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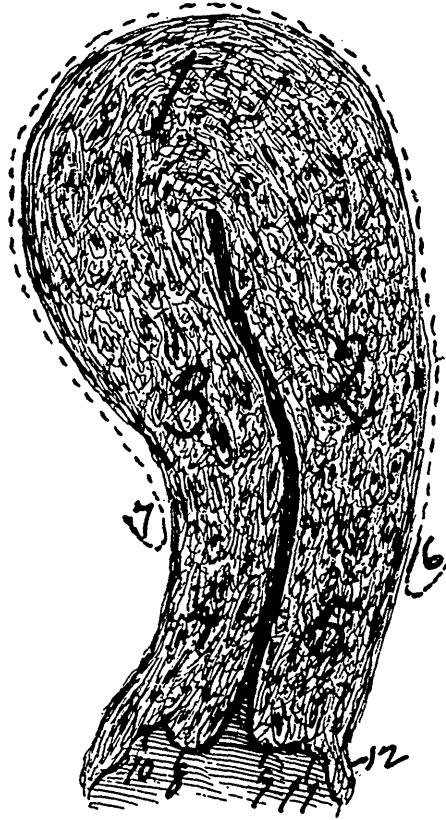
Original Communications.

LANDMARKS IN THE UTERUS.

By BYRON ROBINSON, B.S., M.D. CHICAGO, ILL.

The general functions of the uterus are: 1. Secretion; 2, absorption; 3, peristalsis (expulsion); 4, menstruation; 5, vascular ligature; 6, gestation; 7, elastic action. Vomiting in early gestation is due mainly to disordered rhythm or wild peristalsis of the uterus, owing to the irritation or stimulation of the fetal ball. The distension of the uterus relieves splanchnoptosis by proximal movement of the viscera. The bladder and uterus in general functionate in unison. The uterus is lodged between the bladder and rectum. It lies distal to the pelvic brim. The round ligament insertion is the line of demarkation between uterus and oviduct. The cavum uteri is triangular and will hold about 15 drops. The uterus is in a normal position when it is perfectly mobile, and dislocated when permanently fixed. There is no single normal position for the uterus, but it has many normal positions through a wide zone of health. The uterus is one of the most mobile of abdominal viscera. It is most mobile dorso-ventral. The corpus has a wide range, while the cervix has a limited range of motion. Fixation of the uterus is due to (a) myometritis; (b) peritoneal exudates; (c) tumors or genital ptosis. The degree of importance to be placed on any single uterine dislocation depends on the degree of pathologic symptoms attributed to it. Popularly the two great functions of the uterus are gestation and expulsion. The nerve periphery of the uterus is very large, and hence its reflexes play a dominant role as regards the nervous system. A significant observation is the profound influence of the uterus over the physical and psychical state—over mind and body. Generally the uterus

is considered the central, essential, sexual organ; chief organ of the tractus genitalis. This is a mistake, as the ovary (ovulation and internal secretion) is the primary essential sexual organ, while the uterus and oviducts are the secondary sexual organs, whose practical functions are menstruation, gestation, expulsion and puerperium. It is true, however, that the uterus plays a dominant role in the biological and pathological life of woman. In function the uterus experiences a considerable change and discloses extraordinary activity scarcely equalled by any other bodily organ.



In ordinary uterine functions, such as secretion, absorption and peristalsis, little change is manifest; but in the functional crisis of the uterus, such as menstruation, gestation, expulsion (peristalsis), and puerperium, extraordinary changes are manifest. The uterus of pueritas and senescence is perhaps indifferent in physical and psychical conditions.

The following tables in regard to structure, function, etc., of the uterus will facilitate the comprehension and utility of that organ in the individual economy :

FUNCTION..	I.—Endometrium (Tunica mucosa.)..	}	1. Secretion... { (a) mucous (cervix.)
			2. Absorption.
			3. Ciliary motion.
			4. Menstruation.
II.—Myometrium (Tunica muscular.)	}	5. Gestation.	
		1. Peristalsis.	
		2. Vascular ligature.	
		3. Elasticity.	
III.—Parametrium (Tunica fibrosa.)	}	1. Distributing bed for vessels and nerves.	
		2. Functionating, elastic, bed for uterine vessels and nerves.	
		3. The parametrium is connected with the pericolicpium, periproctium, perivesicum.	
		4. Main location along lateral uterine border at the diverging line of the mesometrium.	
IV.—Perimetrium (Tunica serosa.)..	}	1. Absorption.	
		2. Secretion.	
		3. Elasticity.	
		4. Prevents friction in visceral motion.	
General function : (a) Secretion ; (b) absorption ; (c) peristalsis.			
Special function : (a) Gestation ; (b) menstruation.			
STRUCTURE..	I.—Endometrium (Tunica mucosa.)	}	1. Glandular tissue.
			2. Interglandular tissue.
			3. Ciliated, columnar, epithelium cell.
	II.—Myometrium (Tunica muscularis)	}	1. Muscle cell.
			2. Elastic cell.
			3. Connective cell.
			4. Stratum vasculare.
	III.—Parametrium (Tunica fibrosa.)	}	1. Pelvic fascia (supporting structure.)
			2. Connective tissue (expanding and contracting, elastic bed.)
			3. The fascial, fatless part protects the large vessels surrounding them with a fibrous sheath as the arteria and vena-uterina and ureter.
	IV.—Perimetrium (Tunica serosa.)	}	1. Endothelium.
			2. Stomata vera.
3. Stomata spuria.			
4. Interendothelial lines.			
General structure : (a) Mucosa ; (b) muscularis ; (c) serosa.			
Special structure . (a) Cervical glands ; (b) corporeal glands ; (c) no submucosa.			

Object : 1, gestation ; 2, expulsion.

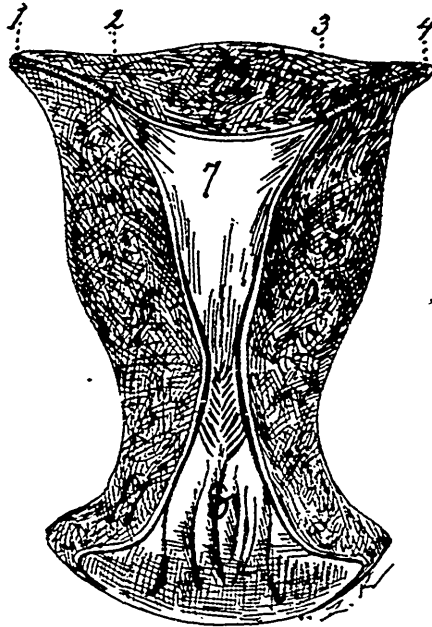
Accessory glands : 1, cervical ; 2, corporeal.

Compositions of secretions : 1, serous (corpus) ; 2, mucous (cervix) ; 3, columnar epithelia ; 4, blood and leucocytes ; 5, placental debris ; 6, endometrial debris ; 7, polypus (myoma) ; 8, malignant ; 9, fetal (debris) ; 10, pus ; 11, acid ; 12, alkaline and 13, neutral.

Neuro-vascular visceral pedicles (mesenteries): 1, ligamentum latum; 2, mesometrium; 3, mesosalpinx; 4, ligamentum rotundum.

Segments: 1, cervix (distal end), located between internal and external os; 2, corpus (middle) located between oviduct and internal os; 3, fundus (proximal end) located proximal to distal entrance of oviduct.

Lymph apparatus: The lymph rootlets exist in the tunica mucosa, muscularis fibrosa and serosa. All the lymphatics of the uterus anastomose. (a) By aid of silver nitrate the lymph channels are easily demonstrable in the serosa. (b) The tunica



fibrosa (subserosa) possesses large lymph channels which are especially noted as long trunks accompanying the artery and vein on the lateral uterine border. (c) The lymphatics of the muscularis are rich, and consist of channels and spaces. (d) The lymphatics of the mucosa consist chiefly of lymph spaces. (e) The lymphatics of the uterus should be divided into those of the cervix and corpus. (f) The cervical branches empty into the hypogastric glands. (g) The corporeal lymphatics also empty in the great group of hypogastric glands.

Blood vessels: The uterine segment of the utero-ovarian artery. It is spiral and courses about half an inch from the

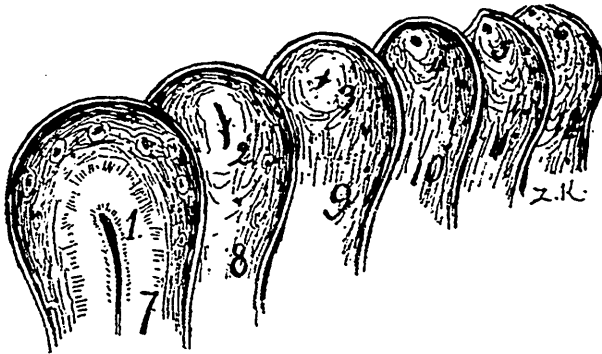
lateral border of the uterus between the blades of the ligamentum latum. It emits the rami laterales uteri, viz.: (a) ramus cervicis; (b) rami corporis; (c) rami fundi.

Nerves: 1, hypogastric plexus; 2, ovarian plexus; 3, automatic menstrual ganglia; 4, utero-vaginal ganglion (pelvic brain); 5, II, III and IV, sacro-spinal.

Fixation apparatus (mesenteries): 1, sacro-uterine ligaments; 2, vagina; 3, pelvic floor; 4, ligamentum latum; 5, ligamentum rotundum; 6, vessels and nerves; 7, perimetrium; 8, parametrium; 9, utero-vesical ligament; 10, peritoneum; 11, cardinal ligaments; 12, abdominal parietes.

Walls: 1, ventral; 2, dorsal; 3, lateral.

Dimensions: Length, 3 inches; breadth, 2 inches; thickness, $1\frac{1}{2}$ inches (resting multipara).



Weight: 1, nullipara, an ounce; 2, multipara, $1\frac{1}{2}$ ounces; 3, menstruation increases half ounce; 4, gestation and puerperal uterus several pounds.

Tissue matrix: (Protecting bed) 1, parametrium; 2, subserosum; 3, the matrix tissue is chiefly lateral.

POSITION.

1. There are two positions of the uterus to consider, viz., a *physiologic* which is perfectly mobile similar to the testicle, enteron, sigmod. *Pathologic*, which means permanently fixed. The uterus is the most mobile of all viscera, and it is in its typical or normal position only when perfectly mobile. It is in pathologic position when fixed.

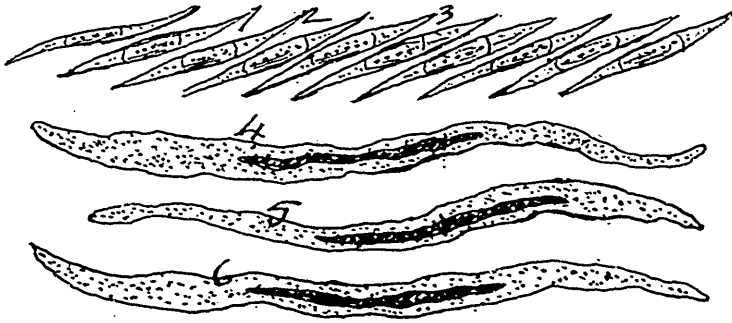
2. The factors which fix or dislocate a uterus are: (a) myometritis; (b) peritoneal exudates; (c) adjacent pathologic structures. I shall present the uterine positions under the following four heads:

I. *Holotomy* (relation to the general body) as regards the

general body the movement or shifting of the entire uterus from its typical position there are a number of technical terms in use, which facilitate the description of both typical and normal uterine positions as, (a) dorsal deviations of the uterus are known as retro-deviation or retro-position. (b) Ventral deviations are termed ante-deviation or ante-position. (c) Lateral deviations are designated as latero-deviation or latero-position (d) Proximal deviations are recorded as uterine elevation. (e) Distalward deviations are recognized as uterine depression.

