only bone of the cranium liable to renovation is the lower jaw, and this, it must be observed, has some analogy to the cylindrical bones.

Of this a curious instance occurred in Edinburgh, in which the teeth remained, and were properly supported in their places by the new jaw.

The common symptoms of necrosis are:

1. Deep shooting pain referred to the inside of the bone, which gradually increases in its intensity, and is not affected by pressure.
2. Tumour in the direction of the bone without change of colour.
3. Small ulcers discharging foetid pus.
4. Slow fever, and frequent rigors.

These symptoms demonstrate the presence of inflammation followed by gangrene.

Caries

Caries and necrosis, according to Sauvage, may be divided into, 1. Pure. 2. Rachitic. 3. Scrophulous. 4. Cancerous. 5. Scorbutic. 6. Syphilitic. 7. Variolous. But of these the most common, it is conceived, is the syphilitic, on account of its specific action on the bones.

It has been imagined, that mortification of the bones is occasioned always by inflammation of the periosteum; but recent experiments and observations have demonstrated, that the periosteum may be inflamed, and in part destroyed without producing *necrosis* in the bones, and that necrosis has been far advanced without any morbid affection of the periosteum. On the other hand, it has been proved, that when the spinal marrow has been destroyed, necrosis in the bone has been universally the consequence.

May we now therefore look for the cause of *necrosis* in the medullary texture, which, as it abounds with arteries, must be liable to the inflammation?

When vitality is destroyed in any portion of a bone, it becomes a stimulus, like any extraneous body, to the living fibre, excites the absorbents to make a separation between the living and the dead, whilst the exhalent arteries convey ossific matter to repair the injury thus occasioned by disease.

Nature then proceeds to get rid of this incumbrance; for as the dead bone stimulates the new production, ulcerative inflammation with suppuration follow, fistulous openings in the new bone are

formed, and the dead portions, if not extracted, are dissolved by the pus and floated off. But as hectic is sometimes consequent on necrosis, when nature is not assisted by art, therefore the surgeon with his bistury, trepan and chissel should cut through the new bone, divide the old one, and extract the fragments. Nature then, hastening to repair the damages sustained, fills up the vacuities with new bone, and in this, as in all her efforts to relieve herself, calls upon us to admire and adore the infinite wisdom, benevolence, and power, of the great JEHOVAH.



A

NOSOLOGICAL SYNOPSIS,

ADAPTED TO THIS WORK.

CLASSES.

- I. PYREXIÆ. After cold shivering, a frequency of pulse, with increase of heat and thirst.
- II. NEUROSES. Affections of sense and motion, disturbed;—without either idiopathic pyrexia, or topical disease.
- III. CACHEXIÆ. A depraved habit of body;—without pyrexia, and independent of neurosis, as original diseases.
- IV. LOCALES. Morbid affections, which are partial.

ORDERS.

ORDERS.

CLASS I. PYREXIÆ.

- I. *Febres.* Pyrexia with loss of appetite and diminution of strength without primary local affection.
- II. *Phlegmasiæ.* Pyrexia, with topical pain and inflammation.
- III. *Exanthemata.* Contagious diseases, beginning with fever, and followed by an eruption on the skin.
- IV. *Hæmorrhagiæ.* Pyrexia, with a discharge of blood, without any external injury.

CLASS II. NEUROSES.

- I. *Comata.* A diminution of the powers of voluntary motion, with sleep, or the senses impaired.
- II. *Adynamiæ.* A diminution of the involuntary motions, of either vital or natural functions.
- III. *Spasmi.* A morbid contraction, or motion of muscular fibres.
- IV. *Vesaniæ.* The judgment impaired, without either coma, or pyrexia.

CLASS

CLASS III. CACHEXIÆ.

- I. *Marcores.* Universal emaciation.
- II. *Intumescentiæ.* General swellings.
- III. *Impetigines.* Cachexia, deforming the external parts of the body, with tumours, eruptions, &c.

CLASS IV. LOCALES.

- I. *Dysæsthesiæ.* The senses injured, or destroyed by the imperfection of the organs.
- II. *Dysorexia.* The appetite deficient, or depraved.
- III. *Dyscinesiæ.* Motion impeded, or depraved, from an imperfection of the organ.
- IV. *Apocenosæ.* A superabundant flux of blood, or humours, without pyrexia.
- V. *Epischæses.* A suppression of excretions.
- VI. *Tumores.* Partial swellings, without inflammation.
- VII. *Ectopia.* Parts displaced.
- VIII. *Dyalyses.* A solution of continuity.

GENERA,

GENERA,
AND THEIR SYMPTOMS.

CLASS I. PYREXIÆ. Order I. Febres.

1. *Intermittens*. Cold, hot, and sweating stages, in succession, attend each paroxysm, and are followed by an intermission, or remission.
2. *Continua*. No intermission, yet subject to exacerbations twice in one day.

Species.

1. *Synocha*. Heat increased; pulse frequent, strong, hard; urine high coloured; senses not much impaired.
2. *Typhus*. Contagious. Heat moderate; pulse quick, weak, small; senses much impaired; prostration of strength.
3. *Hectica*. Exacerbations at noon, but chiefly in the evening, with slight remissions in the morning, after nocturnal sweats; the urine depositing a furfuraceo-lateritius sediment; appetite good; thirst moderate.

CLASS I. PYREXIÆ. Order II. Phlegmasiæ.

4. *Phlogosis*. Redness; heat; pain; and tumour on the surface of the body.

Species.

Species.

1. *Phlegmone*. Inflammation of a bright red colour; tumour pointed, throbbing, and tending to suppuration.
2. *Erythema*. Inflammation of a dull red colour, vanishing upon pressure, spreading unequally, with a burning pain, and tumour scarcely perceptible, ending in desquamation, or vesicles of the scarf-skin.
5. *Ophthalmia*. Redness and pain of the eye; intolerance of light; with effusion of tears.

