

1856. 59. 5c.
Physiology &
Pathology.
W. Fraser





MS

Acc. no. 280

1856-10

vii

Tuesday, Jan'y 20

Physiology

hins

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Low part for may 9/63

7



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Tuesday, Jan'y 20

7 Notes on PhysiologyOrganic Functions

Digestion - agency by wh. new matter is introduced into system. Food must contain all chemical & organic element which enter into formation of the body. Man adapted to eat both animal & vegetable food. Dr. Prout. divides food into four classes. - ~~Aqueous~~ Saccharine - Oleaginous & ~~gelatinous~~ Albuminous. latter called histogenic or plastic compounds. Animals fed on meat exclusively soon perish. A due admixture of these kinds of food advisable & suitable to the season. A large quantity of albuminous food recommended when nerve or muscular force is required. Excess of oleaginous food produces bilious diathesis. Deficiency of oleaginous matter tends to produce serofalons diathesis. In rheumatic & gouty diathesis good results effected by diet. 25 to 35 oz of food daily necessary to preserve life.

Conner is said to have sustained life on
12 ozs a day: with 15 ozs Wine.

Processes of digestion in higher animals.

(1) Prehension

(2) Mastication & insalivation

(3) Deglutition

(4) Chymification

(5) Chylification

(6) Absorption

(7) Defecation

Mastication accomplished mostly by
lower jaw: arrangement of teeth ^{in diff animals} ~~Conner~~
depends to nature of food which they
use: 20 ozs of saliva secreted a day
when ex. by microscope found to con-
tain a small nos of globules - alkaline.

Analysis of Saliva.

Water $\rightarrow$ 988.0. Solids 12.0

Phy. alim — 1.8 to 2.5. — Fats 0.5

Albumen — 1.7. Mucous — 2.0 to 2.5

Saliv. matters 2.7. (In a 1000 parts)

active & passive services of the saliva,
 The saliva is acid in gastric irritation
 inflammation generally. It is the
 product of the parotid & other glands
 about the mouth. Ptyalin is the principal
 constituent = diastase. The presence of
 an active ferment, aided by the alkaline
 phosphate constitutes this secretion an
 active agent in the digestion of amylaceous
 bodies. Saliva also possesses faculty of
 absorbing oxygen in the air inhaled in
 the mouth.



D. Sutherland.

D. Campbell

D. Fraser

D. Howard

D. Campbell

D. Hall

D. M. Graham

Chambers, M. J. C. C.

D. S. Holmes

Dean of the Medical

Digestion

Wednesday 21st May 1857

Chymification for gastric digestion

The stomach is the great dilatation of the alimentary canal: average amt. of liquid it will contain a quart. two orifices cardiac + pyloric - four coats - mucous. cellular^{muscular} - peritoneal - when mucous is removed + well washed it has a pitted appearance - called gastric cells average from 100. 200. mks in diam - which open into gastric glands. In herbivorous animal stomach very large. The size of human stom^a proves man to be adapted to live on mixed diet. In the goatful herbivorous animals stomach not so complicated - adapted for milk. The wall of the gizzards of fish eating birds not so thick or tendinous. Animals that ~~eat~~ ruminate have four stomachs. Gizzard assumed to grind the food + fit it for the gastric juice.

Bolus after has passed into stomach is converted into chyme - grey - semi-fluid substance. Chief agent in chymification

gastric juice - doctrine of digestion is that it is a chemical solution, assisted by mechanical motion - gastric juice unminged with saliva - clear-transparent Dr. Pont first analyzed gastric fluid - afterwards Dr. Beaumont.

Analysis of Gastric Juice

Water - 994.

Pepsin - 3.195

Free Hydro. chl. acid. 0.200

Chl. of Potass. Sod. & Calc. 2.076

Phosp. of lime. Magnes. iron. 1.125.

Free hydro chlor. acid cause of acidity of stomach. Lactic acid seems cause of acidity in stomach of dog &c. when there is deficiency of hydro chloric acid lactic acid is a substitute which is formed from saliva.

Dr. Smith of Philadelphia claims that free lactic acid is the free acid of the human stomach. Artificial digestion can be effected by due admixture of Hydro chl. acid & pepsin. If heat of stomach could be raised to 150° digestion could proceed without pepsin.

so that pepsin seems to make up for heat.
14th of g. j. reg. every day - after it has ~~been~~
done its work it is reabsorbed & passes into
circulation: gastric juice reduces all a-
ninous compounds to a solution: does
not operate on starch or oleaginous sub-
stances - first digested by means of saliv.
latter in duodenum: Muscular coat of
stomach adapts ^{the stomach} to quantity of food. keeps
apices of stomach closed until digestion
is completed: when it allows the digestion
articles to pass. When digestion is not
going on stomach is contracted - food
observed by Beaumont to secrete in St. M's
stomach: time from 1' to 3'.

Digestion

Thursday 22nd Jan 1877

Pain destroys the appetite: proved by Dr.
Beaumont. Ordinary meal takes 3 to 3½
hours for digestion - ordinary temp: 100° Fah.
Agent of chymification gastric juice.
hydrochloric acid is the dissolver of food.
Gastric juice capable of combining with
the food. water & salts pass off from

The stomach unchanged - Beaumont's experiments confirmed by those with dogs. Large quantities of cold water hinder digestion. 9

Chylification or Intestinal digestion

Liver - pancreas - succus intestinalis secreted by glands in intestinal tube: all concerned in intestinal digestion. In sheep canal 28 times length of body. In Lion only 3 times length of body. In man intestinal canal 6 times length of the body. The duodenum as long as twelve fingers in breadth. The glands of small intestine of 3 kinds. Brunner glands confined to duodenum as large as hemp seeds. These glands secrete succus intestinalis 6 or 7 ozs per day

Brunner's glands & follicles of duodenum ^{supposed to secrete succus}
most active 4 or 5 hours after a meal: villi
exist into whole extent of large intestine
4000 in square inch - office of villi to ab-
sorb chyle. Follicles of duodenum. Pay's
gland - pancreas. glandular body - 6 inch
long - duct of its own or in Conn. with liver.
in Vito minute anatomy, resembles salivary
gland - fresh - has an alkaline reaction.
starch so acted upon by pancreatic juice
as to be converted into grape sugar. In
carnivorous animals pancreatic juice emulsi-
fies - when it is not secreted fatty matters
pass thro' Int. & appear in the feces.
Pancreatic

Digestion

Friday Jan'y 23rd 57

Bile

Chyme is acid + bile alkaline, hence their action on Combination. When chyme + bile are mixed together then are these substances formed also serves to separate refuse matter from that which is to be absorbed. ^{bile} also tends to prevent chemical decomposition in the chyme, also checks progress of fermentation: when bile does not flow flatulency + putrefaction occur - if bile does not flow acid chyme is not neutralized + consequently irritation of duodenum + even diarrhoea. Bile seems to increase secretion of intestinal glands + augments peristaltic motion of alimentary canal. 56 oz. of bile secreted daily - 50% solid matter: greater amt of bile secreted only known deposit however active agent.

6th Stage of digestion is absorption - process by which nutritive portions of food are conveyed into the circulation - absorbⁿ takes thro' blood vessels + thro' the lactals - selectⁿ + absorbⁿ of more nutritive material accomplished by epithelial cells on intestinal villi.

The stomach absorbs fluids & thro' its veins
which enter circulation - when venis distended
poisons & medicines (as mercury) more
slowly absorbed - proved by Experiments
of Legendre on dog. Clearest evidence that
gastro & intestinal absorption takes place
thro' veins. Venous absorption of fluids of
low s. g. takes place thro' the stomach.
In all cases of protracted indigestion
& in febrile complaints that quantity of
nourishment sh^d be administered which
can easily enter circulation: weak dilution
of spirit than seawater. Absorption is
carried on to a certain extent in Colon
Four to six oz of excrement voided daily
when between 31 & 35 oz of food are taken.
greatest muscular strength in rectum - sphincter
influenced by spinal Cord.

- No lectures on Monday or Tuesday -
26th 27th

Wednesday 28th Jan'y 57.

Changes wh. chyle undergoes before it is converted into blood.

Absorption-extraneous & interstitial - may take place thro' skin-lungs. by two classes of vessel called lymphatics & blood vessels. Mode of origin of lymphatics by plexuses. Absorption most active when fluids of body are diminished. absorption proved by Mercury - Cantharides - antimony-etc.

Inside of groin or axilla most readily absorbed & they possess most lymphatics. Hind leg of dog put into milk & leg tied with a ligature milk present in lymphatics - not in veins. ship wrecked sailors when thrust by immersing their clothes in the salt water & afterwards putting them on when aqueous portion is absorbed through lymphatics - nourishment conveyed to system by enemata & milk & water baths when stomach is very irritable. In manufacturing tubercular diseases rare on account of absorption of the oil - as in woollen manufactures. Cod liver oil used by Simpson in same way.

absorpⁿ proved by latching in madder, when the latter is perceptible in urine.

Pulmonary absorption.

Capillaries of lungs afford channels through which poisons, as miasmata &c. are conveyed into the system. Turpentine absorbed into blood & recognizable in urine & breath. Nourishment taken up by lymphatics not immediately rec^d. into blood, but prepared by blood-making ~~extra~~ ^{accessory} organs.

Liver - lacteals - ^{supra renal capsule} spleen - Thyroid gland - ^{Thyroid}

All nourishment coming? this portal vein. & the liver is $\therefore$ the elaborator of blood on up. It ~~elaborates~~ eliminating any foreign substances. Both lymphatics & lacteal glands are composed of 3 coats. Those ~~are~~ ^{are} approach called afferent vessels & those which leave called efferent. Blood corpuscles formed in lacteals ~~not~~ ^{not} into circulation. Lymph transparent. Colorless. Fluid alkaline reaction as likewise chyle - milky appearance presented by blood owing to those molecules. Chyle contains more fibrin

than lymph. Chemical difference between
lymph & chyle - latter contains more solid
matter & of fat wh. former does not possess

Analysis of lymph & chyle		
Water	90.237 Chyle Lymph	96.537 Chyle Lymph
Albuminous Matter	3.576	1.200
Fibrinous do	0.370	0.120
Animal extract. P. & S.	0.232	0.240
Fatty Matter	3.601	a trace
Salts	0.711	0.583
Residuary	1.233	1.319

Thursday

29th Jan'y 1857.

Character of chyle near entrance of ducts diff.
during passage of lymph & chyle thro' vessels
they gradually undergo change which appears
near to blood. Diameter of cells $\frac{1}{2000}$ average
 $\frac{1}{4000}$ part. Whilst chyle is passing thro' mesen-
teric glands corpuscles change. Corpuscles in
lacteals increase in size from $\frac{1}{4000}$ to $\frac{1}{2000}$
Blood vessels formed in a great measure from
abnormities of chyle. Purely effete matter taken into
blood thro' the renal capillaries.

Students of Law & Divinity 1838-1839

- | | | |
|--------------|-----------------|----------------|
| 1 Lindsay | 27 Jos Hurlbert | 54 Donfontaine |
| 2 Janet | 28 Fraser | 55 Greenholme |
| 3 MacKillean | 29 Ant Durham | 56 Church |
| 4 McFiey | 30 Duganiet | 57 Deahtie |
| 5 Hurlbert | 31 Robtson | 58 Harkings |
| 6 Lyon | 32 Bonmar | 59 Blackburn |
| 7 Bonmar | 33 Roberts | 60 Prentiss |
| 8 Campbell | 34 Donnelly | 61 Ross |
| 9 Myers | 35 Ballinich | 62 Buck |
| 10 Durham | 36 Reid | 63 Bonsett |
| 11 Fair | 37 Sutherland | 64 Whaler |
| 12 Thayer | 38 Brown | 65 Staff |
| 13 Hurlbert | 39 Ingeon | 66 Wm's |
| 14 Boyart | 40 Robertson | 67 Pickup Jr |
| 15 McMillan | 41 Chesley | 70 Fulton |
| 16 Coleman | 42 Sawyer | 71 Hall |
| 17 Warren | 43 Phillips | 72 Dight |
| 18 King | 44 Ferguson | 73 Powell |
| 19 Eustice | 45 McFillyon | 74 Simley |
| 20 Powell | 46 Austin | 75 Stuart |
| 21 Pheasant | 47 Chalichin | |
| 22 Robtson | 48 Jordan | |
| 23 Wright | 49 Ascher | |
| 24 Whitwell | 50 McKinnin | |
| 25 Decham | 51 Coburn | |
| 26 Wilson | 52 Drake | |
| | 53 Merrill | |
| | 54 Aylen | |
| | 55 Showmidge | |

Friday 30th Jan'y / 57.