The above positions *a, b, c, d, e*, may concern normal positions of the entire uterus within the zone of health.

All the holotopic and idiotopic variations of uterine positions are normal, *i.e.*, anatomic and physiologic to a certain grade. As a whole (holotopic), and on its axes (longitudinal, transverse and dorsa-ventral idiotopic) the uterus must be mobile to be in either its normal or typical position. Fixation of the uterus is dislocation.

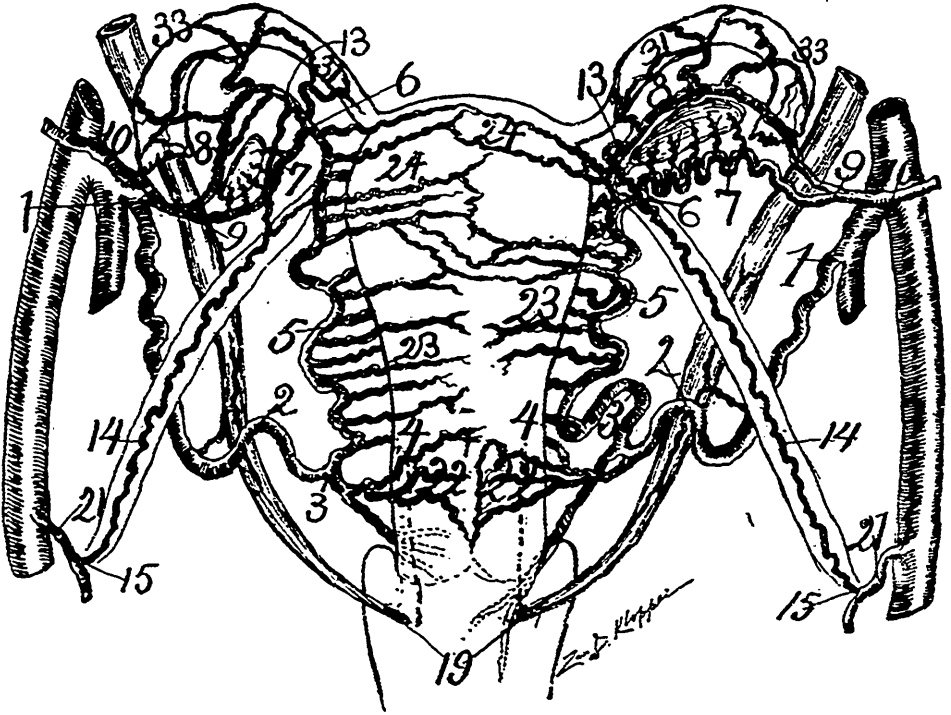


II. *Skeletopy* (relation to osseous skelton).—1. The uterus lies in the middle of the pelvis minor. 2. The cervix lies in the pelvic axis. 3. The os externus corresponds with the level of the 2 or 3 coccygeal vertebra; (b) on a level of the proximal border of the symphysis pubis; (c) the external os is on a level with the planum interspinosum, *i.e.*, the plane between the spinal ischia. 4. The internal os lies about in the centre of the lesser pelvis. 5. In the normal ante flexio-anteversio uteri, the longitudinal axis of the corpus lies in a plane extending from the proximal border of the symphysis pubis to the fourth sacral vertebra. 6. The uterus lies about midway between, and in the centres of the planes of the pelvic inlet and outlet without being in contact with either. 7. The most proximal point of the uterus lies on a plane which cuts the fourth sacral vertebra. 8. The most distal end of the uterus (ventral cervical lip) lies in a plane which cuts the

fourth. coccygeal vertebra, and the proximal third of the symphysis pubis.

III. *Syntopy* (relation to the adjacent viscera). The syntopic relation of the uterus may be considered under three heads, viz.: (a) The organs which are divided from the uterus by its serous covering; (b) those organs separated from the uterus by connective tissues; (c) the organs bound to it by organic connections. These three relations are important in a physiologic and pathologic signification.

IV. *Idiotopy* (relation of component uterine segments). The



most important idiotopic relation of the uterus is that of the cervix to the corpus. The corpus uteri moves through a wide zone, especially on a transverse axis through the isthmus uteri. The cervix is relatively fixed. Certain technical terms are employed to designate the idiotopic relations, viz.: 1. If the entire uterus be rotated about its longitudinal axis, it is termed (a) dextrotorsio uteri, or (b) sinistrotorsio uteri. 2. If a transverse axis is passed through the isthmus uteri (i.e., between the corpus and cervix) at the os internum, the ventralward movements

of the corpus on this axis will when corpus and cervix assume a straight line will be (*a*) retro-versio uteri; if the corpus moves dorsalward on the transverse axis until the cervix and corpus assume an angle with each other, the position is a flexio uteri. 3. On a dorso-ventral axis through the isthmus uteri, there can arise a latero-flexio uteri, and (*b*) latero-versio uteri. Flexions, versions and torsions uteri may be combined, presenting complicated positions. In gynecologic practice no importance is to be attached to any uterine position unless it has progressed to such a degree that pathologic symptoms arise from it. Flexions, versions and torsions may represent normal uterine positions when perfect mobility exists. Dislocated uteri (*e. i.*, uteri permanently fixed) are pathologic.

Various conditions influence the position of the uterus, as age and functional relations. In every phase of a woman's life the uterus assumes a different position, as in (1) pueritas, (2) pubertas, (3) menstruation, (4) puerperium, (5) climacterium, (6) senescence. The distention and contraction of adjacent viscera influences uterine positions. Dislocation of the uterus should not be mistaken for uterine disease, as disease (myometritis, peritoneal exudates and pathologic adjacent structures) produces the dislocation (fixation).

Development: 1. It arises from the coalescence of the middle segment of the pronephritic ureters (Muller's ducts). 2. Almost stationary in Pueritas. 3. Rapid development when the utero-ovarian artery springs into activity (in Pubertas). 4. Complete development of myometrium after menstruation, gestation and puerperium.

Number: Single from bilateral coalescence.

Form: Pear shape.

Sphincters: (1) internal os; (2) external os; (3) uterina oviductus

Flexures: Cervico-uterine.

BORDERS.

The borders refer to the middle of the external wall—ventral-dorsal and bilateral. (*a*) The ventral and (*b*) the dorsal borders are free, covered by peritoneum and come under surface, facies uteri, description. (*c*) The lateral border, margo lateralis uteri, is of extreme practical importance in gynecology, as the neuro-vascular uterine pedicle (mesometrium) is inserted on this border line. Vessels and nerves find ingress to the uterus and vessels, with the oviducts round and ovarian ligaments find egress from the uterus at the lateral urine border.

The lateral border is the line of reflection of the mesometrium whence it receives the uterus between its separating blades. The connective tissue, parametrium, which lies between the

diverging blades of the mesometrium on the lateral uterine border serves as distributing, yielding and supporting (fascial) bed for vessels and nerves previous to their distribution in the myometrium. The lateral border of the uterus is important because the uterine segment of the utero-ovarian artery passes in a spiral course between the blades of the mesometrium at from one-fourth to three-fourths of an inch from the uterus. The uterus may be extirpated without severing the utero-ovarian artery, simply severing the rami laterales uteri. Clinically the lateral uterine border is important in differential diagnosis as



to pelvic tumors and as the lymph route for infection (cellulitis phlegmon).

SURFACES.

Surfaces of the uterus, *facies uteri*, mainly refer to the external and internal coverings of the dorsal and ventral walls. (a) Externally the dorsal and ventral uterine surface *facies uteri*, is covered by peritoneum and is free. The peritoneum covers the corpus and fundus uteri only, not the cervix, uterine surfaces are free and glide on adjacent viscera with minimum friction. (b) Internally the ventral and dorsal uterine surfaces present a continuous mucosa, differing in structure and function in the different uterine segments. The dorsal and ventral mucosa of

fundus and corpus secretes serous fluid. That of the cervix secretes tenacious mucous, the corpus and fundus presents tubular, that of the cervix racemose glands.

DISTAL END (CERVIX OR NECK).

(a) The distal end of the uterus is known as the portio vaginalis or neck. (b) It is a double sphincter. (c) One third of cervix projects into proximal end of the vaginal ring-like (d). The internal os is the division between external and internal genitals. (e) The distal end of the uterus is fixed to bladder rectum and proximal end of vagina (f). It secretes a tenacious mucous (g). Ovary nabothi appear on the portio vaginalis uteri. (h) It is a guard or sentinel and contains during gestation, mucous plug to prevent ingress of foreigners or egress of deserters (i). It is not rhythmical being chiefly supplied by cerebro-spinal nerves (j). The cervix is never ready for an abortion, while the corpus, always rhythmical, is. (k) The distal uterus is liable to laceration during parturition, especially cervical, bilaterally, in the oligemic cervical zone. (l) The distal end of the uterus is the chief point of fixation of the organ. (m) It is at right angles to the vagina. (n) It has a limited range of motion. (o) The distal end of the uterus is liable to carcinoma (p). It is imbedded in parametrium, especially laterally.

PROXIMAL END (FUNDUS).

1, The fundus is that part of the uterus located proximal to the distal end of the oviductus; 2, it contains an oval oligemic zone; 3, the peritoneum is intimately connected to the fundus; 4, it is the general placental site; 5, it has a wide range of free motion, hence should not be fixed in child bearing subjects; 6, at the junction of fundus and corpus is the main site of myoma in the remnants of the mesonephros; 7, it is the site of sarcoma or carcinoma. It has slight parametrium.

RELATION OF UTERUS TO OTHER VISCERAL TRACTS.

1, The uterus possesses an enormous nerve periphery, hence it dominates the *general nervous system as well as visceral systems*. The chief influence of the uterus over the nervous and visceral system is exercised during its functionating crisis, e.g., pubertas, menstruation, gestation, puerperium and climacterium. Its main relation to the abdominal tracts is through the peritoneum hypogastric plexus, abdominal and pelvic brains, 2, Anatomic and physiologic it is intimately associated with *tractus urinarius* as both tractus urinarius and tractus genitalis arise from the same source—the Wolfian body, having the

same common vessels and nerves. The tractus urinarius shares in altered vascularity with the tractus genitalis during its crisis or during its maximum functions as pubertas, menstruation, gestation, puerperium and climacterium. It is most evident in gestation when renal secretion is disturbed, nephritis, albumen, also in the climacterium when renal secretion is excessive, deficient or disproportionate. 3, The uterus associates closely with functioning *tractus intestinalis*. In times of uterine maximum function its reflex influences may produce excessive deficient or disproportionate peristalsis, secretion and absorption in the tractus intestinalis, in short its object—digestion—is made defective. 4, The uterus holds practically close relations with the *tractus peritonei* both anatomically and physiologically. The peritoneum: (a) is applied to corpus and fundus intimately; (b) does not cover cervix; (c) lateral borders not covered by peritoneum where the vessels enter and find exit. 5, The uterus bears an intimate relation to the tractus vascularis, e.g., (a) hypertrophy of the utero-ovarian artery; (b) hypertrophy of the heart in gestation; (c) congestion (hyperemia); (d) decongestions (anemia, chlorosis), headaches; (e) vasomotor center (flushes) in the climacterium. 6, The uterus influences the centers of the tractus cutis (perspiratorius) as in climacterium (sweatings). 7, It also influences heat centers (flashes) especially in the climacterium. 8, The uterus influences the *tractus respiratorius*, inducing irregular and disturbed respiration.

AGE RELATIONS OF THE UTERUS.

I. *The Three Epochs of Uterine Life*.—1, Evolution (growth); 2, Reproduction (stationary); 3, Involution (parenchymatous atrophy).