Species.

1. *Ophthalmia Membranarum*. Inflammation in the coats of the eye, most commonly in the tunica conjunctiva.
2. *Ophthalmia Tarsi*. Small ulcers in the sebaceous glands of the tarsus discharging a glutinous matter.
6. *Phrenitis*. Strong fever; violent head-ach; redness of face and eyes; impatience of light and noise; watchfulness; and furious delirium.
7. *Cynanche*. Pain, and redness of the fauces; deglutition, and respiration, difficult.
8. *Catarrhus*. Increased excretion of mucus from the membrane of the nose, fauces and bronchiæ, with pyrexia, attended by cough, thirst, lassitude, increased sensibility to cold, and want of appetite.

9. *Pneumonia*. Pyrexia; difficult respiration; cough; and pain in the thorax.
10. *Carditis*. Pyrexia; pain in the region of the heart; anxiety; difficult breathing; cough; irregular pulse; palpitation; fainting.
11. *Gastritis*. Pyrexia; anxiety; heat and pain in the epigastrium, increased when any thing is taken into the stomach; vomiting; hickup; pulse small and hard; prostration of strength.
12. *Enteritis*. Pyrexia; fixed pain in the abdomen; costiveness; vomiting.
13. *Hepatitis*. Pyrexia; tension and pain, more or less acute, in the right hypochondrium, usually referred to the top of the right shoulder, and extending to the clavicle, increased by lying on the left side; urine high coloured.
14. *Splenitis*. Pyrexia; tension, heat, tumour, and pain in the left hypochondrium, increased by pressure.
15. *Nephritis*. Pyrexia; pain in the region of the kidneys, and shooting along the course of the ureter; drawing up of the testicle; numbness of the thigh; vomiting; urine high coloured, and frequently discharged; costiveness, and colic pains.
16. *Cystitis*. Pyrexia; tumour and pain in the hypogastrium;

pogastrium; frequent and painful discharge of urine; tenesmus.

17. *Hysteritis*. Pyrexia; heat, tension, tumour, and pain in the hypogastrium; pain in the os uteri, when touched; vomiting.

18. *Arthropuosis*. Pain of the joints, or muscles, often after contusion, deep, blunt, of long continuance; little or no tumour; no inflammation; pyrexia slight at first, at last hectic; and finally terminating in abscess.

19. *Rheumatismus*. Pyrexia; pains in the joints, increased by the action of the muscles belonging to the joint; heat on the part. The blood after venesection exhibits an inflammatory crust.

This disease terminates in

Arthrodynia, pain in the joints without pyrexia.

Species.

1. *Lumbago*, affecting chiefly the loins.

2. *Ischias*, the hip joint.

20. *Odontalgia*. Tooth-ach.

21. *Podagra*. Pyrexia; pain in the joints, chiefly of the great toe, and especially of the hands and feet, returning at intervals: previous to the attack, the functions of the stomach are commonly disturbed.

CLASS

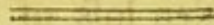
CLASS I. PYREXIÆ. Order III. Exanthemata.

22. *Variola*. Synocha; eruption of red pimples the third day, which on the eighth contain pus, and drying, fall off in crusts.
23. *Varicella*. Moderate synocha; pimples bearing some resemblance to *variola*, quickly forming pustules, which contain a fluid matter, and after three or four days from their first appearance desquamate, leaving no cicatrix.
24. *Rubeola*. Synocha; hoarseness; dry cough; sneezing; drowsiness; about the fourth day eruption of small red points, discernible by the touch, which, after three days, end in mealy desquamation. Blood, after venesection, exhibits inflammatory crust.
25. *Miliaria*. Synochus; cold stage considerable; hot stage attended with anxiety and frequent sighing; sweat of a strong and peculiar smell; eruption, preceded by a sense of pricking, first on the neck and breast, of small red pimples, which in two days become white pustules, desquamate, and are succeeded by fresh pimples.
26. *Scarlatina*. Contagious synocha; fourth day face swells, and a scarlet eruption appears on the skin in patches; which, after three
or

or four days, ends in disquamation of the cuticle, or is succeeded by anasarca.

27. *Pemphigus*. Pyrexia, attended by successive eruptions about the size of almonds filled with yellowish serum, and in three or four days subside.

28. *Frambæsia*. Fungi like mulberries growing out of the skin, in various parts of the body, discharging ichor.



CLASS I. PYREXIÆ. Order IV. Hæmorrhagiæ.

29. *Epistaxis*. Bleeding at the nose, with pain or fulness of the head.

30. *Hæmoptysis*. Coughing up florid, or frothy blood; heat or pain in the chest; irritation in the larynx; saltish taste.

31. *Phthisis*. Emaciation; debility; cough; hectic; purulent expectoration; hæmoptysis; diarrhœa.

32. *Hæmorrhoids*. Flux of blood from the anus; pain there, and hæmorrhoids; vertigo; pain in the loins and head-ach.

33. *Menorrhagia*. A too copious menstrual flux.

CLASS II. NEUROSES. Order I. Comata.

34. *Apoplexia*. Abolition in some degree of the powers of sense and motion, with sleep, and sometimes snoring, the respiration, and motion of the heart, remaining.
35. *Hydrocephalus internus*. Pain in the head, lassitude, drowsiness, and dilated pupils.
36. *Cataphora*. Sudden loss of sensation and volition, the body and limbs retaining the position, which they had when seized, or which is given to them during the continuance of the fit.
37. *Paralysis*. A loss of the power of voluntary motion affecting certain parts.

CLASS II. NEUROSES. Order II. Adynamia.

38. *Syncope*. The respiration, and action of the heart, either cease, or become much weaker than usual, with paleness and coldness.
39. *Dyspepsia*. Want of appetite; nausea; vomiting; flatulence; heart-burn; costiveness; and pain in the stomach, with other symptoms of debility in the organ of digestion.