Circulation

objects - ⁽¹⁾ To convey material for growth & nourishment of body ⁽²⁾ To carry out of the system its waste. ⁽³⁾ To convey a due supply of oxygen into system. Forms of ~~var~~ vessels to accomplish this diff. in diff. animals. The lobster's heart has only one cavity - in fishes heart possesses an auricle & ventricle; In reptiles heart consists of 3 cavities - 2 auricles & 1 ventricle. In birds & mammalia heart may be considered to consist of two halves. Apparatus by wh. Circulation is carried on in man - heart - arteries - capillaries - & veins -

The heart - cardiac muscle - 4 openings - ^{portion} ventricular. Measure 4 inches & auricle 1 1/2 inch ^{empty of blood} Mean wt. of heart between ages of 25 & 60 8 to 9 oz. wt. of heart of women less than that of men. If heart is the size of a man's fist held to be natural.

	Base	Middle	Ape.
Left Ventricle	4 1/2 lines	5 1/8 lines	3 3/4 lines
Right - do.	1 15/16 "	1 3/8 "	1 1/30 "

102

150.4

\$500

120) 504
480
24

500
125

81
Functions of heart.

Dr. Fraser

Tues day. 3rd Feby/57

Sounds of heart compared to love - and. That whole time taken up by sound of heart equal to time of pauses. ^{little by} Diff. forms of action of heart Capable of producing just sound of heart. Chief share is being to three perhaps -

1st Contraction of walls of heart 2^d The sudden ^{auricular-ventricular} closing of valves. 3^d The rush of blood thro' orifices of aorta & pulmonary arteries. The greater part of ^{abnormal} sounds caused by modifications of natural sounds, not by additions to them.

Cause of 2nd sound - pred^d by act of closure of semilunar valves: proved by Dr. Hope to be looking up the ^{aorta} vessels of an aesc. Cause of impulses ^{of heart} against side of chest; contraction of special muscles: the tendency wh. the aorta has to straighten itself.

1st Sound { Ventricular systole Auricular diastole
 { impulses of apex of heart
 { pulse in aortic

2nd Sound { 1st stage of ventricular diastole

Interval { Short repose - then auricular systole
 { + 2nd stage of ventricular diastole

Chief muscles of head, ~~shoulders~~
~~arms, legs, etc.~~ According to Ralkman $\frac{1}{2}$ beats sound of
 heart, Experiment with pendulums.

Age - sex - station - muscular exertion - state
 of digestive system - Condition of mind - &
 time of day ^{posture} concerned in frequency of
 pulse.

<u>Pulse</u>	<u>beats per minute</u>
Of the fetus in Utero —	140 - to - 150
" " Newly born infant —	130 - to - 140.
During the 1 st year —	115 to 130
" " 2 nd " —	100 to 115
" " 3 rd " —	95 " 105
From 7 th to 14 th " —	80 to 90
" 14 to 21 " —	75 to 85
" 21 st to 60 th —	70 to 75
Old age —	75 to 80.

Adult
 Female pulse exceeds male ² from 10 to 14
 beats a minute - stature increases beats -
 as in a foot. Pulse of late person slow.

Male

Standing	81	
Sitting	71	
Lying	66	

Female

Standing	91	
Sitting	84	
Lying	79	

Mental emotion accelerates pulse - especially in nervous patients: pulse less excitable + frequent in cold than in the sun. digestion increases pulse: many exceptions to rule that pulse is more frequent in ^{morning} than in the evening.

Human heart can sustain a column of mercury $7\frac{1}{2}$ feet high - ^{weighs} 96 strokes ^{per} second whole of blood through heart. Force of pressure of left ventricle 14 lbs. Quantity of blood in an individual Wednesday, Feb 4th 57. (Circulation) etc. $\frac{1}{2}$ of whole weight, only $30''$ ^{res. in} ^{giving all blood the} ^{or circulations}

Three principal theories of action of heart. 1st The movement depends on nervous force on contact of blood - of venous + arterial.

2nd Others attribute action to numerous minute ganglia situated in heart which regulate action of heart partly reflex. 3rd Sadler shock produces arrest of heart's action, but only for the moment. The heart of a surgeon continues to contract & expand after removed from body - and exposed into truth. Rhythmic action.

Action of heart supposed to be due to vital muscular action of heart.

supposed by Carpenter to be dependent on some peculiar muscular endowment. Nerves influence has a controlling influence of over heart.

Arteries - walls three coats external, middle & internal - mid. composed of two layers elastic & muscular. In large arteries

mid. coat made up of elastic or external layer. Middle coat possesses chief contractile power: another purpose as soon as ventricle cease contracting current of blood equalised. As regards rate of movement of blood in arteries

only guessed 12 inches in a "9 C. ^{Arteries controlled by Sympathetic}
Capillaries - intermediate between arteries & veins - smallest in train - as a general rule more active parts are more close its Capillaries: blood distributed in small vessels with thin walls - wh. allow secretion & absorption of blood to go on more easily. If two liquids be connected by a capillary tube - that liquid which has greater affinity will pass thro' it into the

Veins. ^{of large veins} structure same as that of arteries -
substance ^{veins have valves} resembles skin & H. W. of arteries
& carries blood. From which comes blood
from veins - "as a type" - respiration & giving
peculiarities of circulation - pulmonary, portal
erectile tissue - brain. In structure
erectile tissue consists of a plexus of
varicose veins: Varicose veins Varicose veins

[Handwritten scribbles and words including:] Hydrogen, Oxygen, Nitrogen, Carbon, Rubber, Vanillin.

1
Fin elastic tissue like walls of air cells
vascular apparatus consists of veins-
arteries & lymphatics

Respiratory Movements. 600

Elasticity of lungs assist in respiratory op-
eration - Muscles of inspiration - diaphragm & intercostals
also

Tuesday 10th Feb 9.

800 Cubic feet of air ^{necessary} for ea. individual
Changes effected ^{in air} by respiration. a portion
of O. absorbed from 4.6 per cent. of O
disappears from inspired air & fr.
4 to 6 per cent. of C. taken out by
expired air. If inspired air contains
much Carbonic acid, C. exhaled less.
Fainting produced by ^{intoxication} Carbonic acid, as
proved by instances in crowded assem-
blies. Action between air & blood: Blood
comes to lungs & changes with Carb. acid
is captured by air (or O. & Nitrogen) endosmosis
& exosmosis takes place. Carbonic acid
passes out & O. enters in large quan-
tities on a/c of facility with wh. O
passes thro' porous membranes.
The Animals fed on fresh air about

Found Dr. that C. mts mlt. O. in system is caputaries

Pr. arterial blood 10. p.c. O only 5 p.c. in venous blood

20-25 CO₂ + 95 p.c. in

mine O. than those animals fed a Vegetate diet. Amt. of O. not accord plan of mutual diffusion, but according to food. O rec. into lungs, ^{oxygen} ~~oxygen~~ changed into Carb. acid. Residue is made & combined with H. & forms water: and the part enters into combination with Sulphur & Phosphorus.

Ultimate Comⁿ of Filine

$\frac{N}{H}$ $\frac{Urea}{water}$

O.
C.
Phosph.
S.
Ac. from Heart
Corpuscles

PO₅

SO₃

CO₂

803 C. given off daily by ordinary sized man. Much reduced during sleep. Fluid thrown off by lungs. 3x(1000) lbs of albuminous effluvia materials

	C. J.				
anigra in	70	Res ⁿ	100	7.8	104.4
	90		1.5	11.7	150.6
	180		3.25	25.3	326.3
	200		4.50	35.1	457.9
					579.9

Quantity of C. acid ^{exhaled} subject to many changes 8030 Trg Carbon ^{exhaled} per day. Increased by full diet - Cold Climate. Impure blood causes exhalation for lungs to be impure & offensive. Venous blood arrives at lungs charged with C. acid, 25 p.c. On arter. 20 p.c. Change in Color accord to our ~~own~~ ^{own} due to imm. 2 H. Chemical & Physical.

According to some change in color owing
to difference in shape of blood corpuscles

Wednesday 11th Feb.

Secretion. Process by wh. materials are
separated from blood, either to serve some
purpose in body or to be excreted from body
forms secretions - latter excretions ^{contain} - 1st
performed by cells. Urea, carbonic acid ^{& bile to a certain extent}
most performed in the liver, but
saliva ^{also gastric juice & spermatic fluid} must be elaborated from
blood: secretions does not materially
injure system generally, but ^{retention of any of} excretion
differs. (Exp^t 14 Days in Spring) (Exp^t H. W. Dalton)

Mean Quantity of Urine	91	daily	as wt. H ₂ O in perspiration
feces	5		as wt. H ₂ O in perspiration
urine	48 1/2		unchanged
skin & lungs	37 1/2		as
Exp ^t in Summer	Person 42 yrs old	Commenced in April	End in Nov.
Mean Quota of food	86.31	of the day	
" " stool	5.54		
" " urine	34.91		
perspiration & pulmonary	40.45		
exhalation	45.86		
	86.31		

secretory Canal liver, Kidney skin & external
Canal liver. secreted surface secretory

Cystidæ from

	<u>Urine</u>	<u>Sweat</u>	<u>Ames</u> <u>skin</u>
C. 21770.4	1060.78	798.3	19911.4
H. 1649.0	756.6	140.0	750.4
A. 3370.0	213.1	120.0	3035.3
O. 16446.0	563.6	467.8	15415.3

the Liver. its minute structure & functions as collecting organ - when examined minutely found to consist of lobules. Each lobule is $\frac{1}{10}$ inch in diam. surrounded by a thin membrane, ^{prolonged from Capsule of Glisson} contains arteries, cells & ducts & is nourished by veins. ^{direct common biliary portal & hepatic veins by capillaries portal} hearts etc. Only blood to lobules are hepatic veins & hepatic arteries ^{from} to the blood from the arteries is abstracted. Biliary cells are from

$\frac{1}{1500}$ to $\frac{1}{2000}$ part of an inch in diam.

Bile ^{taken from gall bladder} is a viscid oil look fluid with last trans odour. mixes with water action alkaline. Bile is with about 56 of each of some matters 9 to 12 grains.



<u>Bile</u> (<u>Bonglins</u>)	<u>Man</u>	<u>OK</u>	<u>700</u> <u>of</u> <u>oil</u> <u>secreted</u> <u>daily</u> <u>amount</u> <u>to</u> <u>liver</u>
<u>Water</u>	90.44	92.84	
<u>Biliary</u> <u>Matter</u>	8.00	5.00	
<u>Mucous</u> <u>off</u> <u>the</u> <u>liver</u>	.030	0.023	
<u>Soda</u>	0.41		
<u>Chl. Sodium</u> , <u>enter</u> <u>matt</u>	.74	1.750	
<u>Phos. Sulp.</u> <u>of</u> <u>Soda</u> <u>thin</u>	.011	.043	
	100	100	

Biliary matter composed of Elements - Resinous
matter & color matter.
Resinous Element in Biliary matter is
Composed of Glycine & Taurine united with
Glycocholic acid. Bile also contains ^{Glycolic acid & Taurine into Soda}
Cholesterolin: & bile pigments

{ C 52 H 42 N 11 + H O - Glycolic acid
52 45 102.014 Taurine } Thursday 11 Feb 57
Bile. Element of blood from which it is
derived. In Safford it is abstracted from
fatty matters in blood. Elements bile -
excretory part. Elements of effluvia absorbed
When bile is retained, by diet & exercise im-
paired.

Section from Skin. Skin consists of
3 skins. Epidermis, { base ment membrane }
{ etc mucous membrane } & Cutis
vera. Internal surface of Cutis vera is
made up of white fibrous tissue, with some
yellow and elastic tissue. It is abundant
about joints. Goose skin owing to contraction
of true skin. Papillae resemble bristles.
Made up of fibrous tissue & blood vessels.

Sudoriferous & Sebaceous glands.
Sudoriferous glands - 2500 in a square inch average.
3800 on palm of hand. $\frac{1}{4}$ inch in length - entire
length of all glands 28 miles.

Dr. Frazer

Friday 13th Feby/54

Functions of skin

Purpose of epidermis, protection of true skin fr. injury - very easily replaced when abraded. gives strength & elasticity to skin.

Respiratorⁿ has an acid structure, acetic acid, w^hl. g^{iv}s fr. decided smellⁿ in the matⁿ - Urea has been detected in Despiⁿ. 18 grs per m^onto, 11 pass off by skin + 7 by lungs. atmospheric condⁿ affect skin. When perspiⁿ suddenly checked amount of excretion retained in system which the lungs attempt to expel.

Skin seems channel by which certain poisonous principles are ~~ab~~ carried out, as small pox, syphilis, &c. When skin cov^d with varnish or caustic animal dies as if from asphyxia: heart affected. Secretion of sebaceous glands. each use to keep skin moist.

Comp. Seat of touch - regulates

Subsistent wth respiration assists Respiration: secretes sebaceous or oily fluid to nourish itself.