II. *Quiescence* (resting)—1, Pueritas, childhood; 2, senescence old age.

III. *Crisis* (functionating)—1, Pubertas; 2, menstruation; 3, gestation; 4, puerperium; 5, climacterium.

IV. *Function* (physiology)—1, sexual function at maximum; 2, periodic hyperemia (utero-ovarian artery); 3, pubertas; 4, menstruation; 5, gestation; 6, puerperium; 7, climacterium; 8, secretion; 9, the above functions are limited to sexual life (12 to 48); 9, during gestation the muscle cell increases ten times and lactation suffers involution; 10, lactation atrophy (involution); 11, ciliated epithelium (distalward fluid stream. Myometrium (peristalsis) and endometrium (utero-ovarian artery) are completely developed by pubertas menstruation, gestation and puerperium; 12, automatic menstrual ganglia completely developed (periodic rhythm); 13, the corporal glands secrete serous

fluid. The cervical glands secrete mucous. Parenchymatous cells, (working cells), muscle elastic, nerve glandular, ciliated are in maximum activity. Connective tissue cells (frame work cells) stationary.

V. *Structure (Anatomy)*: Tractus genitalis begins to fade in structure during climacterium—1, atrophy of parenchymatous cells (functionating cells, muscle, nerve elastic, gland and epithelium cell); 2, increase of connective tissue cell (frame-work cell); 3, the ciliated epithelium disappears; 4, arterio-sclerosis; 5, the uterus diminishes in size, weight and volume; 6, form becomes round; 7, consistence increases; 8, cavum uteri diminishes; 9, canalis cervicis narrows; 10, function gradually ceases; 11, parenchymatous cells decreases in number and size (protoplasm); 12, endometrial folds atrophy and become smooth. The central factor is arterio-sclerosis from diminishing volume of blood in the utero-ovarian artery and consequently atrophy of parenchymatous or functionating cells with excess of proliferation of connective cell.

VI. *Atrophic Degeneration (pathology)*: 1. High grade of parenchymatous (muscle, elastic, ciliated epithelium and gland cell) degenerative atrophy; 2, walls leather like in consistence; 3, arterio-sclerosis, calcification, lumen decreased; 4, the os may become closed (atresia hydrometra, pyometra); 5, myomata may arise; 6, utricular glands may become cystic by closure; 7, uterus atrophies to a minimum; 8, degeneration of parenchymatous (functionating cells) in number and size (protoplasm); 9, multiplication of connective tissue (frame work) cells; 10, ciliated epithelium disappears; 11, all structures of the uterus atrophies, except connective tissue cells; 12, nourishment is defective hence neoplasm, malignancy, ulceration and bacterial disease.

AGE PREDISPOSITION OF UTERUS TO DISEASE.

I. *Pueritus (condition)*: Childhood, uterus quiescent; duration 1 to 12 years' growth almost stationary, cervix preponderates, nonhyperemic, secretion minimum, parenchymatous cells (muscle, nerve, elastic, epithelium) nondeveloped.

Results: 1, Bacterial disease (especially gonococcus) and 2, endometritis, minimum.

II. *Pubertas (condition)*: Development rapid, uterine function, crisis. Duration 3 years (12 to 15 years) hyperemia and secretion limited, parenchymatous cells (working cells) and vascular development active connective tissue, frame work cells; proliferating, myometrium and endometrium progressively develop, capillus genitalis appears.

Results: 1, From limited hyperemia and secretion arises limited bacterial disease; (gonococcus, streptococcus, staphylo-

coccus and tuberculous bacillus); 2, limited endometritis and myometritis.

III. *Menstruation* (condition): Reproductive, uterine crisis. Duration of each crisis 10 days (*a*) premenstrual phase 3 days; (*b*) intramenstrual phase 3 days; (*c*) post-menstrual 3 days while (*d*) the intermenstrual phase continues 20 days. Menstrual function persists 30 years. Vascular myometrical and endometrical development with periodic hyperemia and secretion characterises this condition. Ciliated epithelium arises with developing utricular glands. Automatic menstrual ganglia springs into active life. Parenchymatous cells make rapid growth. The hyperemia of the uterus in menstruation is shared by the tractus urinarius. Congestion and anemia arise in other portions of the body during menstruation,

Blood and mucous flows from the endometrium. The endometrium doubles in thickness. The swelling of the endometrium is due to (*a*) proliferation of and wandering of leucocytes, and streams round cells; (*b*) elongation and widening of utricular glands; (*c*) serous edema. The mucosa remains intact except local areas of interstitial or submucous hematoma. The ovary, the vaginal and endosalpingial mucosa and pudendum swell.

Menstruation, a maximum function of the uterus is intimately connected with the physical and psychical life of the subject. Menstruation prepares the endometrium to nourish an ovum, menstruations depends to a certain extent on the ovaries and intact utero-ovarian or genital vascular circle.

Re-ults: A healthy tractus genitalis conducts a painless menstruation; hence dysmenorrhœa rests on a pathologic base, *i.e.*, congestion and peristalsis induces uterine pain. Painful peristalsis rests on myometritis. Therefore menstruation is the first and most practical function of the genitals regarding age, predisposition to disease as it is the test of their anatomic and physiologic perfection. Periodic preparation of the endometrium exposes it to defects and also to bacterial disease. Since menstruation is so closely related to ovulation as much as possible of both ovaries should be left in situ during surgical intervention. The general results on the uterus from the conditions of menstruation are bacterial disease, recurring at times of periodic hyperemia and secretion with consequent endometritis and myometritis ending in dysmenorrhœa, amenorrhœa, metrorrhœgia.

Re-ults: 1, Bacterial disease active from culture media (*a*) could consist of a congestion, (*b*) secretion and (*c*) multiplication of existing bacteria); 2, endometritis; 3, myometritis; 4, carcinoma; 5, sarcoma; 6, perimetritis; 7, headache; 8, mastitis; 9, skin eruptions; 10, odor from pudendal glands; 11,

edema; 12, hoarseness; 13, diarrhea; 14, myoma; 15, fetal rests grow (especially the para-ovarium); 16, the majority of menstruating women are ill.

IV. *Gestation* (condition): When it is considered probable that every gestation begins in the oviduct and must be transported to the endometrium within ten days the delicacy of the conditions are apparent. The endometrium in gestation, *i.e.*, the decidua vera soon acquires the thickness of one-third of an inch. The uterus forces the viscera proximal ward. The uterus makes pressure on abdominal viscera, ducts, vessels, nerve apparatus. The ovary enlarges. The oviducts enlarge and is advanced, gestation hang on the lateral uterine border like a man's arms. The size, form and position of the uterus is changed. The pudendal glands secrete active. The muscularis of the bladder hypertrophies. The tractus cutis becomes pigmented (chloasma uterinum), striæ gravidarum, softening and elongation of the pelvic joint connections.

Fetal and myometrial development, likewise rapid development of the utero-ovarian artery. Duration, nine months; function, crisis. Hyperemia and secretion continuous. All parenchymatous or functioning cells (muscle, nerve, elastic, ciliated epithelium and gland) become completely developed; menstruation and, perhaps, ovulation with internal secretion cease. The mucosa becomes transformed to decidua. Fetal motion; uterine pressure against adjacent structures (venous congestion, renal action varies); pudendal edema and venous congestion (bluish discoloration.) Muscle cells increase ten fold in size.

Results: 1. Bacterial disease may be active from existing culture media. 2. Endometritis and myometritis may arise, myoma increase. 3. Chronic infectious disease is apt to recur. Deciduoma malignum arises as well as placental degeneration. 4. Peritoneal exudates tend to absorb. 5. The effects of gestation on the tractus intestinalis are reflexes, hyperemesis gravidarum, nausea, constipation, indigestion, malnutrition, excessive deficient or disproportionate absorption, secretions and peristalsis. Auto-intoxication appears. 6. The effects on the tractus urinarius are reflexes; excessive, deficient or disproportionate secretion of urine, albumen, casts, nephritis. The kidney suffers the most of any viscera during pregnancy. 7. The effects on the nervous system are increased irritability, headache, eclampsia. Psychical disturbances are frequent. The muscular system is affected, especially by cardiac hypertrophy, and the uterine muscle cell increases ten fold in size. Malignant disease and tuberculosis pulmonalis is exacerbated. Gestation, a major function of the tractus genitalis, may overstep the zone of health. The organ of taste is apt to become deranged.

The mammary gland is vigorously affected. Osteomalacia is exacerbated.

Results: Gestation temporarily relieves splanchnoptosis. From uterine pressure viscera are compromised, ducts and vessels obstructed, and nerve apparatus traumatized. From the delicate transportation of the ovum from oviduct to uterus oviductal gestation may arise. From the thick, succulent endometrium bacterial and other diseases may occur. Proximal movements of the pregnant uterus relieves splanchnoptosis. Uterine pressure obstructs ducts and vessels (especially veins) compromises viscera, and alters nourishment, *e.g.*, disastasis of the muscoli recti abdominales. It produces irritability of the nervous system. The increase in volume of the distal end of the genital tract from vascular stasis produces active pudenda! glandular secretion, and exposes it to bacterial invasion. The elongation of the pelvic joint ligament produces the waddling duck like gait compromising movement, yet increasing the pelvic osseous outlet. Parturition predisposes to disease by trauma, infection, hemorrhage, uterine rupture, eclampsia and fatal shock from uterine inversion or invagination.

V. *Puerperium* (condition): Uterine involution; duration two to three months; hyperemia and secretion active. Ciliated epithelium, endometrium, utero-ovarian artery and myometrium (parenchymatous cells) completely developed. Placental site is an endometrial wound. Relaxed abdominal wall. Trauma of labor produces numerous solutions of continuity. Tractus genitalis has relaxed supports.

The peritoneum lies folded and loose on the uterus. The uterus in a few days resumes its ante-version. Immediately after parturition the corpus is solidly contracted, the cervix is slack or flaccid. The os uteri externum represents a transverse slit, remaining patent for about a month; ovary and oviduct resume their usual position in about a month. The puerperal lochia is at first pure blood, later blood mucous, still later mucous, and finally serous. The lochia continues about six weeks. Involution of the parenchymatous cells (muscle, nerve, elastic, ciliated, epithelium) are practically complete in eight weeks.

Result: 1. From active hyperemia and secretion there are maximum culture media, hence (1) bacterial disease active; (2) patient has an endometrial wound at placental site, hence endometritis and myometritis, peritonitis; (3) trauma, predisposes uterus and mammae to malignancy and inflammation; (4) distension of the abdominal walls predisposes to splanchnoptosis by (a) relaxed abdominal walls, (b) consequent distilward movements of viscera, and (c) gastro-duodenal dilatation from compression of transverse segment of duodenum by superior mesenteric artery,

vein and nerve; (5) relaxed abdominal walls induces constipation, compromises lymph and blood circulation, traumatizes nerve periphery and compromises canalization of viscera; (6) lactation atrophy may occur and the endometrium become a *locus minoris resistæ*; and (7) uterus not immune against trauma. The puerperium is practically a pathologic state; function has passed beyond the zone of health. In puerperium the myometrium contracts more rapidly than the utero-ovarian artery; hence the artery is thrown into a marked spiral state, and its walls are thick. The uterine muscular bundles with the elastic fibers act like living ligatures to contract the blood vessels. A puerperal uterus being exposed to infection is liable to subinvolution, *i.e.*, bacterial disease. The slack or flaccid cervical wall following parturition, endangers the uterus to infection. The patent os results in ample drainage, but allows bacterial invasion. Puerperal lochia endangers the multiplication of bacteria. The uterus is somewhat larger after parturition, hence liable to be forced distalward and be compromised in circulation. The nursing child aids uterine involution.