40. *Hypochon-*

40. *Hypochondriasis*. Dyspepsia; languor and want of energy; dejection of mind and apprehension of evil, more especially respecting health, without sufficient cause; with a melancholic temperament.

CLASS II. NEUROSES. Order III. Spasmi.

In the animal functions.

41. *Raphania*. A spasmodic contraction of the joints, with convulsive motions and most violent pain: periodical.
42. *Epilepsia*. Convulsions with sleep, and usually froth issuing from the mouth.
43. *Convulsio*. Alternate relaxations, with violent and involuntary contractions, of the moving fibres, without sleep.
44. *Chorea*. Convulsive motion of the limbs or trunk.
45. *Tetanus*. Spasmodic rigidity of almost the whole body.

In the vital functions.

46. *Palpitatio*. A palpitation, of the heart, either constant, or frequently returning.
47. *Dyspnæa*. Difficult respiration, continual, and
N n 2
without

without sense of stricture. Cough frequent through the whole course of the disease.

48. *Asthma*. Difficult respiration returning at intervals, with a sense of stricture across the breast and in the lungs; a wheezing; hard cough at first, but more free towards the close of every paroxysm, with a discharge of mucus, followed by a remission.

49. *Pertussis*. Convulsive, strangulating cough, with hooping, relieved by vomiting: contagious.

In the natural functions.

50. *Pyrosis*. Heartburn, with copious eructation, generally of a watery insipid fluid.

51. *Dysenteria*. Frequent griping stools, chiefly mucus, sometimes mixed with blood. It is commonly attended by tenesmus, and is contagious.

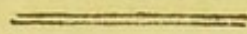
52. *Colica*. Pain in the lower belly, and twisting round the navel; vomiting, costiveness.

53. *Cholera*. A purging and vomiting of bile; anxiety; painful gripings; spasms of the abdominal muscles, and those of the thighs.

54. *Diarrhœa*. Frequent liquid stools with the natural excrement, but not contagious, and seldom attended with pyrexia.

55. *Diabetes*.

55. *Diabetes.* A supperabundant discharge of urine, which is limpid, and sweetish to the taste.
56. *Hysteria.* A grumbling noise in the belly; a ball ascending to the throat, with a sense of suffocation; stupor; insensibility and convulsions; involuntary laughing and crying; sleep interrupted by sighs; urine limpid and abundant, previous to and after the fit; great sensibility and irritability of mind.
57. *Hydrophobia.* A dread of water, as inducing painful convulsions of the pharynx.



CLASS II. NEUROSES. Order IV. Vesaniæ.

58. *Oneirodynia.* Disturbed imagination during sleep.
59. *Melancholia.* Erroneous judgment, but not merely respecting health, from imaginary perceptions, or recollections, influencing the conduct, and depressing the mind with ill grounded fears; not combined with either pyrexia or comatose affections; often appearing without dyspepsia, yet attended with costiveness, chiefly in persons of rigid fibres and torpid sensibility.
60. *Mania.* A conception of false relations, and an erroneous judgment, arising from imagi-

nary perceptions or recollections, exciting the passions, and producing unreasonable actions or emotion, with a hurry of mind in pursuing a train of thought, and in running from one train of thought to another, attended with incoherent and absurd speech, called raving, and violent impatience of either contradiction, or restraint.

61. *Amentia*. Imbecillity of intellect, by which the relations of things are either not perceived or not recollected.

CLASS III. CACHEXIÆ. Order I. Marcores.

62. *Tabes*. Emaciation; weakness; hectic.

CLASS III. CACHEXIÆ. Order II. Intumescentiæ.

Adipose.

63. *Polysarcia*. Troublesome obesity.

Flatulent.

64. *Pneumatosis*. Air collected in the cellular texture under the skin, rendering it tense, elastic, and crepitating.

65. *Tympanites*.

65. *Tympanites*. Elastic distention of the abdomen, not readily yielding to pressure, and sounding like a drum, with costiveness, and atrophy; but no fluctuation.

66. *Physometra*. A permanent elastic swelling in the hypogastrium from flatulent distention of the womb.

Aqueous.

67. *Anasarca*. Swelling on the surface of the body; not elastic; pitting by the pressure of the finger; and rising slowly to its former fullness.

68. *Hydrocephalus*. External swelling of the head, soft, not elastic.

69. *Hydrorachitis*. Tumour in new-born infants on the lumbar vertebræ, soft and small.

70. *Hydrothorax*. Dyspnoea; paleness of face; œdematous swellings of the feet; scarcity of urine; impatience of an horizontal position, with sudden starting from sleep, and palpitation; fluctuation of water in the chest.

71. *Ascites*. Swelling of the abdomen, tense, and scarcely elastic; with fluctuation.

72. *Hydrometra*. A swelling in the hypogastrium of females not pregnant; with fluctuation; no suppression of urine,

73. *Hydrocele*. A soft tumour of the scrotum, increasing slowly, without pain, fluctuating, generally pellucid.

Of the solids.

74. *Physoconia*. Tumour occupying chiefly one part of the abdomen, increasing slowly, and neither sonorous nor fluctuating.
75. *Rachitis*. Large head; prominent forehead; protruded sternum; flattened ribs; big belly; emaciated limbs, with great debility.

CLASS III. CACHEXIÆ. Order III. Impetigines.

76. *Scrophula*. Swelled lymphatic glands; thick upper lip; obstinate ulcers: ophthalmia tarfi; indolent tumours on the joints; fair complexion; irritable habit.
77. *Syphylis*. A disease arising from impure connection, and appearing generally after a local affection of the organs, occasioning chancres; buboes; ulcers in the mouth and nose; clustered pimples of a copper colour ending in scabby ulcers chiefly situated near the hairy scalp; blotches on the surface of the body; nocturnal pain in the bones; nodes, &c.
78. *Scorbutus*. Extreme debility; complexion pale
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and bloated; spongy gums; livid spots on the skin; breath offensive; œdematous swellings in the legs; hæmorrhages; foul ulcers; urine fœtid; stools extremely offensive.