The Kidney

Friday, Feb 5th
1858

Kidney - from 4 to 5 in in length from
2 to 3 in breadth. 1 1/2 in in thickness.
3 to 5 ozs in wt. Substantia Corticis &
tubular portions - secreting apparatus
Consists of tubes, which ^{lined with epithelium} have a tortuous
course. Diam of tube 700 pt. 1/2 in.
Renal art. pulsat & renal vein, and
blood vessels of kidneys. Kidneys receive
a great amount of blood ^{improper to its size more than any other} from the
aorta from solar plexus ^{off ant.} & lesser splanchnic
Purposes of excretion ^{of waste} urine so to remove
the system effects ^{of} various ^{material ingredients} materials
of use of ch. Phosphorus, lime & mag.
nesia sulphur. Malpighian bodies
~~concerned~~ in. Cortical sub. dilatation of tube
Some tubes have blind ends however. Malpigh. body black
like dilat. of tube - diam 1/100 in. Lining memb. of Malpigh.
body different - viz that of body & neck & tube its self.
of tube pavement cells - (neck - pavement ciliated kind
of body small granular particles. Effluent vessels, viz
vein surround tube & secrete solid matters of urine.
Kidneys vicarious with skin & lungs - Office of
Malpigh. bodies is to allow arterial part of blood
to transude thro' walls of blood vessels
effluent vessels of great aggregate capacity then afferent.
Quantity of solid matter dependent on amount of waste of
system. sep'd from blood by secreting process vital process.
Water propelled by cilia to tubes & pelvis of kidney. & then
sent down ureters to bladder, drop by drop.

Urine ^{Carboniferous} Tuesday 17th Feby.

Urine ^{Urine} ^{Urine} ^{yellow color}
 perfectly transparent - amber color. To find
 s. g. of urine - Weigh both of Ho. & then of
 urine & divide. Urine of carnivorous ^{animals} transpa-
 rent - of herbivorous milky. Some for ink
 urine is divided - said the store of system.

^{Urine not} Healthy urine clear when passed: may be turbid? immediately after
 Quantity of solid matter excreted by kidneys
 daily from 600 to 700 grs.

Take by Berzelius: ^{dis} { 30 oz in Summer
 40 oz in winter
 quantity varies from
 20 to 80 oz.

Water in 1000 grs. Urine -	933.00	<u>S. g. of Urine</u> is liable to variations average s. g. whole year found 1.020 in summer 1.025, & in winter 1.015 s. g. will vary according to amt. of fluid <u>Extremes of</u> <u>urine density</u> <u>Consistent</u> <u>with health</u> <u>20 oz</u> <u>50 oz.</u>
Urea " " "	30.10	
uric acid -	1.00	
Lactic acid & lactate of ammonia	17.14	
Mucus	0.32	
Phosphate of potash.	3.71	
do - soda	3.16	
Phosphate of soda	2.94	
Biphosphate of ammonia	1.65	
Chl. sodium	4.145	
Muriatic of barium -	1.50	<u>0.03</u> <u>1000.00</u>
Phosphate lime & magnesia -	1.00	
Silica	0.03	

Urea - decomposed into Carbonic Ammonia - urea
 etc - in blood

Urea arises from effete azotized tissues.

	<u>urea</u>	<u>uri acid</u>
Mixed diet	501.76.	18.26.
Animal diet	821.37.	22.82.
Reg. diet	347.10.	15.77.
Non azotized diet	237.90.	11.34.

Greatest amt of urea excreted a few
 hours after dinner.

Tests for urea. ^{+ Permanganate Hg.} Nitric acid and wh. precip.
 dates nitrate of urea; daily amt. of
 urea calculated 23. ^{add sample & when} Permanganate Hg. sol'd precipitate

Experiments of Beaumont

	<u>Urea</u> ^{grs}	<u>Urea</u> ^{grs}	<u>Urea</u> ^{grs}
By men	357.51	431.13	570.60.
- women.	153.25	295.15	437.06
from 84 to 86 yrs	61.08.	125.22.	295.15
Child ren 8 yrs	161.78.	207.99	254.20
- 4 yrs	57.28	69.55	81.83

Uric acid daily excreted by kidneys & ex-
 poses of uric acid promoted by highly
 azotized diet + inactivity.

Benzoic acid administered to ~~detest~~
 prevent formation of lithic acid diathesis.
 Uric acid ends as Urates Soda - ammonio-

De Lander

Chloride of Sodium introduced as food.

Quant. of solids excreted by urine.

Original Diet.

Urea	Phosph. acid	Chlorine
Grammes	Grammes	Salt

Without Coffee	31.298	4.441	9.865
With —	21.888	3.001	8.879
	9.410	1.420	1.046

Tobacco-dielectric lesion - & tea produce same effect: that is, ^{by the use of} ~~material~~ ^{material} are retained in system.

aculato of Potash (33) Before medicine after med.

Quantity of urine	16 oz	46 ozs
Total solids	416 gr.	782 gr.
Uric acid	2.6 gr.	6.5 gr.
Urea	130.5	202.4
Other organic Comp ^{ts}	189.3	295.4
Soluble salts	72.0	248.4
Insoluble do	21.6	32.2

1. Urina Potus - 1003 to 1009
- 2 do Chylis orali 1020 to 1028/9
- 3 do Sanguinis 1015 to 1025

Mode of - Obtain an oz of an. Otho + weight it 475 grs.

$$498 \div 475 = 1.0418$$

Thursday. 19th Feb 59

Generation

Sperm cells belong to male & contain spermatozoa - the germ. cells of females contain ova.
Function of testis - secrete semen, ^{resemble seminalis rot} is mingled with fluid of prostate & Cowper's glands has a alkaline reaction & contains salines, Muriates & phosphates. Microscopically, ^{ca?} Semen found to contain seminal granules & spermatozoa - ^{th.} Continues in motion many hours after emission.
Semen? Acuminalcules formed in granular vesicle, & granules formed in parent cell Spermatozoa essential elements for procreation - if semen? fluid is filtered & acuminalcules removed. ^{fecundation cannot take place.} Carpenter denies that spermatozoa are acuminalcules. Power of procreation ^{in male} from 14 to 15.

Prostatic. Membranes & spongy portions of the urethra. Testicles formed of lobes with tubuli seminiferi leading fr. them: 17 feet in length.
^{to Cowper's gland mass on each side} ^{may come under Cowper's gland} Superf. is smooth

Dr. Fraser
Dr. F. Gen. Organs

Friday 20th February.
1857

The ovaries essent. pt. of female generative system
enclos^d. in folds of broad ligament, ea. attached
to uterus - about an in. in length - a proper
capsule of itself - compartments filled
up with ovaries or Graafian vesicle
which is a capsule or bag - within
Graafian vesicle is the ovum or germ
of future being. ovum $\frac{1}{120}$ in. in diam.

Inside of ovum a peculiar cell termed
germinal vesicle & interior of this the
germinal spot. Ovarium of adult
contains ^{10 or 12} ovaries which are constantly under
going change. Animals "in heat" have a
discharge of ova, & females during Men-
struation "Concepⁿ" is more likely to occur
immediately before or ^{especially} after menstruation.

Eng² Table of Menstruation

at age of	10	—	9	out of 4000	} ut. 33 to 8
	11	—	26	" " "	
	12	—	136	" " "	
	13	—	335	19. — 148	} Average between 15 & 16. "
	14	—	638	20 — 71	
	15	—	761	21. — 9	
	16	—	961	22 — 6	
	17	—	494	23 — 2	
	18	—	393	24 25 26 — 1	



Fecundation ^{the} ~~is~~ owing to contact of
of spermatozoon with ovum; either in
uterus or Fallopian tube or sometimes in
Ovary. As one traverses Fallopian tube
they acquire a mucous envelope, which
becomes the chorion.

Changes in uterus - It becomes sweet.

Tuesday 24th Feb/57

Changes which occur in the ovum on fecun-
dation. Contents of ovum divided ^{by cleavage} into
particels - upon which cells are formed.
First trace of embryo - cercho-spinal portion

Bbs developed on laminae - First blood
vessels observed in that part which imme-
diately surrounds embryo. First appearance
of heart chick 24 hours after incubation.

Placenta - When shaggy Chorion ^{descends} - it absorbs
plasma thrown out by living membrane
of uterus.

General & local signs of pregnancy.
General irritability - nervousness &c.
Local - areola around nipple. quickening
4 1/2 to 5 months

40 mks or 280 fms of distal. 19

medium grain Percent.

Urine - 2.403 without medicine

Urine 2.42

V. Turpentina 2.194

Squell 2.25

Syringium 2.45

Syringium 2.43

Calcium 2.32

Solid materials

Sphenoid Bone { div. into body wings & processes.
body has superior, anterior, & inferior surfaces.
Protein surface.

Processus Ocularis behind Ethmoidal Spine: round, elongated.
Ethmoidal Spine supports Commissure of Optic Nerve
at anter. extremity of Superior Surface

Sphenoid Processes

Project back from base of greater wings: rec. into angul. intervals between squamous & petrous portions of temporal bone.

Foramen Opticum

outwards & forwards fr. Ocular Process: transmits optic nerve & ophthalmic arteries.

Anterior Clinoid Process.

Inner termination of lesser wings beneath these two depressions for last curve of Sphenoid Canal.

Groove by side of Sella Turcica Carotid plexus
wraps Internal Carotid Artery. Cavernous Sinus
& orbital nerves: cavernous plexus

Sella Turcica

groove behind Ocular Process. deep pituitary fossa
& ciliary sinuses: on ea. side Post. Ciliary
Processes wh. are on dorsum Sphenoid behind
this Clinoid Process.

Sphenoidal Fissure

Lygdomain

External to Carotid groove. It separates great
+ lesser wing + transmits 3, 4, - 3 branches of
Ophthalm. divis. of 5 + 6 nerves + Ophthalm. vein.

Foramen Rotund.

Lygdomain

Behind + beneath Sph. Fissure. for Sup. Maxill. A.

Foramen Ovale

In base of spinous Process: for Inferior Maxillary
Arteria Mening. Parva + A. Petrosa Superfic. Mening.

Foramen Spinosum

near apex of spinous Process for Ant. Mening. Arter.

Spine of Spinous Process

Apex attach. to interlateral lig. of Cerv. joint.
+ carries spinous process

Internal Border of Spinous Process

Assist in forming arches in formation of
foramen laevis + basis cranii.

Crista Sphenoidalis

Superior part of spine. articulates with central
canella of ethmoid.

Rostrum Sphenoid.

Inferior part of spine. Inserted into sheath
formed by upper part of vomer.

Sphenoidal Cells on ea. side of spine closed by
Sphen. spongy bones, on ea. side are the outlets
of Foramina. Optic. + Sph. Fissure.

Processus vaginales arise from base of Pterygoid
Process + articulate with vomer.

Pteryg. Palatine Canal. for P. P. Artery
near root of Pterygoid Process.

Pterygoid + Vidian Canals. near roots of
Pterygoid Processes: for passage Vidian Artery.



Chomel's work
Etology

Pathology

Thurs. Feb 26th / 57
Tuesday 22nd Feb 1859

That branch wh. treats of ^{natures} nature & ^{mode cause} consequences of disease - Phys. of disease.

Special & general - Pathology.

Special - the pathology of ea. disease.

General. P. collects all the facts of these diseases & arranges them ^{disease} in classes.

General Pathology

Etiology, or cause of disease. Causes either intrinsic or extrinsic - as e.g. of former, ^{excess or defect} defect in ^{secretion} excretion, as bilious fever from excess of biliary secretion - Of extrinsic ^{atmospheric} miasmatic or atmospheric causes, ^{richard & chomel wife}

Causes of disease - pre-disposing & exciting
First slow & gradual.

Dr. Williams' Table

Pre-disposing

1. Debilitated ^{causes} Inflamm
2. Edematous
3. Previous disease
4. Present do.
5. Hered. constitution
6. Temperament.
7. age
8. sex
9. occupation.

1st Debility. ⁽¹⁾ Imperfect nourishment - produces
intercalae ^{disorder} but tends to cause body to
about poison, also pre-disposes to take
Cold. - (2) Impure air. Retention of effete
matter in blood. ³ ~~increases~~ ^{injection of body + mind.} 4 Want of exercise &
sedentary habits produce ^{as shown by} disease.
5 Long cont. heat debilitates body & pre-
disposes to disease 6 Long cont. Cold
cause of disease. 7 Habitual inter-
ference pre-disposes to disease, debility
Tremens ^{hepatic or kidneys} "dropsy" - flux dyspepsia &
dysentery - 8 depressing passions as
grief, fear, e.g. The defeat of armies
re. 9 Excess in or repeated inoculations
debilitate body & pre-dispose to dis-
ease.

(2) Excitement - Tends to derange Nutrition.
Full living - pre-disposes to Apoplexy
by increasing red corpus. of blood &
also produces inflam: disease.
Gout is a disease which arises from
excess of albuminous substance in system
below disease prod. by full living re.
Excitement of uterine inflammation during
parturition pre-disposes to disease

Excitement of by purgatives - Stimulating
drinks beverages - Mental excitement
predisposes to disease of brain. &c.