VI. *Climacterium* (condition): Ceasing uterine function. Function, crisis, duration three years (45 to 48) irregular hyperemia and secretion limited. Atrophy of parenchymatous or functioning cells (muscle, elastic, nerve ciliated and glandular epithelium). Increase of connective tissue or frame work cells. Arterio-sclerosis, defective nourishment. As death is manifestly more strong than birth, so the dying climacterium manifests more nerve storms than the developing pubertas.

Results: 1, Bacterial disease; 2, endometritis; 3, myometritis; 4, prolapse, sacro-pubic hernia from (atrophy) relaxation of uterine supports; 5, the heat center (flushes), the vascular center (flushes) and the perspiratory center (sweatings) are disturbed; 6, trauma of parturition (instrumentation) and atrophy of endometrium (lack of nourishment) predispose uterus to carcinoma and sarcoma; 7, trauma of lactation induces mastitis and malignancy of the mammæ; 8, skin eruptions, pigmentation and diseases; 9, visceral disturbances (circulation, secretion, peristalsis) from reflex irritation in uterus due to atrophy of hypogastric plexus and automatic menstrual ganglia; 10, obesity; 11, growth of hair on face; 12, mental anxiety; 13, *locus minoris resistentiæ* in the endometrium; 14, myoma; 15, pruritus pudendæ; 16, not immune against trauma; 17, irregular hemorrhage; 18, the climacterium neurosis is alleged to be due to lack of internal ovarian secretion.

VII. *Senescence* (condition): Old age, uterine quiescence, cessation of uterine function; duration from the forty-eighth year until termination of life; non-hyperemic, secretion minimum, and hence bacterial disease minimum; atrophic degen-

eration (pathologic) of parenchymatous cells, (muscle, nerve, elastic, ciliated epithelium, glandular). Parenchymatous cells decrease in number and size (protoplasm), relative increase in connective tissue cells. Arterio-sclerosis and calcification, defective nourishment.

Results: 1. Bacterial disease at a minimum from nonhyperemia and minimum secretion; 2, endometritis; 3, myometritis; 4, the endometrium is the locus minoris resistentiæ from desquamation of epithelia; 5, proliferation of connective tissue cells; 6, pathologic degeneration of parenchymatous cells (muscle), elastic gland ciliated epithelium; 7, sarcoma; 8, carcinoma; 9, arterio-sclerosis calcification, defective nourishment; 10, myoma; 11, sacro-pubic hernia (prolapse); 12, pruritis pudendi.

Vital: 1. Not necessary to life; 2, conduces to health.

PATHOLOGY.

I. *Endometrium* (tunica mucosa): 1, endometritis glandularis; 2, endometritis interstitialis; 3, carcinoma; 4, sarcoma, and 5, tuberculosis.

II. *Myometrium* (tunica muscularis): 1, myometritis; 2, myoma, (a) submucosa, (b) subserous, (c) intramural; 3, sarcoma.

III. *Perimetrium* (tunica fibrosa): 1, cellulitis; 2, phlegmon; 3, cicatrices.

IV. *Perimetrium* (tunica serosa): 1, peritonitis; 2, sarcoma; 3, Carcinoma, and 4, tuberculosis.

Bibliography: W. Waldeyer, W. Nagel Gebhardt, F. Friedmann.

FIG. 1 (Author).—The uterus bisected longitudino-transversely. 1, Peritoneum (tunica) serosa; 2, longitudinal superficial muscular layer; 3, 4, 5, other layers of the myometrium; 6, represents that portion of the myometrium into which the utricular glands penetrate more or less; 7, endometrium with its various glands; 9, cavum in uteri; 10, cavum cervicis. There is no submucosa.

FIG. 2 (Author).—Pelvic brain 141 and 142. Note the nerves passing from Nos. III and IV sacral nerves (132) and (135) to the pelvic brain from which they emerge to enter the uterus (154), bladder (125), vagina (155) and rectum (153).

FIG. 3 *Circulation of Uterus* (Author).—The uterus was injected with red lead and starch, after which Dr. H. Pratt took an X-ray. From this model the artist, Mr. Klopper, sketched. Dr. Wm. E. Holland magnified the X-ray to facilitate accurate drawing. 1, 2, 3, 4, 5, 6-8, 9, and 6, 7, 9, represents the utero-ovarian artery; 22, 23, 24, rami laterales uteri; 6, 8, 9; 6, 7, 9, represents the ovarian vascular circle; 1, origin of uterus artery; 2, arterio ureteral (distal) crossing; 2, 3, 4, cervical loop; 25, arteriæ vaginales; 19, distal ends of ureter; A, B, C, anastomoses of rami laterales uteri.

FIG. 4 (Author).—The myometrium cut in a sagittal longitudinal direction; 1, 2, 3, coporeal myometrium; 4, 5, cervical myometrium; 6, 7, peritoneum (perimetrium) passing from the myometrium at the same level anterior and posterior.

FIG. 5 (Author).—11, horizontal sections of the uterus of a multipara to demonstrate the circulation in the myometrium. The uterus was injected with red lead and starch, X-rayed in Dr. Harry Pratt's X-ray and electro-therapeutic laboratory, magnified by Dr. Wm. E. Holland, and sketched from this as a model by Zan. D. Klopfer; 1 is the cervix and 11 is the fundus.

FIG. 6 *Junction of Endometrium and Myometrium* (Author).—1, margin between the superficial straight parallel glands and the deep irregular layer of glands; 2, muscle penetrating between the glands; 3 and 5, lumen of deep layer of glands; 4 and lumen of straight layer of glands; 7, stroma of endometrium; 9, 10 and 12 venous channels. Note that there is no submucosa; no barrier between endometrium and myometrium.

FIG. 7 (Byron Robinson).—Illustrates a variety of intramural segment; 1 to 2 is the left, and 3 to 4 are the right intramural segments of the oviduct; 5, the funnel-shaped process as it leaves the uterine cavity to become the uterine horn; 7, the cavum uteri; 8, the cervical cavity with its folds; 9 and 10, the coporeal myometrium; 11, the cervical myometrium; 12, the fundal myometrium. The intramural oviducal segment is relatively long in this case. In drawing this out a suggestion from Hennig was employed. The horn is not so regular as it appears. In following a series of microscopical sections through the horn one finds that the (a) utricular glands are somewhat irregular, (b) the myometrial wall is irregular, and (c) occasionally utricular glands are displaced. This uterus has the shape of a multipara, especially as regards the horns.

FIG. 8 (Byron Robinson).—1, 2, 3, muscle cell of non-pregnant uterus; 4, 5, 6, muscle cell of pregnant uterus.

FIG. 9 (Author).—Illustrates the orificium uterinum oviductus and the intramural segment; by making serial sections 1, 2, 3, 4, 5, 6, presents the sections with the appearance of the oviducal orifice; 7, 8, 9, 10, 11 and 12, myometrium.

FIG. 10 (Author).—A dissection of a subject about 47 years old, demonstrating the capacity of uterine myometria to retain the full strength of the rami laterales uteri (22, 23 and 24); 2, 3, 4, cervical loop; 2, distal arterio-ureteral crossing; 19, distal ends of ureters.

INSANITY, ITS CAUSES AND REMEDIES.*

By Dr. JAMES RUSSELL,

Superintendent of the Asylum for Insane, Hamilton.

Insanity, its causes and treatment, is a subject so pregnant with scientific thought that one may well shrink from the attempt to present a popular review of the subject before a mixed audience such as I see before me to-day. My only apology for undertaking the task is the hope that I may be instrumental in removing some of the popular fallacies existing in the public mind on the subject, and of giving a clearer conception of the great natural laws in operation which govern the maintenance of both mental and physical health.

The time has gone past for blaming Providence for every visitation of ill health and of invoking Divine intervention for its restoration. It is true there is a limit to the span of life, but if the laws which govern health were thoroughly observed people would die of old age and not from disease. Every departure from normal health means a violation of natural law, either on the part of the individual so affected or his ancestry. Neither natural nor moral law can be violated with impunity. The penalty will be exacted with inexorable sureness, and will be in direct ratio to the gravity of the offence.

CAUSES OF INSANITY.

To discuss the causes of insanity in their entirety would mean an exhaustive enquiry into the history of the race from primitive times up to the present complex conditions of modern civilization. It will be sufficient for our purpose to point out in general terms a few of the potent causes which are at work in the process of mental alienation. We must not forget that our present boasted civilization is but of yesterday, comparatively speaking, and that we have attained it by a gradual process of evolution reaching back through the long vista of the past.

The human race of to-day is the expressed sum of all the good, bad and indifferent that have ever existed in the world from the beginning. We cannot ignore the great laws which govern the propagation of species: degenerates beget degenerates and criminals beget criminals with inexorable exactness. "The sins of the fathers descend upon the children." "The fathers have eaten sour grapes and the children's teeth are set on edge." These laws are as true to-day as they were under

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the ancient Jewish economy. We are constantly reminded of our savage ancestry and nature's tendency of reversion to ancient types by the human degenerates born into the world in spite of the best breeding and most careful training. We are so recently removed, comparatively speaking, from barbarism that nature is still unstable in transmitting her more recently acquired types of character, and it is no wonder that once in every two or three hundred births a lunatic, an idiot, or a criminal is born into the world. As time rolls on and the present rate of progress continues nature will show greater stability in transmitting improved types, and thus the race will tend to reach a higher plane of mental, moral and physical excellence. This gradual ascent of the race will be greatly accelerated or retarded in proportion to the constancy with which these great natural laws are applied or subverted as the case may be.

If the above theory of transmission be correct then there can be no doubt that heredity is the chief cause of insanity and every other form of mental degeneracy.

The popular opinion of the day is that the vast increase of insanity is due to the restless spirit of the age, the intense competition in business and the breakneck struggle for wealth, place and power. It is believed that the consequent exhaustion resulting from this overtax on the brain is the cause of widespread mental disorder. That there is an element of truth in this opinion no one will deny, but to rank it as the great predisposing or exciting cause of insanity, is nothing short of a popular fallacy. Experience, however, proves that the educated classes, the busy, strenuous men of affairs who propel forward at such a rapid pace the great industrial, commercial and social forces in the world, do not figure prominently in our asylum statistics. It is abundantly proven that the mass of the registered insane come from the uneducated lower stratum of the people, the raw material as it were of society—the class whose brains are not developed by intellectual effort. As an example take the statesmen, literary men and poets of Great Britain, who maintain their mental vigor up to fourscore years or more, while the common laborer whose brain is undeveloped, is in his dotage at sixty, and ripe for the workhouse or the asylum.

It cannot be denied that a large percentage of the human family is born into the world so weakly endowed mentally as to be wholly unfit for anything but the most primitive form of citizenship. With a quiet and uneventful environment which does not unduly tax their mental energies, they manage to pass through life in the undisturbed possession of their meagre mental outfit with comparative ease and comfort, but the moment they are subjected to the strenuous, complex conditions

of life which require greater mental and physical activity to gain a subsistence, they weaken and falter by the way and go to swell the dependent and degenerate classes of the community.

MASTURBATION.

In the popular mind the secret vice of masturbation is regarded as the most frequent cause of insanity. That it is a potent cause of mental degeneration no one will deny, but here again popular opinion needs correction. Large experience among the insane proves that the persistent practice of the habit is rather the evidence of mental weakness than the cause. In the early stages and before the habit is confirmed, much may be done to counteract its debasing effects by well-directed advice, elevating social environment, and the encouragement of outdoor, manly sports.

The victims often belong to the gentle goody-goody class of young people on whom indulgent parents dote and who are loathe to believe them guilty of such a degrading habit. A great responsibility rests with parents, guardians and teachers in frankly discussing this question and of giving proper warning against its terrible consequences.

SYPHILIS.