79. *Elephantiasis*. Skin thick, rough, wrinkly, unctuous, and void of hair; face deformed, with tubera; voice hoarse and sounding through the nose; want of feeling in the extremities.

80. *Lepra*. The skin rough and chopped, with white furfuraceous scales and crusts, under which is frequently a moisture, with itching.

81. *Trichoma*, or *Plica Polonica*. The hair grows coarse and twisted into inextricable tangles. It is contagious.

82. *Icterus*. Yellowness of the skin and eyes; fæces white; urine of a high colour. It tinges linen yellow.

83. *Chlorosis*. Dyspepsia; livid paleness; great debility; palpitation; depraved appetite, with *amenorrhœa*.

CLASS IV. LOCALES. Order I. Dysæsthesiæ.

84. *Caligo*. Sight diminished, or destroyed, by the interposition of a dark body, between the object and the retina.
85. *Amaurosis*. Sight diminished, or destroyed, without any visible injury of the eye; the pupil dilated and immoveable.
86. *Dysopia*. Sight depraved, requiring one certain quantity of light, one particular distance, or one position.
87. *Pseudoblepsis*. Sight depraved, creating objects, or representing them different from what they are.
88. *Dysecæa*. Hearing diminished, or destroyed.
89. *Paracusis*. Hearing depraved.
90. *Anosmia*. Smell diminished, or destroyed.
91. *Ageusia*. Taste diminished or destroyed.
92. *Anæsthesia*. Touch diminished or destroyed.
-

CLASS IV. LOCALES. Order II. Dyforexiæ.

93. *Bulimia*. Appetite voracious or canine.

94. *Pica*. Appetite depraved, or a strong desire of unnatural food.
 95. *Polydipsia*. Excessive thirst.
 96. *Satyriasis*. Excessive and violent desire in men.
 97. *Nymphomania*. The same in women.
 98. *Nostalgia*. Impatience when absent from ones native home, and vehement longing to return, attended with gloom and melancholy, loss of appetite, and want of sleep.
 99. *Anorexia*. Appetite impaired.
 100. *Anaphrodisia*. Impotence.
-

CLASS IV. LOCALES. Order III. Dyscinesiaë.

101. *Aphonia*. Suppression of the voice, without either syncope, or coma.
102. *Mutitas*. Dumbness.
103. *Paraphonia*. Depravation of voice.
104. *Psellismus*. Vitiating articulation of the voice.
105. *Strabismus*. Squinting.
106. *Contractura*. A rigid contraction of a joint.

CLASS IV. LOCALES. Order IV. Apocenoses.

- 107. *Profusio*. Loss of blood.
- 108. *Ephidrosis*. A violent and morbid sweating.
- 109. *Epiphora*. A flux of tears.
- 110. *Ptyalismus*. A salivation.
- 111. *Enuresis*. Involuntary discharge of urine.
- 112. *Gonorrhœa*. A preternatural flux from the urethra in men.

 CLASS IV. LOCALES. Order V. Epischeses.

- 113. *Obstipatio*. Costiveness.
- 114. *Ischuria*. Suppression of urine.
- 115. *Dysuria*. Difficulty, and pain, in discharging water.
- 116. *Dyspermatismus*. Seminis in actu venereo tarda impedita, et ad generationem insufficiens emissio.
- 117. *Amenorrhœa*. Menses wholly or partially obstructed without pregnancy.

CLASS

CLASS IV. LOCALES. Order VI. Tumores.

118. *Aneurisma*. A soft tumour, with pulsation, on arteries.
119. *Varix*. A soft tumour without pulse, on veins.
120. *Ecchymoma*. A black and blue swelling, either from a bruise, or from a morbid extravasation of blood.
121. *Schirrus*. A hard tumour of a glandular part, indolent, and not readily suppurating.
122. *Cancer*. A hard tumour of a glandular part, painful and obstinate, which terminates in the foulest ulcer.
123. *Bubo*. A suppurating tumour of conglobate glands.
124. *Sarcoma*. A soft fleshy excrescence, not painful.
125. *Verruca*. A wart.
126. *Clavus*. Corns.
127. *Lupia*. A cyst under the skin, moveable, soft, indolent.
128. *Ganglion*. A hard tumour moveable, on the tendon, on the cellular vagina of the tendon.
129. *Hydatis*.

129. *Hydatis*. A cuticular cyst full of an aqueous fluid.
130. *Hydarthus*. A white swelling on the joints.
131. *Exostosis*. A hard tumour on the bone.
-

CLASS IV. LOCALES. Order VII. Ectopiæ.

132. *Hernia*. The displacing of a soft part, covered by the common teguments.
133. *Prolapsus*. The protrusion of a soft part, uncovered.
134. *Luxatio*. The disjoining of a bone.
-

CLASS IV. LOCALES. Order VIII. Dialyses.

135. *Vulnus*. A wound.
136. *Ulcus*. An ulcer discharging pus or ichor.
137. *Herpes*. An assemblage of little creeping ulcers, itching much, and not inclined to heal, but terminating in furfuraceous scales.
138. *Tinea*. *A scald head*. Small ulcers at the root of
of

of the hairs, which produce a friable white crust.

139. *Psoa*. Small pustules with watery heads, appearing first on the wrists, and between the fingers. Contagious.

140. *Fractura*. The fracture of bones.

141. *Caries*. The exulceration of bones.

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GENERAL INDEX.