3. Previous disease - as Bronchitis - tracheo-
dolentia - laryngitis - neuralgia - tonsillitis
choera - epilepsy - &c. &c. system more
open to a return of ea. particular dis-
ease: joint. gravel - also.

4. Present disease.

Scrophula predisposes to tubercular disease
tubercular dis. to inflam. of lungs &
this dis. to hypertrophy of heart -
& that to apoplexy & Congesⁿ of lungs & liver.

5. Hereditary Constitution

<sup>Structural defects inherited fr. either father or mother or
only by congenital causes.</sup>
If child resembles parent physically &
mentally, the tendency to same disease in
both very probable. In general predisposi-
tion to disease & not disease itself is trans-
mitted, from through families - exceptions
to this Rule - Syphilis & tubercles - <sup>Scrophula, blind ness
spina ray, insanity</sup> as general
Rule - child's predisposⁿ to disease resembles
mother more than father. the child of a
delicate mother should have a healthy
nurse. Taste, talents &c. are inherited as well as form.
usually predisposⁿ to dis. inher^d not disease itself.

Friday, Feb 27th / 57

6th Temperaments are divided into
Sanguine-^{pneumatic} Lymphatic, bilious nervous. The
disease of lymphatic temp^o all chronic
diathesis denotes a name to practical dis-
eases.

Constitⁿ is divid into strong weak &
when strong is diseased the disease also
is very strong & strong remedies must be
used. Delicate are most susceptible to
disease & the disease is weak accord-
ing to the Constitution

Phlegm pulled skin & Depⁿ of ^{old skin} sed. corpus. predis. to
catarrhs. dropsies &c. sluggishness of mind - inactivity of body
Sanguine predis. to inflam. dis. Bilious to Cancer
& cutaneous dis. & to ague dis. Nervous predis.
poses to Nervous dis: similar symptoms of other disease
more violent. Diathesis denotes a constitⁿ tendency to disease.
Idiosyncrasy - some ~~peculiar~~ peculiarity of system, e.g. salivation
easily effected by Opium - Ipecac.

7th Age. Each of the epochs of life is pre-
dispos. to disease. In infancy predis. to
molly guts & cutaneous dis. visceral aff.
are probably produced by milk of mother
Period of teething - accom^d by disorders of bowels &
nervous sys. is changed: Corp. Scarlatina & mea-
sles to erupt. of alluminium or measles small.

Monday Tuesday. Feb 23rd 1858

Antimony & opacae: predispose to disease of stomach; weakness of that organ.

Exciting Causes of death disease

Some agents which ^{act on body} excite disease, as ^{insufficient food or bad quality} contagents & poisons. Ex. of sailors exp? to miasmata & then lung to obliged to work, when ^{removal of sea} putrid became exciting cause. Cognizable & Non Cognizable agents.

Cognizable

Phys. & mental agents & action
existence in caus.
Caus. no Cognizant

1. Mechanical
2. Chemical including poisons
3. Ingesta
4. Bodily exertion
5. Mental emotion
6. Excess in evacuation
7. Suppressed excretion & even drainage
8. Defective cleanliness or Ventilation
9. Temp. & changes.

Noncognizable

Endemic
Epidemic & infectious poisons

Wound. Burns & Bruises
Cog. 1. Mechanical - As tight clothes.

Stays or Stone in bladder or gall stone.
^{city & continuance}
Asphalt floor & furnace & like respiratory
or hardened faeces in the intestines -
^{mechanical} causes depress vital powers, as Burns &
tumors &c. hypertrophied organs impede other organs.

2. Chemical. All agents which destroy

Metals-boiling liquids -

Brights

Mat. l

Organization of parts by chemical act.

Persons

11/ Infants - Narcotics - 13/ Narcotics - aend.

Septis: narcotic prod. little or no local effect - destroy life
gen. & Casparynia - *Prun. aurantium*, *californica*
by action on medull. Ovary. Prussic acid
* (1) *Gonorr. salivaria* Mineral acids, arsenic.

* (*Hibiscus Sulfuratus*) mineral acids, arsenic
Sarcotox-acids possess a double acid -
 acetic stramonium acetic stramonium alcohol ether
Sa. belladonna - lot acid - alcohol - a

local affut on stomach and affut on
Reverend system. The mild ^{Cicuta nigra} parent blower

Wolferth class. ^{generally to putrid animal & veg matter} Septic poisons ~~are found~~
in buried vaults or in dissection wounds &
cause to in decomposed flesh.

3 Inocula. Dequency in quantity of food
of food produces disease - ^{Should be given in small}
be produced by giving them ^{in small} portions
Confining them in a damp place. Long
Cont. of starvation causes many diseases.

Excess of food produces disorders of gastric
 organs. if excess is an all. " gout. if
 condiments. salt. pickles &c.
 carbonaceous - hepatic diseases. Intox. &
 liquor most common causes of disease.

Stomach is just as old: mucous mem. of
Cardiac latrunculus of stomach ^{inflamed}: Liguire is
absorbed & passes thro' portal vein into
liver. Gasteric glands & epithelium of
stomach soon become injured.

Corrosive Salt. act on strength of effluvia system or
on mouth Cancer oris. 2 3 ways.

Symptoms Dangerous

The consequence is blood is overheated.
 There may be local hemorrhages: as piles.
 + fluxes or Chronic diarrhoea: or
 palpitation - vertigo, stupor, bilious attacks.
 or gout or gravel. ^{when liquor contains much acid,} Kidneys ultimately
 injured on a ^{Heart + blood vessels lose tone} ~~ape~~ of over exertion + stim-
 ulation. The effect of liquor ^{on nerves} depends
 on quantity ingested. Effect of a l.
 quant. ^{Taken at a time} narcotico-acid ^{stimulating hand - legs} poison: cephalic asphyxia
^{nervous centre of respiration paralysed:}
Dyspepsia may be adult with poisons -
 as Confectionary - ^{or arsenic} ~~lead~~ ^{lead} ~~gambo~~ ^{meats} & cooked
 in copper vessels by form. of H.Cl. acid.
 Tho passing thro' lead pipes. Adult. of food

4 Excess in bodily exertion
^{Heart lung + brain have unusual quality of blood upon them.}
 long cont. may cause disease by its
 exhausting effects &c. Hemorrhop: influen. Caused
 by great exertion - e.g. from lungs

5. Strong Mental Excitation, a cerebral
 reflex act: death may be caused by
 shock: action of heart stopped + the
 syncope produced. Anger reflected on
 liver - bilious attack means arrest of
 flow of bile - liver does not secrete

Life & consequently retention of life in blood.
Emotion of fright may cause diarrhoea
-abortion sometimes produced.

Suppressed a defective excretion

6. Excessive Evac. of blood or secretions.

When ^{+ general debility} Symplocy results fr. loss of blood -
of some cases heart's action is enfeebled as to be unable
to perform supply brain; discharge
from bowels, skin, ^{stomach} kidneys, uterus, or
testicles may produce tubercular
disease in various predispo. & where no predispo. exists.

7 Suppressed or defective Evac.

Either from bowels skin, lungs, or liver or
suppression of menses &c may produce
disease: Retentⁿ of fecal matter -
in lungs & intestines

Reason why that ~~feces~~ excremen-
tious substances are absorbed into
system. ^{& act as poisons. Dangerous if kept up with inflam. &c.} Dangerous to check certain
discharges abruptly: without diaphoresis

+ purgatives
Med^s &c: Urine may b. abso^d & cause typhoid dysentery.

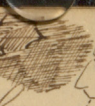
8 Defect: Climbers, Ventilaⁿ & Draining.

Climate of a people corresponds to their
Climate of Menses above &c.

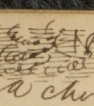
52. ... ((Ventilation. &c drainage.)) {

Blank.	3 rd	1857
Wednesday	24 th	1858
Thursday	28 th	1859

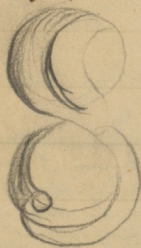









 Influenza cholera small pox
 is not a large region as fever - measles
 permanent or in some form whooping cough
 Endemic occurs periodically - Epidemic
 disease singular, ancient, & cannot be further
 contagious includes all diseases which
 transmissible from person to person by
 contact or otherwise. When disease is
 propagated by mat^{rs} said to be prop. by
 joints or indirectly - Materials wh. carry germs of dis.
 In regard to causes of endemic & epidemic disease
 much doubt exists - 1st Theory - Due to some
 unknown Condⁿ of atmosphere. 2nd The
 Fungus & bacilli
 Germinal Theory - 3rd Chemical - Liebig.
 4th Simon's theory of effluvia
 Non-Cognate Cause of dis. involved in much obscurity.
 No direct proof furnished of existence of germinal cause.
 Existence
 Existence
 Existence



Tonicity of Muscles. Thursday 5th March
^{modification of irritability} 1857

Tonicity prop. of both staped & unstr. muscles
^{called processes}
Cause of excessive tonicity may be owing to
constitution or the result of long cont.

tumors, Remedies for excessive tonicity—
depletion, ^{exercise, diuretics} warm baths, Veg. diet—
Medicines, wh. act on ^{bowels} Skin & Kidneys.

Some med. wh. relax ^{spinal} ^{paralytic} ^{sedative} ^{effect} ^{of} muscles

Antimony - digitalis & aconite.

When tonicity is deficient. Muscles flabby,

incapable ^{of action} heart ^{of} ^{Hemorrhagic diathesis} ^{tendency} of

Blood to veins of head. State of health

indic. of tonicity - soft ^{giving & large vessel} ^{artery} pulse - indicates

want of tonicity. whilst wire pulse hard

pulse indicates the reverse. Persons

^{general} whose tonicity is deficient are ^{are liable to local congestion} sluggish

Remedies for deficient tonicity - Tonics

Quinine - Iron - Strychnin & Min. acids

& appl^{ca} of coll - appl^{ca} of cold sh^d be

sudden & in brief to be depressing.

Shower & plunging baths: weak directed

to sponge. ^{only fresh cold fresh or salt water} Pure Air & generous Diet

Exercise or Matt. Tension & moderate exercise

Indicates living in deficient tonicity.

Edinburgh 5th 3

Sensibility - excessive general present in
inflam. of brain - indicated by intolerance
of light & the hydrophobia & tetanus
no inflam. but functional derangement.

When cerebral sens. depends on inflam.
local antiphlogistic & prompt,
Narcotics - anodynes - antispasmodics.

Herbals - opium. aconite. Valerian
musck. Chloroform. assafetida &c.

When its action on nervous system
weakens & glances of pulse without inflam.

Remedies are stim. antispasmodics
& tonics - arsenic. zinc iron. silver
& strychnin.

Defective nervous ^{General} Sensibility, as when
Depressed sensib. Congenital with
some & with others not on by med^s
disease -

When def. sens. due to Abstraction of
Blood - depletion - cold. depletives
purgatives - cathartics & diuretics.
Taper ^{of signs & func^s} Stimulants -

When defic. sens. is due to narcosis
or retained secretion in blood. act upon

Morbid or Rancid & give stimulants.
Purified sensibility at picking laughing
hickory, & of cold hot bath in side
& bluntness of special senses. Persons
thus affected have an enormous & de-
praved appetites: as in pregnant females
due to an irregular supply a bad qual. of
blood

Remedies are purgatives & Iodine & Salts
pure air & nourishment & all other
Remedies wh. will improve the quan-
& qual. of blood. Nacrotics & antispas-
modics imp'd. Temporarily associated only
to restrain of shock of nerve. Reassure
Def. sens. may

Warm app. often relieves pains. Counterirritation
Singeries - when pain is intermittent
Quinine. St. Ars. & Sulph. Balaune.

Rec^d payment

Philipsburg
St Armand W.
Missisquoi Co.
Vt.

W. Whitwell
Philipsburg
Canada
O. S. Co.

{ March 6th
Friday

Voluntary motion is in cases under inf
of stress, & strong mental emotions wh.
attract blood nervous centres.

Deficient voluntary motion is exemplified
in fatigue & is due to pressure of blood
on brain.

Paralysis Vol. not. as in Sclerema trem
& is due to pressure of blood in the brain
paralysis signs of spinal cord.

Either some a channel thro' which nervous
motion is conveyed. to muscle is de-
ranged.

Remedies for cases ^{volun. motion} of blood de-
pletion & reaction - acutely.

delir. trem. narcosis antimony cold
& chloroform.

defect. volun. recent apoplexy, abrup.
of clot by depletion - gen. a local
calomel & iodine & com. irrit.
& aft^{rs} by Stth electricity

When acute. volun. due to congestion
Cold - a passive course & show.

When narcotism is cause eliminate ^{poison}.
Purged by hot-tonics - fresh air
& purgatives. Poult.