The scourge of syphilis has been the most deadly enemy to the upward progress of the human race. Its disintegrating power in destroying human life has been greater than even pestilence or the sword. Millions upon millions of the unborn who have never seen the light of day have been sacrificed in utero by embryonic infection to gratify this insatiate Molloch of death. Acquired in one generation it insidiously propagates itself to another generation, until who can tell where its pernicious influence begins or ends.

It masquerades under so many unexpected guises that it often baffles and eludes the skill of the most expert diagnostician to differentiate it. Its peculiar affinity for attacking the brain and nervous system is one of the marked features of its history, and yet it is only of recent date that the psychologist has discovered its potency as a factor in producing insanity. That fatal form of insanity known as general paresis, popularly called softening of the brain, is now recognised by the highest authority as due to this virulent poison.

ALCOHOLISM.

It is a well attested fact that the regular and immoderate consumption of alcohol acts as a virulent poison to the human system. Its baneful effects are especially manifest upon the

brain and nervous system, and sooner or later, if the habit is persisted in to excess, leads to mental impairment.

Alcohol insanity is a well recognized form of mental alienation, and its victims are to be found largely in towns and cities where the drinking customs are most prevalent. The chief danger of the drink habit lies in the insidious inroads which it makes upon the mind of the deluded victim. There is a gradual process of mental impairment, which he is incapable of realizing, and which quite unfits him for seeing himself as others see him. His moral perception becomes dulled and his reasoning sense so defective that all appeals to him for reformation are in vain, and he gradually degenerates stage by stage into a physical wreck and a mental imbecile. Every subject of chronic alcoholism is *de facto*, if not *de jure*, insane, and should be confined in an institution for treatment. In recent years the gold cure treatment has been the panacea for the cure of drunkenness. It is all humbug, there is no medicinal specific for its cure, the true and only remedy is complete abstinence from the poison, and this can only be done by enforced discipline and treatment in an institution appointed for the purpose.

MENTAL WORRY.

It is worry and not work that kills and drives thousands of people every year into the asylums or into untimely graves. The disposition to incessant or unnecessary worry is always evidence of mental weakness. Some people are always crossing bridges before coming to them, and living in constant fear of the day that never dawns. The habit if not checked becomes a disease, and woe unto the unhappy household that has such a member to care for.

A great variety of causes contribute to unbalance the mind, such as disappointment, bereavement, loss of money, thwarted ambition, failure in business, poverty and the hard struggle for existence.

Some people are so richly endowed with a vigorous mental organization that they are able to withstand all the losses and crosses of life with comparative ease and like a rock in mid-ocean they stand immovable while the waves of adversity and disappointment dash against them with impunity. Such an inheritance of mental vigor is more to be envied than rubies and pearls or all the gold of the Yukon.

REMEDIES.

I have no specific to offer for stemming the ever-increasing tide of mental degeneration which flows in upon us like a flood. The remedy lies in the gradual evolution of the race, through the dissemination of more correct knowledge of the laws which

govern health. There is a lamentable amount of ignorance, or at least indifference, of the laws which govern the propagation of the race. How strange it is that people are so fully alive to the necessity of careful selection in the breeding of the lower animals, and ignore the same laws in the breeding of the human race. Theories have been advanced from time to time looking to the amelioration of this condition. State enactment has been advocated for the regulation of marriage which would prohibit those close of kin and the whole class of degenerates from marrying. Others go still further and advocate the asexualization of the mentally weak, and the incorrigible criminal as well. Others have advocated the erection by the State of sufficient buildings to accommodate the whole of the defective classes and make their detention compulsory for life. This plan is advocated not only on humane and social grounds, but for economic reasons as well. They claim it would not only tend to elevate the race, but would ultimately be a paying investment by drying up the perennial stream at the fountain, and in time lessen the burden of taxation.

There is a certain amount of reason and common sense in these theories if they could be enforced, but experience proves that all legislative enactment which interferes with the social customs and habits of society are evaded and ignored.

The true remedy lies in more correct knowledge of the direful effects which follow from ignoring the great natural laws which govern the propagation of the race and the suffering which it may entail on unborn generations. On the other hand, it may be said if there were no weaklings and dependents in the world there would be no field of operation for that altruistic, charitable spirit which is the pride and glory of modern civilization.

A large proportion of the insanity in the world is due to secret vice and perverted modes of living, which drain the vital energies and impair the mental function. The brain is exceedingly complex and many-functioned organ and is capable of extraordinary development along physiological lines.

As the brain is the organ of mind, it expresses itself to its environment in direct ratio to the integrity of its composition and the healthfulness of its function. A diseased brain expresses itself in diseased thought, will and action, which is insanity. All rational methods of treatment must consist in discovering the causes which have contributed to that disordered condition and must be followed by a complete reversal of the mode of living which has provoked it. The patient must be placed in a new environment where discipline is enforced and with a complete surveillance of the habit of life. Many people have the idea that insanity can be cured with medicine. This

is a great mistake, it has its place in mental disease as in every other form of disease, but there is no medicinal specific for its cure.

The sheet anchor methods of treatment are labor, recreation and rest, with plenty of fresh air and a liberal *regimen*. A large proportion of patients sent to the asylum suffer from malnutrition and sleeplessness. The first indication of treatment is to restore the nutritive function and induce sleep. When that is done the patient is already on the road to recovery.

“Let me have men about me that are fat,
Sleek-headed men and such as sleep o’ nights,
Yon’ Cassius has a lean and hungry look,
He thinks too much : such men are dangerous.”

CASE OF INTESTINAL OBSTRUCTION.

BY EVERETT S. HICKS, PORT DOVER.

I am sorry that I am not able to record a recovery in the following recent case of intestinal obstruction, more especially when a recovery would have been assured had I been allowed to make a timely interference:

Mrs. M—, aged 69, fairly strong woman holding her age well. History of an attack of general peritonitis of six weeks' duration some ten years ago. No cause for this attack was given by the attending physicians. Patient has been failing steadily in health for six months.

Sept. 29th.—Complains of pain in the region of the umbilicus. Abdomen hard and tense in epigastric and upper umbilical regions. Patient straining and vomiting; temperature normal; pulse 84; bowels moved yesterday; patient feels nauseated and weak. Examination and questioning reveal the presence of a prolapsed uterus which patient retains with a bandage, and also a right femoral hernia, a small part of which is irreducible. This hernia has existed in its present state for over twenty years. No pain is complained of in the region of the hernia, bowel which constitutes the bulk of the mass is full of gas and easily replaceable. Uterus is freely movable. Ordered hot poultices, a liquid diet and rectal feeding with peptonized milk and gave strychnia with atropine and normal saline solution throughout the attack. Morphine was very sparingly used to control severe pain only.

Sept. 30th, morning.—Patient still vomiting. Had a passage of blood during the night. Evening—Pain easier; vomited once; pulse 108; rupture down, easily replaceable.

October 1st, a.m.—Better; pulse 96, full, strong. Bowels moved five times during night; still vomiting. P.m.—Not so well; vomiting continuous; nothing retained by the mouth.

Oct. 2nd.—Vomiting severely a greenish fluid. Chloretone given in 3-grain doses and was quite effectual in giving ease from pain and vomiting.

Oct. 3rd.—Nausea continuous. Chloretone keeps down vomiting to three or four times a day; pulse 80; bowels *nil*; temperature normal. Oct. 4th and 5th—condition same.

Oct. 6th.—Fecal vomiting marked; no great bloating or tenderness; rupture down at intervals, but can be easily put back.

Oct. 7th.—Bowels *nil*; pulse 108; thirst incessant. Advised consultation with a view to an abdominal section.

Oct. 8th.—Bloating increased, during night patient in great agony; in early morning she passed large volumes of gas by the bowel with relief of pain and distension; vomiting continues; pulse 108; skin has fecal odor; urine plentiful but high colored. Oct. 9th—same condition.

Oct. 10th.—Vomiting fecal. Urged an abdominal section or an opening on the side of the hernia, as it has appeared to be above the obstruction. Relatives not in favor of any operative measures.

Oct. 11th.—Same condition; hernia same; pulse 108.

Oct. 12th.—Hernia could not be reduced to-day; complained of pain there; bowel in hernia full of gas; patient weaker and flesh going rapidly. Again insisted on an enterostomy and was refused.

Oct. 13th.—Hernia inflamed; condition same.

Oct. 14th, Morning.—Almost pulseless. Friends at this, the eleventh hour, consented to an opening being made. Used Kelene spray and opened skin and bowel in one stroke. Bowel inflamed but not gangrenous, well adherent to sac throughout; fecal matter of bad odor escaped freely. Afternoon.—Feces have been pouring out steadily, requiring dressing every few minutes. Over a pail of feces must easily have escaped during the day; pulse 100, weak and thready, but no more vomiting; retains some nourishment by mouth; is very drowsy, almost comatose.

Oct. 15th.—Patient died 6 a.m. Feces still escaping freely.

No *post mortem* was allowed and on that account I am unable to give any idea of the cause. From a study of the case I would throw out the hernia as a cause entirely, looking to old peritonitic adhesions to intussusception or to cancer, as she had previously failed in health. Some thickening could be felt about the umbilicus, though it was not definite enough to give one a probable cause. It is probable that the motions of bowels recorded in the first two days came from below the obstruction. When we remember that usually such a case proves fatal in from three to six days (Osler) we must regard this as an unusual case.

NOTE.—(1) No movement of the bowels and the presence of acute obstruction for fourteen days, and probably no real relief of the obstruction for fifteen days. (2) That the formation of an artificial anus at the site of the rupture would have been an easy and successful operation. Where a rupture is present and the bowel in it is distended, an enterostomy at the site of the hernia should be considered. (3) As a therapeutic measure chloretone might at times be made to replace morphine; for three days it was a great aid in this case.

Society Reports.

TORONTO CLINICAL SOCIETY.

The first regular meeting of the Toronto Clinical Society for the season 1902-3, was held in St. George's Hall, Elm Street, on the evening of the 8th of October.

Dr. Edmund E. King, the President, occupied the chair.

On the meeting being called to order Dr. King delivered the annual presidential address. He made a feeling reference to the loss the society and profession generally had sustained through the recent death of one of the members, Dr. Bertram Spencer. He then proceeded to discuss and outline the work of the society for the current year, appealing for the hearty co-operation of the members in this respect. After this introduction Dr. King took up the consideration of the prostate gland, its affections and treatment therefor, presenting in an exhaustive and able manner a detailed review of the whole subject of prostatic surgery. At the conclusion of his very instructing address the president was accorded a hearty vote of thanks, moved by Dr. Oldright and seconded by Dr. Grasett.

Excision of the Upper End of the Humerus for Myeloid Sarcoma.

Dr. G. Silverthorn presented this patient, a child of eleven years of age, and read notes on the history of the case. This girl, who was of a well-nourished and healthy appearance, came to him complaining of difficulty in the right arm. An examination of the arm showed that it was held firmly fixed at the shoulder joint, with resistance on any attempt being made to move it in any direction. The upper end of the humerus was very much enlarged, which was well shown by a skiagraph. No fluctuation or egg shell crackling was to be made out. The diagnosis lay between sarcoma and tubercular disease. In the excision the lowest fibres of the pectoralis major were left, and a good result has been obtained. The wounds healed by first intention. The girl has now a fair amount of control over the extremity.

This case was discussed by Drs. Grasett, Oldright, Anderson, Bruce and the President.

Nose Building with Pariffin.

Dr. D. J. Gibb Wishart reported this case. After referring to the work which had been done in connection with this

subject, Dr. Wishart reported his case. The patient was a young girl about seventeen years of age. He used a mixture of paraffin and vaselin at a temperature of 112 degrees. His object in using high temperature was to avoid any possible molding of the paraffin. At least 110 should be used in these cases. It was injected by a large hypodermic needle with an ordinary piston syringe, and was injected from above downward. The injection not attended by any rise of temperature. Cocaine was not used, and no amount of congestion followed.