A. is Vol. I.—B. is Vol. II.

- ABSORBENTS, their use. B. 184.
 Absorbents, their morbid action. B. 190.
Adynamia. A. 264.
Æschylus hypocaſtanum. A. 15. 17.
Agueſtia. B. 383.
 Ague. See fever intermittent.
Agrypnia. B. 77.
Amauroſis. B. 357.
Amenorrhœa. B. 450.
Amentia. B. 180.
Anæſtheſia. B. 384.
 Aneleptic pill, how made. A. 146.
Anaphrodiſia. B. 398.
Anaſarca. B. 243.
Aneurifm. B. 454.
 Animal ſubſtances, their chemical analyſis. B. 204.
Anodynes. B. 13. 237.
Anorexia. B. 395.
Anoſmia. B. 382.
Antimonial wine. A. 14.
Antimonials, their uſe. A. 12.
Antiſpaſmodic formulæ. A. 60. 140. 141. B. 48. 162. 172.
 St. Antony's fire. A. 92.
Aphonia. B. 400.
Apocenoſes. B. 349. 415.
Apoplexia. A. 227. 276.
 VOL. II.
- Apoplexy, ſpaſmodic. A. 238.
 Appetite voracious or canine. B. 385.
 Appetite, when deficient in melancholia. B. 115.
 Appetite, deficient or depraved. B. 385. 386. 395.
Arnica montana. A. 257.
 Arſenic, as prepared by Dr. Fowler. A. 74.
Arthropuoſis. A. 134.
 Articulation vicious. B. 408.
Aſcites. B. 268.
Aſphyxia. A. 278.
Aſthma. A. 389.
 Aſtringent formulæ. A. 62. 63. 140. 161. 180. 207. 208. 219. 296. 343. B. 3. 11. 13. 14. 41. 44. 162. 227. 258. 286. 332.
Atrabilis, as the cauſe of melancholia. B. 110.
 Attractions vital, obſervations on. B. 117.
Azot, its combinations. B. 204.
Azot, its uſe in the animal economy. B. 211.
Azotic air, what it is. A. 26.
 Bandages, their action on the abſorbents. B. 199.
 Bile, its uſe. A. 33.
 O o Bleeding

GENERAL INDEX.

- Bleeding at the nose. A. 182.
 Blindness. B. 351.
 Blood, loss of. B. 415.
 Blood, the colour of, how
 caused. B. 112.
 Borborygmi. B. 242.
 Brain, observations on. B. 60.
 Bubo. B. 465.
 Bulimia. B. 385.

Cachexiæ, A. 1. B. 182.
 Caligo. B. 351.
 Camphor, observations on.
 A. 18.
 Cancer. B. 462.
 Canine madness. B. 52.
 Carbon, its combinations. B.
 204.
 Carbon, its use in the animal
 economy. B. 210.
 Carditis. A. 125.
 Caries. B.
 Carus. A. 229. 233. 236.
 Catalepsy. A. 248.
 Cataphora. A. 248.
 Cataract. B. 351.
 Catarrh. A. 104.
 Cathartic formulæ. A. 57.
 78. 236. 295. B. 13. 21.
 92. 121. 122. 124. 141.
 149. 164. 165. 249. 250.
 285. 326.
 Chalybeates. See iron.
 Chicken-pox. A. 163.
 Chin-cough. B. 1.
 Chlorosis. B. 342.
 Cholera. B. 16.
 Chorea. A. 362.
 Cinchona. A. 16.
 Clavus. B. 470.
 Clutton's Febrifuge. A. 54.
 Clysters. A. 67. 236. B. 13.
 Cold, observations on. A. 7. 8.
 Coldness of the extremities in
 melancholia. B. 114.
 Colic. B. 14.
 Colic of Poitou. A. 253.
 Comata. A. 225.
 Consent of parts. A. 321.
 Consumption. See phthisis.
 Contraction of a joint. B. 413.
 Convulsio indica. A. 372.
 Convulsions. A. 361.
 Corns. B. 470.
 Costiveness. B. 431.
 how occasioned in
 melancholia. B. 115.
 Cough, sympathetic. A. 112.
 194.
 Critical days and crisis of fe-
 ver. A. 20. 41.
 Croup. A. 102.
 Cruent operation in femoral
 hernia. B. 482.
 Cynanche. A. 97.
 maligna. A. 100.
 parotidæa. A. 104.
 pharyngæa. A. 103.
 tonsillaris. A. 98.
 trachealis. A. 102.
 Cystitis. A. 132.
 Cystocele. B. 488.

 Dance of St. Vitus. A. 362.
 Deafness. B. 368. 371.
 cases of. B. 375.
 Debility, direct and indirect,
 observations on. B. 191.
 its distinctions. A.
 54. 59. B. 94.
 incipient. A. 22.
 Determination, preternatural
 to the brain accounted for.
 B. 157.
 Diabetes. B. 24.
 Dialyses. B. 350. 500.