Reflex Action

Person. this Spinal Cord - commonly in-
dependent of will: excess of reflex action
e.g. Spasms, hydrophobia, epilepsy, Hysteria
Cause either peripheral or central.
Defect - Paralysis - ~~as~~ of deglutition
Partial perversion - cramps, etc. in bones,
sneezing, unkin's coughing, itching
Urterius, disuria: palpitation of h.
excess. reflex action

Remedies. Same as those for excess Volun-
tation. When cause inflamed ^{of spinal} ~~of spinal~~ ^{of spinal}
and antiphlogistic; short effec. Sea
opium common. Iod. hemp acorn
belladonna chloroform. in hydrophobia
Convulsions. Camphor of children may
be mixed to better a indigestible ingesta
Remedies accord. to Cause of attack.

Wm

Wm

William Whitwell

Rem. Stim. Anæsthetics - ether, musk;
alcohol - chloroform.

Another class of nerves for chronic.
cataltic tonics -

+ Symp. reflex actⁿ - Stimulants.

Sympathy.

Improcⁿ may b. reflex? fr. one pt to another
without nervous connection - as pain in
shoulder in dissecⁿ of liver - pain in leg
fr. cramp in trunk &c. & unperceived glen
from dis. in testicles.

Secretion

Secretion liable to derangements thro.

Food & respiratory sys. Opium checks secretion
codine & quinine increase - Mental inf.
affect secretion - as joy & grief.

Excess. secretion will weaken sys. from
deacn of blood - weakn at all prop.

Organ the which it is secreted
& its secretion. Excess secr. depletion
& evacuant. Remedies wh^{ch} increase

secretion often likely to afterwards
lessen them. Another plan is to empty
them. which causes various excretions.
as acting on skin or kidneys in
diarrhoea. Defec. secretion may
orig. to a weak^d state of ^{whole} circulation
- to fluxes or passions - to agencies wh.
increase cont^d of fluids. Defec. may
prove injurious by being ret^d in system
or from weakening body -

Remedies - depletion, derivant - acting
on a vicarious organ; for some
organs. we have specific ^{stimulus} ~~remedies~~
as Mercury for liver - Aconite for uterus
not to be used to excess - Remedies ought
to be alternated.

Booth exam. & defec. secret^a may b. pursued

as prominent qualities of mother's milk

Yellow { defec anemia { general { partial { Hemorrhage
in { excision { general { with motion { chronic { flux
in { Hypertension { local { increased { diminished { or
circulation { Peithon { local { with motion { diminished { dropsy
line { Peritonitis { with motion { partial { increased { inflammation



Tuesday 10th May 57

Blood furnishes nourishment for all parts of body & is channel by wh. effluents ^{made} is

Carried out of the system. Sanguiferous

Men of sanguine temperament } of lymphatic

Sanguine

Lymphatic

Water —	786.584	800.566.
albumen —	65.850	71.781
Blood Cor. —	136.497	116.667.

Women do

Women do.

Water —	793.17	803.710.
albumen	71.264	68.660
Blood Cor.	126.174.	117.300

In fatal quantity of solid matter much larger.

(1) Abnormalities of excess or deficiency ^{or perurgin} of the elements of blood.

(2) Abnormalities of blood due to re-
secretion.

(3) Abnormalities due to mal assimilat.

(4) ————— to introduction
of foreign matter into lungs &c.

(5) Abnor. due to hereditary causes.

Fibrine of blood may range from
2 to 3 pts in a thousand.

Red Corp. p. 110. to 152. — 1000

Solids of Serum 72 ~ 88 — do

Water 760 — 815 — do

(Abnormalities of Elements of blood)

Excess &c.

Fibrine. without a due prop^y of F. blood
cannot circulate properly. or injuries

cannot be repaired. Excess of Fibrine
or hyperplasma exists in inflam. dis.
in Rheumatism.

7 Pts. in a 1000 of fibrine in inflamⁿ.

10.2 ————— in Rheumatism

9.3 " " in Bronchitis

10.5 " " in Pneumonia

5. P. ————— in Pleurisy

7.2 ————— " Pericarditis

7.3. " " " Erysipelas

4.0 ————— Crude tubercles

4.5. ————— tubercles again, softer

Bleeding does not diminish fibrine.

Table of effects of bleeding in diff. fibrine

	Bleeding					
	1 st	2	3	4	5	6
Acute Rheumatism	6.1.	7.2	7.8	10	9	7
Pneumonia	7.1.	8.2	9.0	10.		
Peritonitis	3.8.	4.7	6.1.			
Pleurisy, -	3.9.	5.8.				

The most effic. methods of diminishing fibrine in
veg. diet - saline aper. - Mercurials.

alkalis - & salts & iodines -

Anesthetic claps. Opium & aconite.

Cod-liver oil said to have some effect.

Defect of fibrine indicated by non cong.
state of blood: & want of firmness in
clot. Deficiency of fibrine indicated
by hemorrhagic spots on blood.

Wounds do not readily heal when
fibrine is deficient.

Remedies for defect. fibrine.

Treated by generous diet - sh. amount
of meat esp. bread & a due supply of veg.

limes Ju & min. acids -

Exercise sh. In moderate: so as not
to diminish fibrine.

4589

4589

4588

56789

effusions of fibrine may be converted into
cartilaginous phans horns, corns,
a fatty or osseous. (scrofula)

Remedies for aplastic & Paecoplastics
Gen. diet. tonics - alkalies - Cel-
lular oil. 58954 5458989

Red Cor:

67890

Causes. Flood simply. Red lips chaps
& gums. all funct. in an excess.

Causes of corpuscles in fevers - Excess
of Red Cor. precursors to congest. apply
Remedies. Blood letting - must speedy.

Cure - as in apoplexy: Colchicum. veg. dis-
section. issue. saline purg. Mineral
waters.

Mem

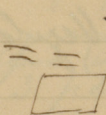
Little Homer in America

Gom dis
dunk

Stella

+ Empress

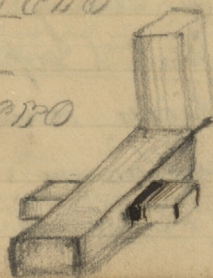
Morrison



Nero

Nero

Nero



Wednesday 11th Mar 57.

Red corpus. defic. in persons of lymphatic temperament. also in loss of blood, in disformed chlorosis: in all scrupulous. in disease of spleen - aff. inflammation in Bright's disease of kidney. Persons whose blood contains too few red corpus. clts. pale sallow complexion. Diminished heat of body &c. palpitation & dyspnea.

Remedies. 1st Fresh air & exposure to light: Nourishing ^{broth} meat ^{a hony} phos. & iron Tonics; also Cod liver oil.

Influence of iron: in one case Corpus. started from 49. to 64: in another 46 to 95.

Reversions Allocations in Corpus. occur in senary. der. of spleen. ^{Revers.} salivary. in malignant diseases & typhoid fever. in senary: Remedies. Vegetables & veg. acids.

White Corpuscles

Recess occurs in persons suffering from inflammation: & in white cell blood disease wh. arise commonly from enlargement

of spleen, liver, or lymphatic glands.

Rem. Iron tonics - exposure to light & fresh air.

Albumen

Prin. Cons. of serum of blood - s. g. 1.028.

Excess of alb. exists in influm. ac. Rhe.

Matern - Apoplexy - Pneumonia. Purp.

Remeris. Depletion & vegetable diet.

Defective alb. observ? in diff forms of
^{in diabetes & wasting diseases}
Chrominaria - in Engl. dis. &c

Rem. Depend on Cause - if depends ^{on} dis-
^{12 pt in thousands, s. g. serum 1.190}
²⁸⁰

ease of Kidney - that shd be removed.

& great attention paid to skin - when defic?

Tonics. Cod Liver oil, Gum &c.

anew from ulcers &c. discharge lessened.

^{night. impur. Tonics. C. L. O. Gum pure air diet.}

Oil

oil or fat derived from fatty articles of food.

oil when? to generate heat of body. & nour.

ish news: excess of fat produces obesity

or bilious derangement. Mean quan.

of fat ^{in healthy blood (by analysis blood 3.2 in thousands}
2. to 3. pts in a 1000. Quantity

of oil or fat in blood increases after food.

Rem. for excess - deficiency of fat in food

& exercise

venous b. cont. more fat than arterial
& of women more than men.

Deficiency of oil in cases of emaciation & inanition.
1. *Intest. mesenterica*. Begerud & Roder after 1st & 2nd bleed
1.54 after 2nd 1.442. after 3rd 1.06. *Intest. mesenterica*
Best remedy for deficiency of fat. Cod Liver

Oil - nourishing food: + malt liquor.
Ept. Matters. *Carl. Sulph. Sod.* Iron tonics fresh an
cat. today not at all. *Wheat* *linum* *Magnesia*
Chemical Camp & apt imperfect. The Quan

of exhaled matter in healthy blood is
from .025 - to .040 in a 100.5
Spurs of rat. matters produce disease.
Salt & Water of blood

Principles - Chloride of Potass & Soda.
Laws of salines exist in blood in folles
diseases in typhus Brights & all forms
of intermittent disease - deficiency
of salts occurs in all violent
inflammation.

William Whitwell

Water.

Am't. increased by injection of l. serum
glycer. a. & l. in persons of lymph.
temp: after bleeding. a l. amt.
proms injurious to heart diseased:
palpitation. Rem. Iron tonics. Sarsaparilla
Deficiency in drinking &c. Cholera

In Erythrasma area of Ant. & Merg. - In ^{right} Colons
 to pinus & Hk draught - lemonade or lime juice 1/2 doz Pot.
 In Rheumatism fever Thursday, 12th March. ^{catch} ^{1/2 doz} ^{Pot.}

Retention in blood of elements elim^d by kidneys.
analogous (in excess) to effects of narcotics.

When partial men act as irritant on
system. Depletive purgatives + med^s wh. act
on Kidneys + skin. { When renal crage. Local or
general depletion - act on
skin + bowels - chloroform

Defective secretion of bile. skin & bowels - chloroform
Aromatic & vapor bath.
 Sym^{ts} - indigestion, growly, irritable. diet nonaromatized food.

Cancer within functional derang. or organic disease. Remedy depends on Cause.

functional exercise - mercurials, stimulation
followed by saline purg. ^{or mercurial} abstinence from
excess in animal food, fatty articles of diet & from ^{spirits &} fermented liquors.

Organic disease. Bleeding local + general.

Constituents. iodide + liquor Potass.
Nitric Acid. Taraxacum: ^{alterative course of} Mercury ^{for 300 Days} Chief.

Cutaneous secretion - (retained)

Causes Rheumat: Catarrh. diarrhoea.

+ var. skin diseases + urinary diseases

Materials wh. Cause Rheumatism.
Dr. Williams & Prout think too far as
lactic acid - carbonates effect matter.

of ~~the~~ all sections - supposed to act as
ferment for gene^l of Ethic and -

In lower forms of Rheumatism Sometimes
 Malar acid constitutes malaries, then urine alk.
 + patient very nervous + irritable
 in R. soon from remove pain + eliminat
 malaries morbi from blood ^{by} restoring secretions
 First effected by feeding ^{of purgatives} ^{Antimony} ^{acetic} lime a
 Cit. Potash for acetate Potash
 Citrus juice - lime. 2nd Opium &c.

3rd Mercury - Sarsa - R. diaphoretic + ^{saline} diuretic
 alkaline colchicum
 Cold Potash. Mineral Waters. + in chronic

Cases. Guaiac^m Salph. - Cod liver oil, warm + vapour bath
 (Small dose Antimony + Nuxom - in the vesper
 2 or 3 grs Calomel) Colchicum, liquor + acid.
 when fever runs high

Gout & common kinds of gravel
 caused by retention of lithic acid.

Maluria are generally to derangement of
 digestion + real assimilation.

Exalts of lime ^{+ urine alkaline} diathesis, abs. from Sugar
 nitric acid + enters in various comp^s with Sarsa:

small doses of Mercury: lax. senna
 salts + potash. Much nervous excitement
 tonics. Sarsaparilla - Iron

Diseases from foreign mat. in blood

May i. intrude thro lungs. skin or
 in the ingesta - + morbid elements
 in blood. (Gout caused by excess of albuminous
 food - derangement of malacoductile
 lithic acid generated.)

Remedies. 1st Counteract poison in system
 W. Whitwell. March 4th 1858

6 grs Ant Tart + 3i Sol Mer Phos - 3iv Phal

Conjunctiva clear in these disorders eye
tired. Skin of anemic patients pale,
pulse, small irreg. easily affected by
mental emotion. Gen Symptoms.
Weakness. Musculi & again - defec.
Nutrition - feeling of sinking.
Nervous system very sensitive. Mental
excitement. in some cases - exaltation
of general senses. ^{or} Point de Soufflet heard
over base of the heart.