Drs. Ryerson, Boyd, Fenton and Silverthorn discussed this case.

Pathological Specimens.

Dr. Grasett presented the sac of a femoral hernia which he had removed from an elderly lady that day.

Dr. H. B. Anderson presented two specimens. The first was a trauma rupture of the ileum about twelve inches from the ileo-caecal valve, occurring in a man who had been scuffling. The second was secured from a case of gonorrhoeal endocarditis. Dr. H. A. Bruce showed double pus tubes operated on that day.

GEORGE ELLIOTT,

Recording Secretary.

TORONTO NURSES GRADUATE.—The graduating exercises of the Training School for Nurses in connection with the Toronto General Hospital were held October 10th, when eight graduates received their diplomas. The superintendent, in her annual report, stated that since the establishment of the training school, twenty-one years ago, there had been graduated from it 355 nurses, sixty of whom were now in other hospitals and institutions in positions of responsibility. Dr. George A. Peters delivered the address to the graduating class, while Dr. Charles O'Reilly, medical superintendent of the hospital, presented the diplomas.

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. ATKINS, T. M. McMAHON, H. J. HAMILTON,
AND INGERSOLL OLMSTED.

The Evil results of Internal Antisepsis—Mercury and Typhoid Fever.—(*Bulletin of the Academy of Medicine.*)

Robin, in 1892, reported to the academy the case of a syphilitic woman who, after a vigorous treatment by corrosive sublimate lasting thirty-six days, was attacked by an infectious broncho-pneumonia of such severity that she died in less than four days, having had most pronounced symptoms, which were not in the slightest degree relieved by the most active therapy. That case, which might be called a real laboratory experiment, proved that the method of internal antisepsis, which consists in saturating the organism with the most energetic antiseptics, in order to prevent a microbic infection, or to moderate the germination of the micro-organisms or to attenuate their virulence, is not applicable in therapy, however scientifically rational it may seem. Indeed, from that case the inference was drawn that the presence of mercury in the organism, far from lessening the microbic activity, was a preponderating cause of the severity of the broncho-pneumonia. This conclusion is strengthened by a case which Robin has recently reported from his clinic in the *Hospital della Pitié*. The latter case forms a new and decisive proof not only of the uselessness, but of the harmfulness, of internal antisepsis.

The case was one of typhoid fever, ending fatally, in a young woman of 25 years, who in August of last year had contracted syphilis. When she entered the hospital she had a typical secondary syphilis, with an intense roseola, cervical adenopathy, and mucous patches on the vulva, anus and throat. On the 2nd and 3rd of November she received hypodermic injections of two centigrammes of benzoate of mercury. From the 4th to the 8th, instead of the injections she received three pills a day of bichloride of mercury, one centigramme in each pill. Her system tolerated the pills well. The roseola began to fade and the mucous patches seemed to be disappearing. On the 9th and 10th she received four pills. On the 11th she complained of distress in the stomach and diarrhea. These symptoms were attributed to the pills, and they were stopped. On the 15th, the diarrhea being checked, the administration of the four pills was resumed and continued to the 17th. On the

18th the diarrhoea reappeared, and the temperature, which up to that day had been normal, reached in the evening $38^{\circ} 2\text{C}$. On the 19th the morning temperature was 38° and the evening $38^{\circ} 4$; on the 20th, morning 38° , evening $39^{\circ} 5$; on the 21st, morning $39^{\circ} 2$, evening $40^{\circ} 5$. On the 20th, putting together the symptoms and the positive results of the urinary examination, Robin diagnosed typhoid fever, so much the more as there were three cases of it in the same ward. On the 22nd dryness of the tongue was observed, also abdominal tympanism, return of the diarrhoea, gurgling in the right iliac fossa and a slight enlargement of the spleen. As soon as the diagnosis of typhoid fever was made systematic treatment was begun with cold baths, abundant clysters every two days, with the addition of a spoonful of Labarraque's solution, small doses, as a tonic, of quinine, etc. Judging from the temperature curve and the evolution of the symptoms, this was the fourth day of the infection, and as the patient had been in the ward for twenty-three days there was no doubt that she had contracted the disease in the hospital, as the average duration of the incubation period is fourteen days. She was placed on liquid diet: two litres of milk, one litre of broth and one litre of lemonade. On the 26th prostration was complete, the face cyanotic, the tongue dry and brown. There was abundant green diarrhoea, the spleen was very large, the abdomen tympanitic, both iliac fossæ painful, the skin dry, rose spots were present, the urine was scanty and contained gr. 0, 80 albumen. To relieve the arterial tension and to increase the diuresis, she was ordered infusion of digitalis. The temperature, which had remained high, with slight morning remissions, fell on the 30th to 38° , rising in the evening to $40^{\circ} 1$. On December 7th, a pemphigoid and hemorrhagic eruption appeared on the gluteal regions, extending on the 8th to the nates and the upper parts of the thighs. On the 9th the symptoms became more severe, and on the 10th the patient died. At the autopsy there was found a Peyer's patch near the ileo-cecal valve, deeply ulcerated, and also some other patches slightly ulcerated along the course of the ileum. The spleen was large and soft. Mercury, which was sought for, was found in the liver and spleen.

Robin concludes from this case that mercury does not prevent Eberth's bacillus from infecting the tissues and does not lessen its virulence. Some have thought that they could abort typhoid fever by administering gr. $1\frac{1}{2}$ of the black sulphuret of mercury, and at the same time making inunctions of mercurial ointment (Petit and Serres). Others have lauded calomel (Salet, Bouchard). Simone claims that calomel lowers the temperature on the tenth day of the disease, acts on the intestinal ulcerations, and protects them from the pathogenic

microbes of the intestine. Kalb has proposed mercurial frictions, claiming that in 80 per cent. of the cases, they shorten the febrile period. Others have administered the sublimate in doses of 5 gr. a day. But Robin's case shows that the use of mercurial preparations in the treatment of typhoid fever cannot accomplish intestinal or internal antiseptis. Calomel can be used as a purgative, as a cholagogue, or as a diuretic when there are such indications; but the mercurial preparations cannot constitute the basis of a systematic treatment, since they not only do not produce intra-organic antiseptic results, but they have this serious objection that they interfere with organic oxidation. We know that in typhoid fever we must stimulate the oxydizing powers of the organism—the best means of defence against auto-intoxication. Therefore mercury cannot be helpful to typhoid patients. It is rather to be considered hurtful since, as in the case just related, the saturation of the system with mercury may be one of the causes of the fatal issue of the disease.—Translated from *Giornale Internazionale delle Scienze Mediche*, by HARLEY SMITH.

Cardiac Dilatation and Asthenia.

Dr. Burney Yeo, of London, says that it will rarely in mild cases be necessary to have recourse to digitalis, except when there is much dyspnea and troublesome palpitation. In such cases small doses of digitalis may be given in combination with iron, such as :

℞ Ferri et ammonii citratis, gr. lxxx.
Tincturæ digitalis, mxl.
Spiritus ammoniæ aromatici, ℥ ij.
Infusi calumbæ, ad ℥ viij.

M. et ft. mistura.

Two tablespoonfuls twice a day, an hour after meals.

It is preferable in the less serious forms, however, to employ strophanthus, strychnine, or nux vomica, with coca, in combination with iron, quinine, or arsenic as may seem desirable. The following has been found to be very serviceable :

℞ Quininæ sulphatis, gr. xvj.
Tincturæ nucis vomicæ, f ℥ ij.
Vel tincture strophanthi, mxl.
Extracti cocæ fluidi, ℥ iv.
Spiritus chloroform, mlxxx.
Aquæ, q. s. ad ℥ viij.

M. et ft. mistura.

Two tablespoonfuls twice a day, an hour before food.

In purely anemic cases iron and nux vomica, together with some aperient to insure a regular action of the bowels, will be most appropriate, as:

℞ Ferri sulphatis exsiccatae, gr. xxxvj.
Saponis, gr. xvij.
Pulveris nucis vomicae, gr. xxiv.
Aloin, gr. iv.

M. et div. in pil. No. xxiv.

One or two (as necessary) twice daily, after lunch and dinner
—*Therapeutic Gazette.*

OPHTHALMOLOGY AND OTOTOLOGY.

IN CHARGE OF J. T. DUNCAN AND J. O. ORR.

As is well known, cases of shortsightedness or myopia fall into two categories: First, stationary, and second, progressive myopia. In the first class the shortsightedness is usually not excessive, or, in other words, the myopia is of low degree. In these cases the myopia usually does not increase, it is stationary. In the other class the error reaches a considerable height in youth, and increases constantly up to the twenty-fifth year—or even later—resulting in a high degree of myopia. This is properly spoken of as progressive myopia. The following remarks (A. Duane, in *N. Y. Medical Journal*, abstracted in *Medical Age*) gives the prophylactic treatment of myopia. 1. Making the patient wear the full correction of his myopia all the time, and both for distance and near (this means that the glasses should fully correct the myopia, and be worn all the time). This is of prime importance in all varieties of myopia, low, medium and high, stationary or progressive. If this measure is applied early it may check the progress of myopia altogether.

2. Proper attention to illumination, the size and legibility of the print, the quality of the paper used in the books read, the relative height and disposition of the seat and desk, and the many other factors that have been brought out by the zealous investigators into the subject of school hygiene. These are important but subsidiary matters.

3. In low and medium myopia, moderate restriction of near work, or rather its better distribution, so that it is done mainly by daylight and not for too long at any time: furthermore, momentary rest of the eyes at frequent intervals during the work. These rules to be the more strictly enforced the higher the myopia and the younger the patient.

4. In high myopia with evidences of progress, much more stringent restriction of near work. Open-air work to be encouraged, and the adoption of confining and eye-taxing occupations forbidden.

5. In medium, and especially in high myopia, plenty of sleep and out-of-door exercise.

6. Re-examination of the patient at frequent intervals (which in the case of high myopia should be very frequent), to determine how much the myopia has increased. If it has increased, the glasses should be increased also up to the full strength, and the hygienic regulations above detailed modified accordingly.

Dionin in Ophthalmology.

Dr. Schmitz (*Woch. f. Therap. u. Hyg. des Auges*, iv, No. 38) has had occasion to use dionin in five cases of ophthalmic disease, and expresses his great satisfaction with the results, especially in a case of parenchymatous keratitis. The patient, who was on the verge of total blindness, owes his recovery to a course of treatment with dionin. Other similar cases were recorded by the author. The application of the drug produces only transient swelling of the lids. The rapidly increasing favorable literature on dionin justifies the hope that the drug will prove to be a permanent acquisition in ophthalmic therapeutics.

Dr. Albert Terson draws our attention to the local analgesic value of dionin in hemorrhagic glaucoma. Glaucoma is a well known complication of the classical retinitis albuminurica, and treatment by iridectomy is in such cases contraindicated.

The author's patient, a woman of sixty, was suffering from pains due to glaucoma complicating the retinitis of Bright's disease. The pains were so intense and resisted all measures so obstinately that enucleation of the eyeball was considered. As a final resource dionin was tried, a solution of 1:40 being dropped in the eye thrice daily. The effect was most striking and prompt, and the patient thus narrowly escaped the operation. The analgesic action of dionin was also observed in other affections of the eye, and is confirmed by various authorities.

The Suprarenal Gland and its Preparations in Ophthalmic Practice.

G. E. DeSchweinitz (*Therapeutic Gazette*) has an interesting article on this subject. For some years the accumulated experience of many observers has demonstrated that the suprarenal gland itself and certain preparations of it and principles isolated from it are capable of producing a constricting

influence on the superficial vessels of the eye unequalled by any other substance with which we are acquainted.