Diaphoretic

- Diaphoretic formulæ. A. 139. B. 149.
 Diarrhœa. B. 19.
 Diet, in typhus fever. A. 35.
 Digestion, observations on. A. 27. 30. 277.
 as depending on vital heat. B. 114.
 Dionœa muscipulæ. A. 7.
Dislocations. B. 497.
 Diuretic formulæ. B. 253. 254. 255.
 Dreams, observations on. A. 21. B. 87.
 Dropsy of the abdomen. B. 268.
 in the chest. B. 266.
 of the scrotum. B. 276.
 universal. B. 243.
 of the womb. B. 275.
 Dumbness. B. 401.
 Dyæsthesia. B. 349. 350.
 Dyscinesia. B. 349. 399.
 Dyscoœa. See deafness.
 Dysentery. B. 4.
 Dysopia. B. 366.
 Dysorexia. B. 349. 385.
 Dyspepsia. A. 279.
 Dyspermatismus. B. 449.
 Dyspnœa. A. 387.
 Dysuria. B. 446.
 Ectopiæ. B. 350. 477.
 Efforts of nature to relieve herself. A. 88.
 Electricity, as exciting the absorbents. B. 211.
 Elephantiasis. B. 307.
 Emaciation. B. 216.
 Emetic formulæ. A. 66. 241. 294. B. 2. 12. 120. 326.
 Emprosthotos. A. 367.
 Encephalocèle. B. 489.
 Enteritis. A. 128.
 Enterocèle. B. 479.
 Enuresis. B. 425.
 Ephidrosis. B. 416.
 Epilepsy. A. 332.
 Epiplocele. B. 486.
 Epiphora. B. 418.
Epischeses. B. 350. 431.
 Epistaxis. A. 182.
 Erysipelas. A. 92.
 Erythema. A. 92.
 Ether, observations on. A. 18.
 Evaporation. A. 25.
 Exania. B. 496.
 Exanthemata. A. 149.
 Exercise, observations on. B. 196.
 Exophthalmia. B. 490.
 Exostosis. B. 474.
 Expectorants. A. 111.
 Fainting. A. 264.
 Fattening poultry. A. 23.
 Fibres. See fever.
 Feeling, loss of. B. 384.
 Fern root, a cure for tænia. A. 78.
 Fever, its proximate cause. A. 44.
 Fever, ardent, inflammatory, nervous, putrid, malignant, jail, hospital, bilious, autumnal, yellow. A. 5. 65.
 Fever continued. A. 3. 5.
 Fever eruptive. A. 149.
 Fever hectic. A. 4.
 Fever hectic, induced by worms. A. 76.
 Fever intermittent. A. 3. 49. 70.
 Fever, miliary. A. 167.
 Fever, scarlet. A. 170.
 Fever, puerperal. A. 68.
 Fever tertian. A. 3.
 Fever quartan. A. 3.

GENERAL INDEX.

- Fever Quotidian. A. 3.
 Fistula, the remedy for. A. 215.
 Flooding. A. 217.
 Fluor albus. See Menorrhagia alba.
 Fracture. B.
 Framboesia. A. 175.
 Fraximus excelsior. A. 16.
 Frictions as exciting actions in the absorbents. B. 199.
 Ganglion. B. 471.
 Gangrene. A. 94.
 Gargles. A. 100.
 Gastritis. A. 126.
 Gastrocele. B. 487.
 Gastrodynia flatulenta. A. 377.
 Gazpacho. A. 54.
 Geoffræa Surinamensis, as a powerful anthelmintic. A. 357.
 Geum urbanum. A. 16.
 Gimbernat's practice in the reduction of hernia femoralis. B. 482.
 Gonorrhœa. B. 428.
 Gout. A. 143.
 Gout Cotigh. A. 115.
 Grand gore. B. 298.
 Granulation. B. 512.
 Green sickness. B. 342.
 Griffith, Dr. Moses, his treatment of hectic. A. 206.
 Gutta Serena. B. 357.
 Habits, observations on. A. 341.
 Hæmoptysis. A. 186.
 Hæmorrhages. A. 176.
 Hæmorrhoids. A. 211.
 Hearing destroyed. B. 368.
 Heat, observations on. A. 7. 9. 23.
 Heat animal, the Generation of. A. 28. 107.
 Heat of the human body. A. 107.
 Hectic. A. 194. B. 219.
 Hedyfarum Gyrens. A. 7.
 Hemiplegia. A. 252.
 Hemorrhagiæ. A. 2.
 Hepatitis. A. 119.
 Hepatocele. B. 487.
 Hernia. B. 478.
 Hernia femoralis. B. 481.
 Hernia of the Cornea. B. 354.
 Herpes. B.
 Hesitation of Speech. B. 408.
 Heurmius, his powder. A. 220.
 Hooping Cough. B. 1.
 Hope a tonic. A. 73.
 Hydarthus. B. 473.
 Hydatis. B. 473.
 Hydrogen, its combinations. B. 204.
 Hydrocele. B. 276.
 Hydrocephalus externus. B. 261.
 Hydrocephalus internus. A. 244.
 Hydrometra. B. 275.
 Hydrophobia. B. 52.
 Hydrorachitis. B. 262.
 Hydrothorax. B. 266.
 Hypochondriasis. A. 48. 285.
 Hypostaphyle. B. 494.
 Hysteria. A. 40. 41. B. 34.
 Hysteritis. A. 134.
 Hysterocele. B. 488.
 Hysteroptosis. B. 497.
 Icterus. B. 314.
 Impetigines. B. 182. 288.
 Impotence.

GENERAL INDEX.

- Impotence. B. 398.
 Incubus. B. 55.
 Indigestion. A. 279.
Inflammations. A. 80
 Inflammation of the Bladder.
 A. 133.
 of the Bowels.
 A. 128.
 of the Heart. A.
 125.
 of the Kidneys.
 A. 132.
 of the Liver.
 A. 129.
 of the Spleen.
 A. 131.
 of the Stomach.
 A. 126.
 of the Womb.
 A. 134.
 Inoculation. A. 153.
 Infania. B. 93.
 Intumescentiæ. B. 182. 229.
 Iron, its wonderful use in the
 animal œconomy. B. 214.
 Irritability, observations on. A.
 298.
 its accumulation. A.
 10.
 Ischuria. B. 436.
 Itch. B.
 James's powder. A. 13.
 Jaundice. B. 314.

 King's evil. See Scrophula.

 Lachrymation. B. 418.
 Lepra. B. 311.
 Leprosy. B. 311.
 Lethargy. A. 239.
 Light and heat, observations
 on. A. 23.
 Lisle's powder. A. 12.

Locales. B. 349.
 Low spirits. See Hypochon-
 driasis.
 Lumbago. A. 138, 139.
 Lupia. B. 471.
 Luxatio. B. 497.