Pathological Cause Defic^y of red corpus. &
excess of water. Fibrine of blood common,
27 Red corpus in a thousand - when 80 in a
1000. Point de Soufflet. Remedies. Anti-tonics
when due to discharge, that arrested.
To unhealthy crasis - Red-
mercury in Syph. Cod Liver oil in
Tapid condition of female organs. Tonics
& marriage. Partial Anemia - as in
softening of brain. Hypervæmia, or Plethora
heart & blood vessels distended -
sometimes flux or dropsy may be
brought on.



Tuesday 17th Mar 57

Piles caused by bluntes Curio. Rem. Cal.

Hyperemia Exempt from Tubercles
or pustular

Local, when circulation of blood in a part is diminished is always passive. Causes divide into two classes, v. b. Those that act by impeding ^{return} flow of blood, & those that get ^{directly} into the capillaries. The veins, as tumors, disease of liver & uterus may cause congestion in lungs. Effusion of congestion is to weaken the affected organ. Cerebral congestion causes derangement of mental & affections faculties. Symptoms of congestion will marked in external organs; in internal ^{very} ~~more~~ obvious seat of congestⁱⁿ small veins in part & in capillaries: Congestⁱⁿ is a passive condition & has no symptoms of acute inflammation.

Remedies depend on Cause, if arising to
obstruction that removed, if organic
dis. of heart: lower hearts ^{differs. congestive} action ⁱⁿ hyps.
& aconite. obstructed hepatic disease

Empoison from atony. Treatment varies: —
 1st. Purgs. Quinine arsenic, Min. acids. Str.
 2nd. In Empoison^{ment} part raised, various times
 supported by bandages: in Congest lungs patient
 turned from side to side.

Hemorrhage { Piles often caused by disease }
 { & its distinction }

Remedies for chronic capillary are stimulants
 Local hyperemia, Determination of blood
 a excess of blood in a part. ^{apertion} ^{in infl. hair} occurs in
 health & disease. Blushing & enlargement
 of uterus & breasts Detⁿ of blood in
 disease, as in hair, chest

Determination of blood consists of dil-
 ation of Capillaries ^{with circulation of pt increased} Dr. Chakner
 or Adant: If ^{line of} walls of capillaries cause
 enlargement of arteries or capillaries
 Remedies. Endeavour to remove
 exciting Cause. & restore tonicity of
 vessels. Depletion when determⁿ is
 combined with local affⁿ: of n^o part
 again & plethora.

Hemorrhage consists of extravasation
 of blood fr. blood vessel on a part of heart
 of walls: The exudation only Cold with
 hamaturia does not constitute hemorrhage.
 or Blk. Currant jelly.

Follos Cause of Hemorrhage.

hemorrhage from ulceration from wounds
 of blood vessels from surrounding tissues &c.

(Clap) (Clap)
 Clap Effects

Oh oh Wentworth

It may cause hemorrhage when timely
by full Certain Conditions of blood
when there is a def. of ~~the~~ fibrine in
blood. both to produce Hemorrhage
Remedies depend on Cause. epistaxis
& when hemorrhoidal discharge due to
obstruction in liver

Wednesday 18th Jan 57.

Hyperemia a excess of blood in a part
may cause effusion of lymph: termed
dropsy when it settles in certain part.
plethoric patients more liable to
thus affected. ~~Great~~ majority of dropsy ^{are passive}
Mechanical obstruction, passive congest
& detour of blood common causes of
dropsy: ^{the forcing effect from parietal uterus} distention of first tumours
on ascending aorta - & pressure
of uterus - as ex. of dropsies result
from passive congestion oedema of
lower extremities ^{by long lying} & Chronic disease.
Fluxes & dropsies sometimes alternate with
each other: Those most disposed to dropsy are
pale & muscles want tone & are lax
& when blood contains a l. quan. of Hb.

Fluxes & Dropsies

Blood affected in dropsy: ^{in eff. secretion} albumen sometimes diminished & retained secretion ^{found to} exist. Then dropsy results from Cold or Catarrh felix or active dropsy.

Cause of inflam. dropsy caused by irritating excrementitious matter in Urine which is the materies morbi. Besides a retention of excrementitious in blood there is defic. of albumen: Urthraeural gall. will aggravate dropsy.

Effusion in dropsy resembles serum in Urine. A large q^{ty}. of albumen renders effusion viscid: a mild gutt. app^t. depends on fat, dropical effus. has alkali reactⁿ.

Composⁿ of fluid from Dropsical patient

	Blood serum	Hydrate	Urethra	Urine	These are found in effus ⁿ
Water	915.0	927	958	704	sometimes 6 pts in a 1000.
alb	78.0	48	29	290	First influences act upon ovarious organs
Salts	4.2	10	7	2	
	3.8	9	7	2	
	9.0	6	8	4	

Treatment depends on Cause, secretion of skin regulated: but sp. k. persons hot dry & not liquid. Dry treatment of Catarrh - ^{Cond. for 3 days} then etheric hard pulse

{ Treatment of Dropsy. }     23/ 27/6

heated skin, evacuates, & even depletion necessary - Another class of Remedies act as stimulants

Treatment of dropsy & Kidneys

Remove, if pos., the cause of the disease: then is a defic. of urine & blood is contaminated with secretions, means bloodletting & purg. which act on vicarious secretions as diaphoretic, then L. of Opium, that removed by Theriacal purg. ^{3 1/2 to an 8 1/2 evs mod.} simplest Cream Tartar, Elettarium dose 1/4 or 1/2 gr - if patient is strong Crocus, Galap powder - a 3 to 3 ss: Gamboge. Sulphate of Soda or Glauber's Salts.

32 - Croton Oil. Skin acted upon by diaphoretic - ^{usual} in dropsy - Dover's Powder.

^{For} more spec. Tartarized Antimony in comb. with creaphia ^{or Hyogargus} repeated every 3 hour or hour: with diluents - warm baths Counter irritation afterwards advisable hot Vistiv: or croton oil.

Remember  Remember  Remember  Remember  Remember 

After applying structures employ blister if cautions are not objected.
 Proof that patient is killed - decrease of albumen & increase of urea
 Skin. diseases, ^{True} - Cantharides, digitalis -
 + colchicum, ^{part} dose - 10 m to 30 m
 then times a day. ^{Sometimes irritates kidneys & dis. of bladder & prostate} Mercury is not a
 poison in drops. dependent on dose & of
 kidney, ^{unless} in cases dependent on debility
 tonic treatment, Infus. Colub. ^{with Sola} - Prussia with ^{oil of} Sassafras
 Potass. Sulphate iron -
 alternate osmedes.
 per. from purg. to diaphor. & to diuresis
 Thursday 19th May 57

(1) Devo. of - Effluvia ⁱⁿ Tars. with vit. acid
 Symptoms of inflammation: May be ^{free into Grease Taint}
 divided in general, local, & constitutional.
 1st Affect whole system.
 2nd Alteration in color, size, & modification
 in sensation. increase of temp: & change
 in part affected. Const. severity depends
 on intensity of disease.

Pathology of inflam.
 Precise nature here ^{always} a subject of inquiry.
 At present (3 theories)
 1st Attracting neuropathological
 2nd German 3rd Abnormal. Nutritive
 theory. Appearance of inflamed part
 with ^{microscope} 1st Circulation of
 Capillaries ^{& Venous blood then there} ^{there} & blood.

Inflammation -

1. Arteries 2. Veins 3. Paget.

Grav. Kinn, of blood. 2nd Dilatation of
 capillaries + retard; of blood 1 3
 Stagnation. 4 Increased production
 of white corpuscles: which statement has been
 denied. Paget + Bennett think there
 is not, an increase of Wb. Corpuscles.
 in part unless there is an increase
 in whole system. Dilatation usually
 affects ~~Arteries~~ arterioles capillaries + veins.
 (Arteries become) Vessels with blood + up corpuscles in excess.
 Pain owing to pressure of dilated blood
 vessel. Tension pain + swelling

Stagnation
 Congestion
 Detritation

3rd Theory is Paget's.

4. Inaction - ^{normal} Regular cond: of blood
 natural state of parts Wb nourished
 to state ~~in~~ const: of blood. 3. proper
 nervous force 4. Natural state of parts
 3rd Theory seems best. Wb nourished

Stimulation is a vital force - even deficiency of percussion
 may cause inflammation.

Αἰσθητικὸν καὶ κινητικὸν τὸ σῶμα ἔχει

Αἰσθητικὸν καὶ κινητικὸν τὸ σῶμα ἔχει

For	For	For
For	For	For
For	For	For
For	For	For
For	For	For

Ko Cy + Fe Cy

Ko Fe Cy

Inflammation,

Mar 22nd 1859

Friday 20th Mar 59

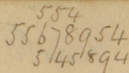
All causes of inflammation tend to depress vital action: or focus exertion in affected part; this is abnormal nutrition theory. A change in quality of blood either produces a deficiency or excess in blood & abnormal quality of blood from such diseases as small pox &c: &c:
The Inflammation tends to depress nutrition of part affected.

Effects on blood, are increase of its fibrine & a slow coagulation of fibrine disportion of red corpus to aggregate in mass & then mass collect in masses, & also accordg. a ~~large~~ increase of white & decrease of red corpus.

Terminations of inflam. Effusion, Ulceration

Resolution, Gangrene

Inflamⁿ of ^{mucous} membranes has some effusion of coagulable lymph. but generally terminates in ulceration & gangrene.



sthenic
asthenic.
congestive

{ acute
subacute
chronic

Croup { apthous
 { diphthoric

To morbid poisons in the blood
generated by ret. secretion
or Commun. by Contagion

Gouty
Rheumatic
Erysipelatous
Typhoid
Eczematous

Mercurial, arsenical &c.

{ 1. Small Pox
2 Chicken do.
3 Scarlet Fever
4 Measles.

{ Syphilitic
{ Non-heal

Treatment. Remove exciting cause, if possible: prevent all circumstances that tend to rights or keep up inflammation. Position important - antiphlogistic regimen. & avoid all exciting circumstances.

Endeavour to produce resolution of inflammation if not possible - conduct suppuration if it has set in to a successful termination

External. 1st Blood letting { General
Topical

1. General, Venesection, Arteriotomy.

2. Topical. Cupping. Leeching. Scarification.

2. Division of part { Terebinth
Turpentine
Eucalyptus.

3. Cold lotions

4. Iodine. 5 Rubefacients. 6 Cataplasms
Water dressings. fomentations, &c. &c.

Internal.

Emetics { Antimony
Ipecac
Squilla

2 Purgatives

3 Diuretics

4 Diaphoretics

5 Sedatives { Antimony
aconite
digitalis
Colchicum
&c.

Alteratives { Mercury { act by diminishing fibrine & coagulability
Alkalies { lymph before any false membrane
Iodides { is formed.

Blisters & Rubefacient applics to chronic
affections, Cataplasms & fomentations act by
relaxing part.

Structural disease

Diseased
Nutrition

Increased { Hypertrophy
Diminished { Atrophy

Proteins

{ induration
softening
Transformation
Deposits
Degeneration

Deposits

{ Euplastic { Crystals
False membranes
Cacoplastic { Scrophulous
Fibrous Cartilage

Arteriosclerotic
Grey Tubercle

Dr Bentin of London
high 40 Cases of
Hydrocephalus cured
by L.P. 2 grs. 4 grs.
to 100. Dr Fraser
1 gr. old child. 1 gr
long held down. 4
days child cured.

Aplastic

This day 24th 3rd

Aplastic { Yellow Tuberc. 2
Calcareous matter.

Growth { Non malignant, Cysts, tumors. &c 2 34567
{ Malignant, Cancers.

Hypertrophy - denotes excess of nutrition, organ augmented in size, & in 3 ways. -

(various) Simple^I Complex^{II} Centric^{III} or concentric^{IV} & eccentric. When it affects one texture only - Simple - enlargement of any organ without any particular change in its structure. ^{as} unkn^{own} man's arm &c.

Complex when

Concentric when walls of hollow organ increase in thickness at expense of its cavity. Eccentric increased thickness of walls of hollow organ with or without dilatation of cavity. Causes. 1. Frequent & increased actⁿ of an organ, in the normal & abnormal functⁿ or existence of mechanical. 2. Long contⁱⁿ influence of morbid stimuli 3. Increased

1st occurs in Voluntary muscles. Increase
of function leads to augmentation of vol. R.
Not confined to voluntary muscle only.

Palpitation of heart may bring on hypertrophy
of that organ. Most frequent causes of
hypertrophy of heart is a prolonged
action. To laceration of contents.

ossification of arteries. in intestines, gall
bladder, urinary bladder when hypertrophy
runs on apace of stricture in the urethra
2nd Cause long cont. influence of morbid
stimuli: Met with in

brain-nerves & ganglia. Arterial congestion
Hemorrhage, tubercles. Arterio-sclerosis

Rammosciment. Thrombosis, abscess.