The preparations commonly employed in ophthalmic practice are, suprarenin, epinephrin, atrabilin, adrenalin and the aqueous extract of the dried gland. Of the dried extract, for example, the one supplied by Armour & Co., five to ten grains to the drachm of sterilized water, may be employed, and to each drachm of the water one minim of carbolic acid may be added, as suggested by Joseph Mullen. In place of water, a saturated solution of boric acid is utilized by some surgeons—for example, W. H. Bates. This solution should be filtered before using it. The sterilized solution of adrenalin chloride, 1:1000, as prepared by Parke, Davis & Co., may be diluted, as required, with sterilized water, physiological salt solution, or boric acid, etc.

Local Action on the Inflamed Eye.—From forty to sixty seconds after the application of the suprarenal preparations to an inflamed eye, depending somewhat upon the character of the inflammation and the depth of the congestion, a marked anemia is produced. If the ocular condition represents a simple hyperemia or overdistention of the conjunctival vessels in a conjunctivitis, the blanching is just as pronounced as in the normal eye. If the iris and ciliary body are inflamed and the so-called ciliary congestion is prominent, there is much difference of opinion as to whether this can be dissipated in like manner.

Therapeutic indications.—1. To relieve hyperemia of the conjunctiva when this is caused, for example, by local irritation, nasal catarrh, hay-fever, eye-strain, etc. Under these circumstances adrenalin is particularly valuable and may be employed in very dilute solutions in the form of collyrium associated with boric acid. For example, 1 drachm of the 1:1000 solution, in 2 ounces of distilled water, with 10 grains of boracic acid, frequently employed, is effectual.

2. In some types of vascular keratitis and scleritis (von Reuss), repeated instillations under these circumstances reduce the vascularization and allow the tissues a chance to recover.

3. To enhance the action of cocaine, atropine, eserine, and pilocarpine by promoting their absorption. The adrenalin preparations are first used, and followed during the period of blanching by the drugs named in any of the conditions in which they are required.

4. To reduce, possibly, the tension in glaucoma, as has been pointed out by Bates, Darier, Reynolds and other observers.

5. To facilitate the introduction of lacrimal sounds, the preparations being first injected through the canaliculus into

the *ductus ad nasum*, their effect being to lessen the congestion and consequently promote the ease with which the sound is passed.

6. To relieve ciliary pain, as has been pointed out by Dudley Reynolds, for example, in all forms of keratitis, iritis, and cyclitis with glaucoma.

7. To modify, according to the same observer, and even to clear up, certain opacities of the cornea—for example, those which follow contusions, and even the opacities in syphilitic iritis.

8. To produce a cosmetic effect.

Hemostatic Value.—There is also much difference of opinion as to the value of these preparations in checking hemorrhage, and if I may quote my own experience, I would say that while they certainly are of use in preventing the oozing from small vessels—for example, in a pterygium operation, in incision of the conjunctiva preparatory to tenotomy, and perhaps even in making an iridectomy—they are of little or no value when the bleeding takes place from larger or even medium-sized vessels.

There is some difference of opinion also in regard to the value of the various preparations. The two most used in this country, adrenalin chloride and aqueous solutions of the dried extract, if I may quote my own observations, yield practically identical results. Solutions of adrenalin chloride have the advantage of being perfectly clear, are more readily kept, and are less subject, I think, to contamination. They have the disadvantage, however, of occasionally producing marked irritation, and I have seen a number of hyperemic conjunctivas grow markedly more hyperemic after the subsidence of the blanching than they were prior to its use, and the patient has complained not only at the moment of the application, but some time afterward, of a stinging and burning sensation.

J. T. D.

LARYNGOLOGY AND RHINOLOGY

IN CHARGE OF J. PRICE-BROWN.

Action of Ozone in Whooping-Cough.—DELHERM (*Archive des Infants*, May, 1902).

Delherm, after treating 28 cases of pertussis by inhalation of ozone, reports the results of his experience. He claims that while it is not a specific for this disease, it possesses undoubted antispasmodic properties, and should be used during the paroxysms only, three or four inhalations of ten minutes each might be given during the 24 hours. The effect is to shorten and lighten

the attacks, as well as to diminish their number. Ozone is not toxic, and might be given in conjunction with other remedies.

The Diagnosis and Treatment of Malignant Stricture of the Esophagus.—CHARLES J. SYMONDS (*Journal of Laryn., Rhin. and Otol.*, September, 1902).

This paper, read by Mr. Symonds before the Laryngological Society of London last June, is already recognized by his confreres as a classic of more than ordinary value—as it is based upon the careful study of a very large number of cases treated by himself.

As a rule, carcinoma of the esophagus is characterized by a gradual development of difficulty in swallowing, at first of solids and then of liquids. Sometimes, however, though early, dysphagia will develop suddenly. In other cases intense loathing of food has been the chief symptom; while in still rarer instances, the breaking down of the carcinomatous tissue has been so rapid that obstruction has never been noticeable.

Of all methods of diagnosis in early cases, the passing of the bougie is the most important, and upon this point the writer gives a very practical hint. It is to pass the bougie past the cricoid during the act of inspiration, or while the act of swallowing is being performed—the former draws down the larynx—the latter draws it up. While inserting the bougie, the operator should always guard against the possibility of entering the trachea.

The diagnosis and treatment vary according to the location of the disease, in the upper, middle, or lower third.

The writer believes that no obstructive lesion, other than malignant, can occur in the upper third. There are three conditions, however, that may simulate it: namely, senile dysphagia, nervous dysphagia, and esophageal pouch. When there is any difficulty in prognosis he considers it best to give an opinion against malignancy, and to await developments.

Stricture in the middle third, although usually carcinomatous, may be caused by myoma or sarcoma.

In the lower third—15 to 17 inches from the teeth—simple or spasmodic obstruction not infrequently occurs.

The writer summarizes the diagnosis as follows:

1. Among early symptoms we may base so-called "dyspepsia," nausea and repulsion for food; pain alone when the central region is affected.
2. That the passage of a bougie is the only way to clear up the case, and that its employment need not be feared.

3. That extra esophageal disease rarely gives rise to serious dysphagia.

4. That spasmodic obstruction, apart from hysterical form, has always, when decided, an organic cause; and this would be better called intermittent dysphagia.

5. That with regard to the three special districts it may be said: (a) That all organic obstruction in the upper third is malignant, and has a special tendency to cicatrize. (b) That in the central half of the gullet a sarcoma or a myoma, both rare diseases, may cause fatal obstruction; that here also a pouch may give rise to difficulty in diagnosis, but can generally be excluded. (c) That in the lower end alone does simple stenosis occur, and that here there may be difficulty in distinguishing from cancer of the stomach, causing great reduction of the cavity (leather bottle stomach). Finally, that in estimating the extent of the disease, the special value of the steel bolt is noted, and also the use of the Condé bougie in obstruction at the lower end.

With regard to treatment, Mr. Symonds believes in letting the patient alone as long as swallowing can be carried on with sufficient freedom to adequately support life. While bougies can be readily passed, operation is not justifiable, but when dysphagia becomes extreme, a tube should be introduced or gastrostomy performed. He also offers the practical suggestion that a dose of opium being taken the preceding night by the patient, enables the operator to pass the tube more readily.

The treatment varies with the situation of the disease. In the upper third the introduction of a long, soft rubber feeding tube, when possible, was the best. If that failed, or could not be accomplished, gastrostomy was the only other resort.

The central portion of the esophagus is the most suitable for the use of short tubes (Symonds'). They should be four inches long, should terminate like a straight catheter, with two large lateral eyes. The contraindication for the use of this tube is the presence of cough and hemorrhage.

In disease of the lower end no tubes of any kind are tolerated, being rejected by the action of the diaphragm. Hence when swallowing can no longer be accomplished, nor bougies introduced through the stricture, gastrostomy becomes imperative. It is a hopeful operation also, as the stricture in this region may be simple and an ultimate cure made.

When tubes are passed under an anesthetic, Symonds says there is great danger of them entering the larynx. To guard against which he insists upon the advisability of the use of the laryngoscope. When gastrostomy becomes necessary it should be done as early as possible.

A Simple Method of Correcting Certain Deformities of the Nasal Septum.—GEORGE FETTEROLF (*Laryngoscope*, August, 1902).

This is another addition to the long list of methods advocated for the treatment of septal deviations. It is a modification of Kyle's plan. While the latter removes V-shaped sections of the protruding cartilage by knife cuts, after dissecting up the mucous membrane, Fetterolf has constructed a saw file, so shaped that without dissection or previous cutting, it will remove the required V-shaped segment of mucous membrane and cartilage combined.

An anesthetic is always required. After making one or two parallel cuts from before backwards, over the convex cartilage, as the case may need, he inserts the Adam's forceps down to the floor of the nose, and by it breaks the basal attachment of the lower segment and presses it over past the median line. The upper segments are then easily pushed over, and the operation finished by inserting a Kyle's tube.

The after treatment consists of watching the patient for six weeks after the operation. The tube is kept clean by spraying with a warm alkaline solution followed by a bland oil. It is first removed after five days. Subsequent to that, at intervals of two to four days; the regular daily cleansing still to be continued.

The advantages claimed for this method of treatment are the following:

1. No preliminary dissection of mucous membrane required.
2. A properly shaped strip of tissue is removed.
3. The strip is quickly removed, so that prolonged anesthesia is not required.
4. The margins of the cut are exactly parallel, and thus accurate coaptation and quick union are promoted.
5. The bony septum can be attacked as satisfactorily as the cartilaginous.

(If in following the Fetterolf plan, a rubber splint was used instead of a hard tube, it would not require removal until healing was accomplished—the cleansing by an oil spray, above and below the instrument, being sufficient to keep the parts in an aseptic condition. The irritation of removing and replacing the tube at regular intervals would thus be avoided.—ABSTRACTOR.)

The Controlling of Hemorrhage After Tonsillotomy.—HEERMANN (*Archiv. fuer Laryngologie*, Vol. 12, No. 111).

This is the report of severe hemorrhage following the removal of a tonsil in a man aged forty-six years. All ordinary methods of control failed. As a last resort, the writer passed silk liga-

tures through the anterior and posterior pillars, and tied them firmly together, with the effect of immediately checking the bleeding. No distress followed.

This is an old method of treatment, and one that has been practiced successfully at the City Hospital of Cologne for twenty years or more.

**Direct Endoscopy of the Upper Air-Passages and Esophagus ;
Its Diagnostic and Therapeutic Value in the Search for and
Removal of Foreign Bodies.**—GUSTAVE KILLIAN (*Jour. Lar.-
Rhin. and Otol.*, September, 1902).

Professor Killian, of the University of Freiburg, demonstrates in this paper the advantages of a wider application of Kirstein's Autoscope, by which a direct vision of the air passages and esophagus may be obtained in a straight line, without damage to these organs.

According to this writer, neither the esophageal probe with olive shaped tip nor the skiagraph can always be depended upon in diagnosis. The olive passes along the posterior wall of the esophagus, and if a foreign body is imported in the anterior wall, it may slip past it without coming in contact. In using the Roentgen-ray the shadow of the foreign body may in some cases be hidden by the shadow of the vertebræ or of the heart, while some foreign bodies give no shadow at all.

Hence direct esophagoscopy is the only absolutely reliable method of examining the gullet from end to end; and although a new method, it is claimed that it can be employed in most patients by practised hands. Local anesthesia by cocaine will do in many cases. In children and nervous subjects generally, anesthesia may be required. By this means the exact form and location of the foreign body within the esophagus may be ascertained, and also the condition of the canal itself. This knowledge and direct vision will enable the operator to select the instrument suitable to the case, and also to remove the foreign body *per vias naturales*.