 Mania. B. 129.
 Mania Hyſterica. B. 156.
 Mania Melancholica. B. 135.
 Mania Mentalis of Dr. Cul-
 len. B. 173.
 Mania Phrenitoides. B. 145.
Marcores. B. 182.
 Measles. A. 164.
 Melancholia. B. 93.
 Melancholic temperament. See
 temperament.
 Menorrhagia. A. 217.
 Menorrhagia alba. A. 222.
 Menſes, partly or wholly ob-
 structed. B. 450.
 Miliaria. A. 167.
 Milk Porridge. A. 163.
 Mimosa Pudica. A. 7.
 Mollities Offium. B. 193.
 Motion impeded, or depraved.
 B. 395.
 Mumps. A. 104.
 Mutitas. B. 401.
 Mutitas, Causes of. B. 404.

 Nephritis. A. 132.
 Nervous Diseases. See Neu-
 roses.
Neuroſes. A. 225.
 Night Mare. B. 55.
 Nostalgia. B. 394.
 Nouffer Madame, her cure of
 Tænia. A. 78.
 Nutrition, observations on. B.
 203.
 Nymphomania. B. 393.

 Oak

- Oak bark, observations on. A. 16.
 Obesity. B. 229.
 Obstipatio. B. 431.
 Odontalgia. A. 141.
 Oil, its chemical Analysis. B. 206.
 Oenirodynia. B. 55. 90.
 Ophthalmia. A. 94.
 Opisthotonos. A. 367.
 Opium, observations on. A. 18.

 Paleness as a symptom of Melancholia. B. 113.
 Palpitation. A. 38.
 Palsy. See Paralysis.
 Paraglossæ. B. 495.
 Paralysis. A. 252.
 Paraphonia. B. 406.
 Paracusis. B. 379.
 Pareira brava. B. 329.
 Pancreatic Juice. A. 33.
 Pemphigus. A. 174.
 Peripneumony. A. 121.
 Perspiration, the state of, in Melancholia. B. 114.
 Pertussis. B. 1.
 Peruvian bark and vegetable astringents, observations on. A. 15.
 Petechiæ. A. 161.
 Phlegmasiæ, their definition. A. 280.
 Phlegmon. A. 91.
 Phlogosis. A. 91.
 Phosphorus, its combinations. B. 204. 213.
 Phosphorus, its use in the animal Economy. B. 213.
 Phrenitis. A. 97.
 Phrensy. See Phrenitis.
 Phthisis. A. 193.

 Physconia. B. 278.
 Physometra. B. 243.
 Pica. B. 386.
 Piles. A. 211.
 Plague. A. 64.
 Plethora, observations on. A. 184.
 Pleurisy. See Pneumonia.
 Plica Polonica. B. 313.
 Pneumatosis. B. 231.
 Pneumonia. A. 121.
 Podagra. A. 143.
 Polydipsia. B. 387.
 Polyfarcia. B. 229.
 Pressure exciting the action of the absorbents. B. 192. 199.
 Profluvia. A. 224.
 Profusio. B. 415.
 Prolapsus. B. 490.
 Prolapsus uteri. B. 497.
 Proptoma. B. 496.
 Prunus Pardus. A. 16.
 Prunus spinosa. A. 16.
 Psellismus. B. 408.
 Pseudoblepsis. B. 367.
 Psora. B.
 Ptyalism. B. 423.
 Putrefactive Process. B. 211.
 Pulse, observations on. A. 37.
 Pulse, the nature of in Melancholia. B. 112.
 Pyrexia, their definition. A. 1.
 Pyrosis. B. 4.

 Quinsy. A. 97. 98.

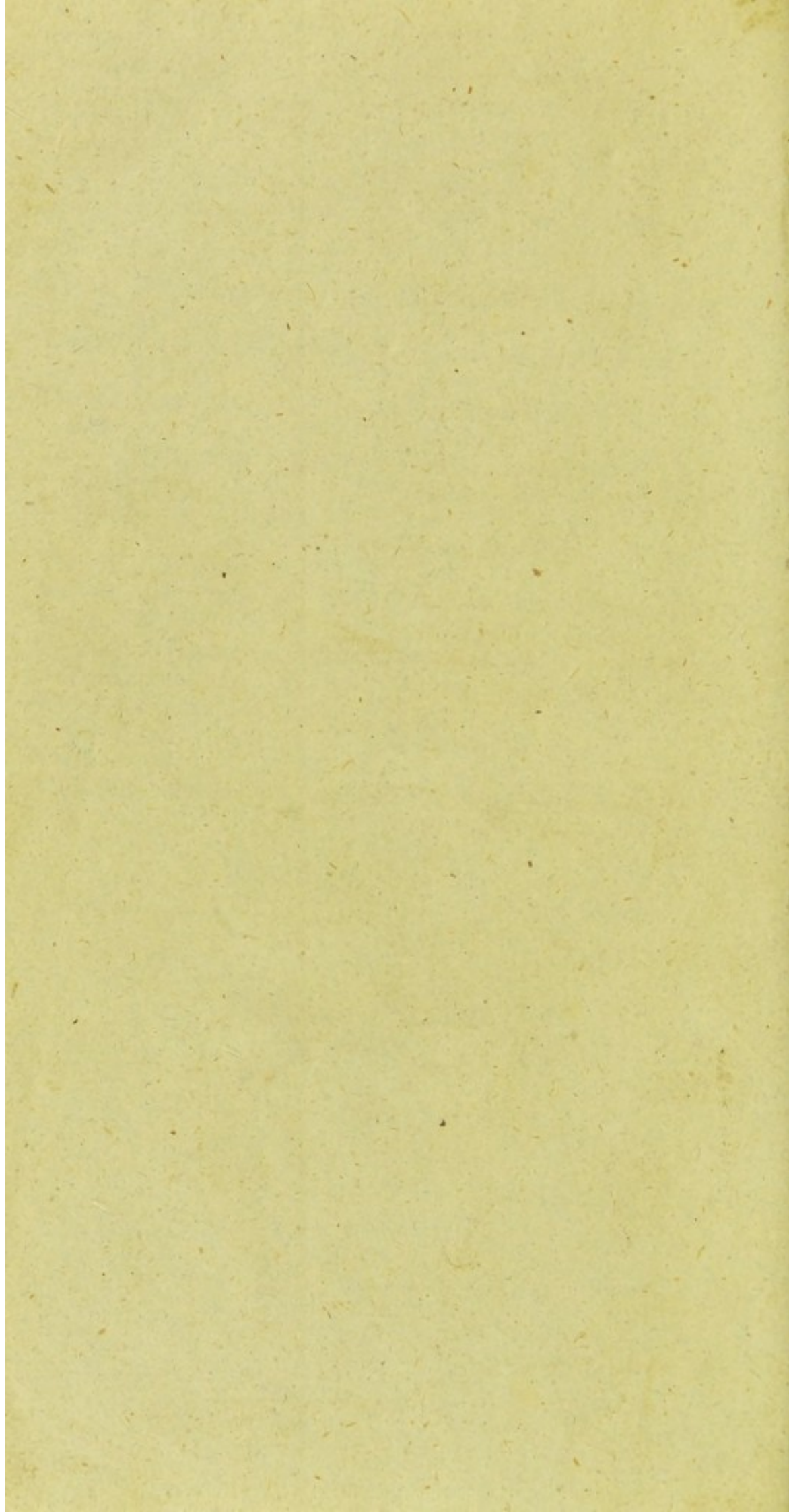
 Rachialgia metallica. A. 253.
 Rachitis. B. 279.
 Raphania. A. 330.
 Respiration, observations on. A. 26. 34. 277. B. 113.
 Rheumatism. A. 135.
 Rickets. B. 279.
 Rubeola.