Friday 27th 1854

Softening from inflam. May occur in any
tissue or organ. Depends on a diminished
supply of blood & absorption of discharge
Appearance depends on Cause, 1st
stage of inflam. softening Central sub cut
broken down. Softening or Rammosciment
may. Pale softening result of hydropcephalus
ferr or obt. of arteries. on apace of stoppage
of blood. Inflamm. softening of mucous mem.
W. D. Thor

N^{rs}N^r

is characterized by opaqueness & thickening of mucous membrane & not admitting of traction. Occurs most frequently at *Staphylococcus* infection in *Scum* & *Cocum*

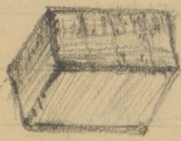
Cause - obliteration of arteries - most frequently met with in *hau* & in advanced period of life. 3rd Cause ^{of clumping of} deficiency in blood a mal Crasis of blood.

Treatment. Increase plasticity of blood & alkali blood to part. antiphlogistic treatment ~~continuously~~ soon after onset & of blood after later. pericarditis nutritional means: potatoes Corn grain &c contain a lot of phosphorus. - Donica Nitric Acid & Chlorate of Potash Supply to blood Oxygen necessary. Prevent air R.

Treatment for mottles Dr. R. tonic & generous treatment. Rickets, hills - gentian, soda Cor Acid - ~~oil~~ iron. Lime Water found useful. Softening from Chemical action of gastric juice first made known by Hunter. Denied by French Phys^{ts}. Reg^d that a healthy man ^{to kill} ~~die~~ in medicinal after fall ^{meal} ~~moon~~

No Cartilaginous Monday April 6th
 Tuesday April 7th
 Wednesday April 8th

Cutilag. human. occur rarely in soft
 tissues. - Example of abnormality in the
 April 1st 1857 Scherer's Ultimate Analysis Wednesday 1857

Protein	of	Tuberc
C. 55.742		33.888
H. 6.826		7.112
N. 16.143		17.232
O. 21.228		2.767

Lieber's formula for Proteins C. N. H. O

do for tubercle - 48 56 6.14

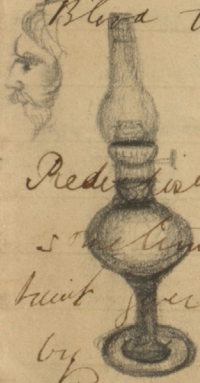
Tubercular cases due to excess of acidity &
 deficiency oil. Dr. Bennett's theory -

Robertson regards tubercles as modified
 of fibrinous crasis. Prynaway relates tubercle

to be too rich in carbonaceous hydrogenic

Thursday April 2nd 1854

Predilection. Tubercles generally hereditary, but
 sometimes acquired - between 20 & 35
 most generally shows itself. Tubercles induced
 by



Transformation of Tissues 28

As when gelatinous tissue is transformed into bone. 1st Cellular 2 Mucous 3 Cutaneous

4 Fibrous 5 Cartilaginous 6 Bony 7

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Tubercles

Friday. 3rd Apr. /57.

Remedies, Cod liver oil increases red
Corpuscles of blood. None, "Prophylactic"
"Curative" - "Palliative" Cod liver oil contains
large quantity of carbon-compound & with it
other oils. This is prophylactic treatment.

Curative Remedy. Various agents. Reducing
alterations - (Mercury) 1st Superior Cond. Hux.
2nd Remove deposit, 3rd & prevent its renewal.

For first, iron - Cod liver oil & nutritious food
& necessary change of air &c. Palliative Treat-
ment - Camphor, infusions of hops, opium
& creosote & strong expectorants &c. &c.

Growth or Tumours -

Tumours are morbid growths distinct from
additions to natural part.

No Cartilage Case Monday April 6th
Tuesday April 7th
Wednesday April 8th

Cuticle, human. occur rarely in soft
tissues. Example of abnormal growth of
bones seen in 3 forms: 1st Entero
2nd Altimeth 3rd glandular. Treat.
meat. excision. Or excision excision

Excision. Excision glandular
deleterious deleterious glandular



glandular glandular
glandular eruptions
Condiments of the skin
Condiments eruptions

Condiments eruptive
Condiments Condiments William
I Indeed Indeed Mr Thysan
Montreal Montreal



Illus

William D. O. Whitwell
William D. O. Whitwell
William D. O. Whitwell

Cancer

Thursday. Oct. 7th 1854

Schirrus cancer - distinguished by its hardness, irregularity & liability to lancinating pains. Tubercle, when it occurs as solitary usually rounded & smooth. Cancers, vary from pea & nut size up to cartilage size from mustard seed to child's head usually size of orange. Infiltrated usually found in the Schirrus is found in uterus ^{solid} & in bone ⁱⁱⁱ Laminated, on mucous Membranes stomach & bowels. Section of Schirrus ^{Cancer} present vacuolar, color - ^{white} fluffy when juice has accumulated like a jelly. Microscopically ex: - granular granular corpuscles & Cancer Cell distinguished. Cells either spheric fusiform. Localities of Cancers ^{Mode of Cure}

- | | |
|-------------|-----------|
| 1 Uterus | 11 eye |
| 2 Stomach | 12 Jaw |
| 3 Breast | 13 Brain |
| 4 Liver | 14 Testis |
| 5 Neck | 15 Lips |
| 6 Intestine | 16 Vagina |
| 7 Bladder | |
| 8 Face | |
| 9 Ovary | |
| 10 Tongue | |

- | |
|---------------------------|
| 1 Cicatrizing |
| 2 Resolution |
| 3 Metastasis |
| 4 Alteration of Structure |
| 5 Suppuration |
| 6 Modification |
| 7 Suspension of Progress |

Favorite Beverages

Fibrine 1
H
O
O
P
S

Fibrine
Hydrogen
Oxygen
Carbon

Thursday 9th March
Tues. in Cut

O. in blood
Corpuscles

Phosphorus
Sulphur
Oxygen
Corpuscles

Skin ~ 11th March ~

Henry

~ 1858 ~ Thursday ~

William

William P. O. Whitwell

Philipsburg

St Armand West
Missisquoi Co:

Canada East

William Whitwell

15th March 1859
1859 1859

Philipsburg
Lower Canada
e" e

Mr. A. Merridale

Nehemiah

I Israel Peter

Olcott.

Urethra from 7 to 10 in ^{length} Peritatic Membranes & spongy portions of Urethra

Pat

local seplet.

Salix alba
typhaleum

Lyopentum

Synthesis

Eden

Spanamia Hyperaemia.

Anaemia

Anæmia

S. Syrup

Hæmaturia

Sthenic

Hæmatemesis

hemorrhages.

Hæmoptysis

Epistaxis

52

Synt,
Sagatha

Leucorrhœa

Sagatha

Gonorrhea

Scurbution

Spermatorrhoea

Scorbutic

Glenorrhoea

diarrhoea

Synt-thesis

Cystorrhæa.

otorrhea

amenorrhoea.

dysmenorrhoea.

Wednesday

Wednesday - March 10th 1850

In pulmonary hemorrhage our guide should be
quantity of blood in circulation & pulse

In full patients bleeding; in anemic patients
reoults^{not}, sedatives, astringents.

In hemorrhage upon brain always bleed -
when hemorrhage arises from rupture of artery
diminish amt. of blood - In hemorrhage from
head - reoults to put - purgatives - bleeding
scissors. In hemor. from ulcers - cold
salts & int. - styptics - dryd eye - plugging
vagina. When part from the hemorrhage process
is within reach or sight

Hemor. from bowels molans sometimes checked
by Hy. & Saliva purga. with zinc. Hemor.
from nose checked by local bleeding - ^{Temperature} fallen and
Hemorrhage sometimes treated by
Great mag. of deposits are possible



Physiology Pathology. Tuesday Mar: 15th 1858.

Hypertrophy Pathology

1858

denotes excess of nutrition or of normal growth of organ, without any

Not always ^{b.} enlarged - may b. hypertrophy without being enlarged - a hollow organ, as heart by deposⁿ of muscular fibres in muscular part from internal portion: or wall may b. hypertrophied, at expense of another.

Organ may b. increased in density - as in bone cancellated structure disappears & is replaced by compact tissue.

1 Simple 2 Complex. 3 Centric or Concentric. 4 Eccentric.

(i) When it affects one organ - working ^{arm} trans heart same affects heart:

(ii) When an organ comp^d several tissues is hypertrophied in all them as bladder or stomach

(iii) Designates that four of th. in which walls of hollow organ as heart increase at expense of its cavity supp?

(iv) Increase thickness of walls of hollow organ with or without natural enlargement of its cavity.

Hypertrophy with dil

Causes. 3. (i) Increased action, frequent use
or any mechanical Obstacle existing to free^{ness} of organ
2. Long cont. infl. of morbid Stimulus
3. Materials in blood which nourish any
particular organ.

(i) Palpitation of heart from morbid Cause may
~~depend~~ on lead to hypertrophy of that organ.
Mech^l Obstr. - as aneurism of aorta - greater
port. of heart reg^d - tumors & excesses on
pulmonary veins - Structure - causing gr. Extension
of muscular coat of bladder in structurating
Hypertrophy may b. in extent as in bowel
without thickening. Abstract of gall
duct = hypertroph. gall bladder.

ii Occurs in states of irritation & ^{chronic} inflammation.
Pneumitis causes hypertrophy of heart.

The skin - or glands or mucous follicles - in Heart-bladder
tone - as in chronic & phthisic pericarditis.

Congestⁿ or chronic irritation of lobular organs as liver

iii. Enlarg^t of adipose tissue by ingestion of fatty
matter &c. of ^{implantⁿ} secreting organ. of ^{as} kidneys or ^{are} lungs
^{when this is} diseased.

Treatment. Depends on Cause. H. of voluntary
Org. and this known infl. or Condition of blood.
Of heart from 1st Cause - counteracting & strengthening

sedat. - aconite - digit. - belladonna. hyoscyam
hydrocyanic acid. Cyanide Potas - units
generous diet.

In persons who are nervous & where blood is
deficient in quality sed. & tonics. In others.
Blood letting - vegetal. diet - Tric Aconite a digit.
Mechanical extracts - sh^d. be removed -
if possible - when they reach - palliate -
in intestinal disease - contents of bowels sh^d.
be kept as soft as possible.

Obstructed Cardiac disease - 2 plans
of treatment - ^{latruga} Sanum - 1 - ^{associated anem.} Hope, repeal
general bleeding - Latham - Conize - Stokes
reg^d h. of h. to arise from obstruct^d accommod
generous & suff. diet - of animal & veg. food
& diminish quantity of liquid - no
liquors used. - Leeches & blisters app^d if
there is no tendency to anaemia.

Sedatives & tonics - Counter irritation -

Tonic Dose & Dose - Sedatives as above.

Shall be recommended

When hyper - depends on Conjunct. irritation
or chronic inflammation. Local depletion
ecceumats - low diet.

When it depends on material
regimen & evacuations

Tubercles

Thursday - 23rd Mar: 1858

1858

Causes? as result of fraud^a of liquor & drugs, from blood which never proceeds beyond lowest development. at which it endures a longer or shorter time & then undergoes decadenence. Supposed to be secreted in fluid form.

When tubercular crisis is very great exudation may take place ^{with} without any warning & incessantly but generally ^{with} hyperaemia & congestion of lungs; sanguine & phlegmatic temperaments both liable. Scrophulous diathesis liable: young children scurvy on corners of mouth, behind ears - foul axillae, skin in closing.

Stent of plasma increased & red corpus. Increased.

In last stage of disease plasma becomes poor - generally at maximum when white symptoms most prominent - Some have noticed decrease in oil of liver - Exudation of plasma prone to form deposits - to peculiar form of tubercles - by its not undergoing metamorphosis of true plasma but remains in crude state - According to Broust defies softening due acidity of stomach & fatty matters not cumulated albumen absorbed but not uniting with suff. oil in lacteal vessels & hence puscles &c not formed; but objection depos of oil not formed on analysis. According to Agard tuberculous cases as common - tubercles also composed of plasma - Venous or hydrocarbonaceous contents of blood opposes formation of tubercles. Broust too much in his hypothesis, too poor in Respiratory food. according to Broust & Rokitansky.

	<u>Fibrine</u>	<u>Red Corpus.</u>	} The blood (1 st Stage) of Consumption.
Male -	3.57	116.53	
Female -	4.52	129.26	

Wednesday 24th March 1858.

Causes of tubercles - congenital & hereditary - greater when both parents are affected - age climate more glass - employment & disease concerned - age - children - milk & early malnourishment after 35 predilection not so great. Climate - In large cities 1/5 of entire mortality - a cold climate more liable to bring disease into activity - Cold & wet climate most favorable cold, dry, equable ~~least~~ climate least liable to cause disease - Those who move from warm to cold climate liable to the same disease. Tubercles may be induced by confining animals & giving them poor diet - scanty clothing - over fatigue want of proper exercise

Scrophulous disease leads to tuberculous dis. at periods of greatest activity. Phthisis is essentially a disorder of youth - when new tissue are being formed: Diminish the quantity of food taken by children & scrophula liable to result; immediate cause according to Bennett displacement of nutrition in stomach. Boy Conf. in right chest opened on pure diet in 3 mos. Phthisis pulmonalis came on. (Bennett)
Frequency of tubercles in 388 cases. in various organs.

I Lungs II Small Intest. III Large do IV Mesenteric glands.
V Cervical do VI Lumbar do VII Prostate do VIII Spleen.
IX Ovaries X Kidneys.

In 314 Children under 15.

Lungs 265 - Bronchial - Mesenteric &c, &c.

When first effused tubercular matter is soft - becoming firm in time is removed & crude tubercles are then formed.

When tubercles exist in excess tubercles press on one another - & inflam. soon produced - When much separated may remain latent for years. Mode of Tubercles

- i Softening - ii Absorption - iii Transformation
either 3 stages of Tubercles - 1st most

Common - changes in lump common at apex & less on base. After softening & + curried or Carious left.

ii Absorption called also consumption - doubted by some pathologists. Carswell - has proved

tuberculosis in Rats & caused them to be absorbed again. (Const. heat: most efficacious.)

Scrophulous swelling in necks removed by absorption & R

iii Calcareous or Sandy transformation - occurs where tubercles are Curdy & have come on slowly & cause no great trouble.

Treatment i Prophylactic ii Curative or palliative

1. Many are predisposed by hereditary - disease. Consumption or dissipation. In such cases Hygienic Remedies good food - pure dry air - & light - & looses (crude malt liquor - alcoholic. Cod Liver oil change of Climate

1st Stage before use of C.L.O. { Female 129.26 4.82
do after do do { male 116.53 13.57
F 136.47 5.
M 141.57 14.

	C	H	N	O
C.L. oil	80.18	13.72	0.240	5.859
Neatfoot oil	64.33	12.50	0.064	23.106
Cocoa Nut do	69.62	12.49	0.060	17.83
Olive oil	69.38	13.47	0.058	17.090

Comparative value
of C.L.O. & others
in Carbon.

As seems Condⁿ of blood counteracts Phthisis. C.L.O. helps
rich in Carbon

Curative treatment of tubercle - Friday 26th March

Caused for when tubercular matter is formed
Indications & Improve Condⁿ of blood & promote
tubercular to be absorbed - 3. Prevent recurrence
of fresh deposits & Saline inflammation & supp.

1. Nutrition - & fatty articles of diet C.L.O.
& respiration of good dry air.

Milk - cream - butter - fat mutton - pork chop
& mutton when C.L.O. disagrees - marrow
of buffalo & Cocoa nut oil. - When oil irritates
may be inhaled by friction & Clysters
Best plan to raise standard of patients health -
equally effectually

Small doses Antimony or Aconite if inflame
or suppuration of v. Small blisters (below
subclav. lig.) Turpentine & acetic acid
luculent. Cold sponging with friction
constant friction of parts - where there
is any attraction.

3. Prevent recurrence of fresh condations.
effected by avoiding all circumstances likely
to produce pulmonary Congestion &
insane nutrition of lungs & live
in equally climate. Food, Clothing,
Exercise, purity of air & secretions (from
skin particularly) extreme cold & thin
persons resident in this country should
remove to warmer climate in winter.
Cold & damp produce congestion of lungs
check secretions &c. (See) when air is 60° &
damp & air in lungs 60° penetration of base of

A calm atmosphere not so favorable as heavy one
as insensible perspiration

Residents of Northern climate, if disease is not
too much advanced & passing from cold to warm,
Upper Egypt & S.E. Spain are best - nice
Mallorca - Naples - W. I. Islands & Cuba
Hot & moist - Cuba best in pt of climate
but worst in regard to food & society.
Sea voyages are often beneficial, when
symptoms not urgent - if less strength
is not much diminished - & not objection
to monotonous life & when sea sickness
does not reduce them much.

Land travelling thro' agreeable Country
favorable to Consumptives: suitable
weather & easy stages - Residence
at mineral springs: (chalybeate)
blood renovates thereby.

In this Country where patients cannot
leave - keep house during damp
months but during dry use respi-
rator.

Palliative treatment.

Remedies for Cough - haemoptysis, night-
sweats & diarrhoea.

Cough. Sedat. expect. & Counter irrit.
Opium - hyosc. acicnt. con. belladon
hydrocyan acid - Inhal. of Chloroform
Euphr. Calamus: Symplic. creosote.
ipecac.

Rhine ptysis - Hg. ^{Inhalo warm water - Turp.}
acetic - camphor. chloroform
So & Acetic & Gallic Acid. - some time

Hg. with 3 or 4 extract Hg. & a Conium
a little lemonade. lie on hand bed
& light covering.

In dianhua wild-rice. Corn stalk.
(astury). ^{Sulph} copper, chalk, as much.
Tumors ^{logwood} Friday autopsplumbi

Malignant growths move in ab. They are not
well understood - pure blastoma
(tumors) always result of perverted growth
or nutrition - mechanical injury - local
inflammation cause blastoma like
thrombosis - Tumors divided into
i Analogs ii kengu or iron malign. iii hetero-
dyns or malignant. (later i semi-
ii malignant or malignant).

Non malignant - don't spread.

(Papth) Cysts ii solid tumors.

Tuesday - 30th March 1858.

Non-malignant tumors

2 Classes i Cysts ii solid tumors -

Simple Cysts into i serous ii synovial iii mucous
or sanguineous. Cysts containing oil, Colloid, Seminal.
Compound Cysts i Cysts with other growing on their
walls ii Cysts containing vascular growths.
iii Cutaneous & polyphorous iv Dentiferous.
Simple c. contain unorganized fluids. Compound
contain various organized bodies.

Cysts arise in 3 ways: i By enlargement of
spaces in certain tissues & their fill with
fluid & wall forms around them. 2 Dilatation
& growth of ducts as tumor from hair follicles
3 By growth of some formation containing
cells as thyroid glands, breast &c

iii Uterine in vagina of female

iv Sanguineous - met with in all situations where
serous cysts are found.

v. C. containing oil.

colloid - could jelly like substance in breast cells
& kidney. vi Seminal, &c in

Treatment Removal of growth or open it

or puncture it & inject Dr. Ross. or puncture & express its contents & use pressure or use pressure alone.

^{Hol}
7th April. Holy Thursday - 1858

Tumors

Osteos. Carcinoma, osteophytes, osteoids.

Carcinoma osseus tumor proceeding from bone a pedunculum from ovals - round or spiculous more larger than hen's egg.

Septum - wing to point of calcareous texture should be chiseled off - firing performed in bones - Osteophytes - coral shaped -

Chondroma thrown out to repair tissue broken - called osseous bones in

cutaneous - osteoid tumor called

Cancerous. v. large occasionally not known whether benign or malignant

Dr. Fells receipt for Cancer. Fells

R. Sang. Canad: 3ss ul 3j

Chl. Zinc: 3ss " 3ij

Tr. Aqua - 3ij

Mix. Pour q.o. Mince apply as paste.

Dr. Sang. Dr. Sang. Canad. internally -

Fells. Recept. for Cancer Cancer Cancer

Inserted on Monday - Apr. 12th - 1858

finished with a Sea on above

{ Cancer }
{ Cancer }
{ Cancer }



Shoals in Physiology
Nov 7 1857-8

April M

May

1 Duhamel A. 7 Odea

2 McCutish

3 Gerona

4 King

5 Reine

6 Robtaille

7 in Gibway

8 de Clair

9 Surgeon

10 Thayer

11 Mactlem

12 Gibson

13 de Kilham

14 E. Smith

15 Ault

16 Kuler

17 Carrol

18 Quater

19 Truault

20 Anderson

1 Stevenson

2 Hamilton

3 Whitcomb

4 Bruce

5 Duckitt

6 Lindsay

7 N Smith

8 Ramsay

9 Mann

30 Chesley

1 Fraser

2 Ferguson

3 Carter

4 Mulford

5 Bogart

6 Robillard

7 Campbell

8 Bowman

9 King Mm

40 Phillips

1 Roberts

2 Pickup

3 Bellershy

4 de Indian

5 Coleman

6 Buchanan

8 Warren

9 Hudson

50 Tait

1 Duhamel

2 Cavalier

3 McLean

4 Arguemet

5 Pelovny

6 Murai

7 Kenif

8 Whitace

9 Gurell

60 Burlingame

1 Ryan

2 Sutherland

3 Robinson

4 Methusan

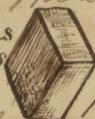
5 Henry

6 McSwen

7 Goddard

8 Hall

acids
acids



warehouse

city

on Bailey Cooper

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1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 191

or puncture it & inject Dr. P. Q. W. L. L. L. L.
express its contents & use
pressure alone.

Tumors

Malin Aladen

Cramp

Cramp

Cramp

Cramp

Cramp

Cramp

Osteos. Carcinoma, or
Carcinoma osseus tumour
a pseudotumour form of
osseous tissue than the
Epithelium - wing to prove
should be Christened
in bones - Osteosarcoma
Osteosarcoma tumour
broken - called
Carcinoma - Osteosarcoma
Carcinoma. v. large
Known whether

Dr. Fells receipt

Dr. Sang. Canad. 3.00

Chl. Zinc. 3.00

For Aqua - 3.00

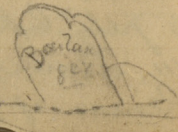
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Dr. Sang. Dr. Sang. A

Fells. Recpt. for Cancer Cancer

Inserted on Monday - Apr. 12 - 1853

finished with Osteo on abo



Nov. 1856

Nov. 1858

Students in Physiology

- | | | | |
|---------------|---------------|----------------|----------------|
| 1. Henry | 24. Sawyer | 47. Anderson | 70. Miller |
| 2. Cunningham | 25. McLean | 48. Emory | 71. Gerow |
| 3. Kerr | 26. Agnew | 49. Chevalier | 72. Bowman |
| 4. Shaver | 27. Curtis | 50. Smith | 73. Lyons |
| 5. Bogart | 28. Prevory | 51. Wilson | 74. Oden |
| 6. Robtson | 29. D. McLean | 52. Hurlbert | 75. Patterson |
| 7. Reid | 30. Warren | 53. Myranda | 76. Thayer |
| 8. Campbell | 31. Ault | 54. Robtson | 57. Stergnall |
| 9. Hamilton | 32. Coleman | 55. Robtson | 58. Stergnall |
| 10. Bulleyn | 33. McPherson | 56. Macklein | 59. Whitwell |
| 11. Lindsay | 34. Hunkin | 57. Carroll | 60. Philipburg |
| 12. Burnham | 35. King | 58. Hackett | 61. Missisquoi |
| 13. McIntosh | 36. Whitcomb | 59. Bondie | 62. L. E. |
| 14. Dinkell | 37. McGushin | 60. Stephens | 63. St Armand |
| 15. Seclair | 38. O'Leary | 61. Nielson | 64. W. W. |
| 16. McGee | 39. Powell | 62. Gunn | 65. Esq |
| 17. McMillan | 40. Barcom | 63. Pickup | 66. Boulanger |
| 18. Du Hamel | 41. Tait | 64. Filicathot | 67. Hall |
| 19. Taylor | 42. Howard | 65. McGary | 68. Sherriff |
| 20. Duncan | 43. Patten | 66. Boulanger | 69. Mann |
| Robbison | 44. Mason | 67. Hall | |
| Bronegan | 45. Shabottan | 68. Sherriff | |
| Rich | 46. Wilson | 69. Mann | |

March of 1856

~~Jan 29 1856~~

Jan 29 1856

Jan 13

Jan 13

Jan 13

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Mr

Charles

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Nov. 1856

Nov. 1858

Students in Physiology

1. Henry 24. Sawyer 47. Anderson 70
2. Cunningham 25. A. McLean 48 Emory 71
3. Kerr 26. Ayrean 49 Chevalier 72
4. Shaver 27. Carter 50. Smith 73
5. Bogart 28. Prevory 51 Wilson 74
6. Robinson 29. D. McLean 52. Hulbert 75
7. Reid 30. Warren 53. Myrland 76
8. Campbell 31. Gault 54. Robtault 57
9. Hamilton 32. Coleman 55. Robtault Jr
10. Balguy 33. McPherson 56. Hacklein
11. Lindsay 34. Hunkin 57. Cornell
12. Burnham 35. King 58. Hickok
13. McIntosh 36. Whitcomb 59. Mordie
14. Dunkitt 37. McCaslin 60. Stephens
15. Seclair 38. O'Leary 61. Nielson
16. McGeary 39. Powell 62. Gunn
17. McMillan 40. Bascom 63. Pickup
18. Du Hamel 41. Tait 64. Filletrot
19. Taylor 42. Hansen 65. McGary
20. Duncan 43. Patten 66. Boulanger
- Robtault 44. Mason 67. Hall
- Monaghan 45. Shabottan 68. Skemff
- Rich 46. Wilson 69. Mann