- Rubeola. A. 164.
 Rupture. B. 478.
 Salivation. B. 423.
 Salix alba, S. Fragilis, S. Triandria. A. 15.
 Sarcoma. B. 467.
 Satyriasis. B. 389.
 Scald head. See Tinea.
 Scarlatina. A. 170.
 Sciatica. A. 138.
 Scirrhus. B. 459.
 Scorbutus. B. 303.
 Scrophula. B. 288.
 Scurvy. See Scorbutus.
 Sleep, as contributing to nutrition. B. 215.
 Sleep, observations on. B. 71.
 Small-pox. A. 150.
 Smell, diminished or destroyed. B. 382.
 Solutions of continuity. B. 500.
 Sounds, inability to utter. B. 400.
 Spasm, the occasional cause of. A. 324.
 Spasm, the predisponent cause of. A. 312.
 Spasmi. A. 298.
 Spica, bandage. B. 485.
 Spirits, depressed from a deficiency of vital air. B. 116.
 Splenitis. A. 131.
 Splenocele. B. 487.
 Squinting. B. 412.
 Stammering and stuttering. B. 409.
 Staphyloma. B. 354.
 Steel. See iron.
 Stimuli, observations on. A. 37. 309.
 Stomach cough. A. 115.
 Strabismus. B. 412.
 Sugar, its chemical analysis. B. 206.
 Sulphur, its combinations. B. 204. 212.
 Suppuration, observations on. B. 509.
 Syncope. A. 264.
 Synocha. A. 5. 45. 51.
 Syphilis. B. 298.
 Sweating, violent and morbid. B. 416.
 Swellings. B. 454.
 Tabes. B. 203.
 the species of. B. 221.
 Tænia, its cure. A. 78.
 Taste, diminished or destroyed. B. 383.
 Teething cough. A. 114.
 Temperament, melancholic. A. 48. 286.
 Tetanus. A. 366.
 Tettars. B.
 Thirst, its nature. A. 29.
 excessive. B. 387.
 Tinea. B.
 Tubercles. A. 200.
 Tumours. B. 350. 454.
 Tussis athritica. A. 115.
 Tussis convulsiva. A. 118.
 Tussis a dentitione. A. 114.
 Tussis exanthematica. A. 113.
 Tussis ferina. A. 113.
 Tussis stomachalis. A. 115.
 Tussis verminosa. A. 114.
 Tonic. B. 329.
 Tooth-ach. A. 141.
 Trichoma. B. 313.
 Trismus.

- Trismus. A. 367.
 Tympanites. B. 234.
 Typhus. A. 5. 40. 45. 46.
 50.
 a case of. A. 42.
 indications of cure in.
 A. 55.
 Ulcers and ulceration. B.
 506. 510.
 Urine, involuntary discharge
 of. B. 425.
 Urine, suppression of. B.
 436.
 difficulty and pain in
 discharge of. B. 446.
 Uvula, falling. B. 494.
 Varicella. A. 163.
 Variola. A. 150.
 Varix. B. 457.
 Vegetable substances, their
 chemical analysis. P. 205.
 Venereal disease. B. 298.
 Verruca. B. 469.
 Vesaniæ. B. 55.
 Vigilance, observations on.
 B. 77.
 Vital air, observations on. A.
 26. 292. B. 42. 125 195.
 201.
 Voice, depravation of. B.
 406.
 Vomicae. See tubercles
 Vulnus. B. 500.
 Water-brash and water-pang.
 B. 4.
 Water, its chemical analysis.
 B. 206.
 Ward's paste for the fistula.
 A. 216.
 Warts. See Verruca.
 Whites. See menorrhagia
 alba.
 White swelling. B. 297.
 473.
 Wine, its chemical analysis.
 B. 206.
 Worm cough. A. 114.
 Worms, symptoms of. A.
 75.
 Wounds. B. 500.
 Yest, in typhus. A. 61.
 Yaws. A. 175.







172