The most suitable instruments for extraction are in the form of long slender forceps.

In order to obtain direct vision, the head is thrown backward and the tongue and epiglottis drawn forward by a Kirstein spatula, the parts being illuminated by the head-light. In children it is better to administer an anesthetic and have the head drawn over the end of a table.

In removing foreign bodies from the trachea, Killian much prefers, after placing the patient in position, to use a straight tube of length and width sufficient to enter the prima glottidis. He is thus independent of reflex action of the pharynx or

larynx. By this means foreign bodies are easily discovered and extracted.

When tracheotomy has been required, and the foreign body not coughed up, a short straight tube can be inserted, through the tracheotomy wound, into the cocaineized trachea, and bronchoscopy practised through it. For the removal of foreign bodies by this means from the bronchi, a good view, great care, and stillness of the patient, are required. Slender tubular forceps and blunt hooklets, are the instruments of most value.

Out of fifteen cases that have been operated upon, for removal of foreign bodies from the bronchial tubes by the aid of bronchoscopy, thirteen have been successful, two unsuccessful. In only one case was there a fatal result after the body had been extracted. This did not occur until nine months afterwards, and was caused by empyemia upon the healthy side.

PEDIATRICS.

IN CHARGE OF ALLEN BAINES, W. J. GREIG, AND W. B. THISTLE

Tuberculous Cervical Adenitis (MITCHELL, in Johns Hopkins Hospital *Bulletin*, July, 1902.)

In a comprehensive paper, the writer, after dealing with such topics as causation, condition of the lungs, pathology, symptoms, diagnosis, treatment, etc., draws the following conclusions:

1. Tuberculous cervical adenitis is primarily a local disease of very frequent occurrence, more often in young persons; in itself not extremely serious, and rarely, if ever, proving fatal.
2. It bears a certain definite relation to tuberculosis of the lungs, and serves as the starting point from which tuberculosis may spread.
3. The tuberculin test as an aid to diagnosis is positive and harmless.
4. While recovery may often take place under good hygienic conditions, surgical interference is clearly demanded in most cases.
5. When surgical treatment is resorted to, the operation should be radical in all cases.
6. Recovery may be predicted in 70 to 80 per cent. of cases so treated. Tuberculosis of the lung after complete removal of the glands is comparatively rare.
7. Tuberculosis of the lungs, unless far advanced, is not a contra-indication to operation, the removal of the glands apparently exerting a beneficial influence on the condition of the lungs.

Essential or Toxemic Dropsies in Children (ACKERS, in *American Journal of Obstetrics*, August, 1902.)

These cases present all of the appearances of venal disease—swelling of the extremities, puffiness of the face and edema of the skin. Examination of the urine is negative. The heart and lungs are also in good condition.

This form of dropsy has been described under the terms "Essential or Toxemic Dropsy." Four cases are given, and in each case the dropsy was associated with gastro-intestinal disease, the child being in poor physical condition and worn out by the drain on the system before the dropsy appeared. The writer claims that it is always secondary to gastro-intestinal disease.

No *post mortem* was held in his one fatal case, but the writer asserts that, from the frequent urinary analyses made, no kidney lesion could have been present without discovery.

This has been called toxemic dropsy on account of the supposed presence of a toxin, and this is the opinion of the writer; and if there is no toxin there must be a chemical alteration of the blood which permits the transudation of the serum into the tissues.

Hold, Ashby and Bristin claim that the anemia will explain the dropsy. The writer denies this, and asserts that there are many cases of anemia in which no dropsy occurs, and that therefore some other agency must be present.

Etiology of Hodgkins Disease (*Pediatrics*, April 15th, 1902.)

John M. Dodson reports a case as his contribution to the discussion of the tubercular origin of this disease. There was a general enlargement of all the superficial glands of the neck, varying in size from a filbert to a hen's egg. Glands not tender, nor any evidence of inflammation present. No pressure symptoms and no enlargement of the axillary, abdominal or axillary glands. Spleen not palpable, and no leucocytosis. A diagnosis of the cervical adenitis, probably tubercular, was made, though the possibility of Hodgkins was considered. A gland was removed, but no tubercle or bacilli were found. This, with the failure of the tuberculin test, made a diagnosis of Hodgkins disease more probable. Fowler's solution was given, with a favorable result. It is highly probable that the disease is of infectious origin, but the nature of the infection is unknown.

To justify the diagnosis the writer claims that where there is absence of any antecedent affection of the throat, of pain and tenderness in the glands, of periadenitis, or of any tendency to suppuration, we properly exclude a diagnosis of chronic lymphadenitis.

He made his diagnosis in the failure of tuberculin test and the absence of tubercle in microscopic examination. W. J. G.

Editorials.

THE HOSPITAL SUPERINTENDENTS' ASSOCIATION.

The Hospital Superintendents of America held their fourth annual meeting in Philadelphia, October 14th to 16th. In the absence of the President, Dr. Duryea, of Brooklyn, the Vice-President, Dr. Chas. O'Reilly, of Toronto, acted as chairman. The meeting is said to have been very successful in all respects.

Among the subjects discussed were the following: "The Relation of the Hospital to the Body Politic," "Hospital Organization," "Hospital Reports and Records," "Dispensary Service," and "Hospital Construction." Among the very enjoyable social events were a tally-ho ride through the city park, a banquet, and a trip to Atlantic City.

The next meeting of the society will be held in Cincinnati, under the presidency of Dr. John P. Fahrenbach, Superintendent of the Cincinnati Hospital, October 20th to 22nd. Dr. O'Reilly, after refusing the presidency, was re-elected Vice-President.

GENERAL HOSPITAL ALUMNÆ ASSOCIATION.

There was a large and representative gathering at the third annual luncheon of the Toronto General Hospital Alumnæ Association at McConkey's restaurant, October 31st. Mrs. Pafford, President, occupied the chair, and on her right was Miss Snively, Honorary President. There were present about seventy, including Miss McLeod, of Ottawa; Miss Patton, of Grace Hospital; Miss Mattheson, of the Isolation Hospital; Miss Eastwood, of the Victoria Order, Toronto; Miss Davidson, of the School of Domestic Science; Miss Watson, of the Convalescent Home; Miss Sharpe, of Woodstock; Miss Hall, Miss Wismer, Mrs. Malloch, Dr. Jennie Grey, Dr. Helen MacMurchy, Mrs. Jean Blewett, etc. It is stated that the tables were beautifully decorated with pink and white chrysanthemums, and beside each plate lay a bunch of violets tied with violet ribbon. The

menu cards were also violet—the 'Training School color. Many toasts were proposed, and received suitable responses, and the proceedings altogether were most enjoyable.

THE CONGRESS OF GYNECOLOGY AND OBSTETRICS AT ROME.

The fourth International Congress of Gynecology and Obstetrics was held at Rome, September 15th to 21st, under the presidency of Professor Ercole Pasquali. The following subjects were discussed: (1) The medical indications for the induction of labor; (2) hysterectomy for puerperal infection; (3) tuberculosis; (4) surgical treatment of cancer of the uterus. Among those who took a prominent part in the discussions were Pinard, Pozzi, Schauta, Leopold, Hofmeyer, Martin and Veit. The only obstetricians and gynecologists of Great Britain present were Simpson, of Edinburgh, and Jap Sinclair, of Manchester.

The *British Medical Journal* thinks it is possible that the Congress may some day make way for an International Gynecological Society. In the mean time the Congress does good work and deserves more encouragement from the profession of Great Britain, Canada and the United States than it has received in the past.

Medical Faculty, University of Toronto.

The total number of regular students registered for this session is 430. There were 405 during last session. The number of freshmen this year is, however, smaller than last, there being 102 this session and 131 last. This is thought to be due to the fact that several have registered in the Arts department for the combined six year course in arts and medicine recently instituted. Between twenty-five and thirty have selected this course, which we believe will be an excellent one. These men will not be registered as students in medicine until they have completed two years in arts. If occasional students were added the total number for this session would be about 500. The new building is rapidly approaching completion.

The Ontario Medical Council Elections.

There is not much excitement over the elections for the Ontario Medical Council so far as we can learn. Dr. Albert A. Macdonald will undoubtedly be re-elected in West Toronto—probably by acclamation. Drs. Edmund E. King and Charles J. Hastings are the candidates for election in East-Toronto. Dr. Barrick, the former popular representative, refused to again become a candidate.

In the other divisions most of the former members are likely to be re-elected without opposition. There are some rather notable exceptions, however. In Division No. 2, Dr. Mearns, of Woodstock, has entered the field in opposition to Dr. Williams, of Ingersoll. In Division No. 9 there will be a three-cornered contest between Dr. Hanly, of Midland, Dr. Aylesworth, of Collingwood, and Dr. Gibson, of Sault Ste Marie. In Division No. 17, Dr. Powell is being opposed by Dr. Klotz. Both candidates are practitioners of Ottawa. Dr. J. Algernon Temple has been elected as the representative of the Trinity Medical College.

At Ayton, on Saturday, September 27th, Mr. Charles Jones was brought before Police Magistrate Regan, charged with practising medicine contrary to law. It was admitted that the defendant practised without having the necessary qualifications, never having passed any of the required examinations to entitle him to practise. The magistrate found him guilty of the charge laid, and sentenced him to pay a fine of \$25 and costs, or in default to go to jail. M. O. McGregor, Police Magistrate, of Mount Forest, appeared for the defendant, and A. S. Clarke for the Medical Council.

Alvarenga Prize.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about One Hundred and Eighty Dollars, will be made on July 14, 1903, provided that an Essay deemed by the Committee of Award to be worthy of the Prize shall have been offered.

Essays intended for competition may be upon any subject

in Medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1903.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

The Alvarenga Prize for 1902 was not awarded, the Committee having decided that no essay of sufficiently high standard was submitted in competition.

THOMAS R. NEILSON, M.D., *Secretary.*

DR. APOSTOLI'S HOSPITAL.

(15 RUE MONTMARTRE, PARIS.)

Dr. Laguerriere, director of the Special Hospital, and Louis Delherm, house surgeon of the Paris hospitals, will make twelve practical conferences on Medical Electricity in November and December, 1902:

PROGRAMME.

- I., II. Electrophysic and Apparatuses.
- III. Physical and Physiological Effects of Electricity on Living Beings.
- IV., V. Gynecology.
- VI., VII. Digestive Bile.
- VIII., IX. Nervous Diseases.
- X. Nutritive Diseases.
- XI. Skin Diseases.
- XII. Various Applications (articular diseases).

A similar series will take place in June and July, 1903.

For particulars, address to the Special Hospital, 15 Rue Montmartre, Paris, from 4 to 5 o'clock.

The new Toronto Orthopedic Hospital, on Bloor Street West, was opened, October 5th.

The Medical Council of Quebec, by a vote of twenty-one to eleven, has rejected a resolution to provide for the introduction of a measure into the Quebec Legislature assenting to the provisions of Dr. Roddick's Bill for a Dominion Medical Council.

Personals.

Dr. Schomberg Elliot has returned to Toronto after a trip to Europe.

Dr. J. Chalmers Cameron, of Montreal, visited Toronto, October 20th.

Dr. W. H. Alexander, of Toronto, was married, October 16th, to Miss Laird.

Dr. W. Rushmer White, of Baltimore, spent the first week of October in Toronto.

Dr. Francis G. Wallbridge, of Midland, was married, October 28th, to Miss Keating.

Dr. Farncombe, of Trenton, Ontario, spent a few days in Toronto early in October.

Dr. Ezra A. Haist, of Crediton, was married, October 30th, to Miss Walker, of Toronto.

Dr. P. E. Doolittle, of Toronto, sailed for England by the *Lucania* from New York, October 18th.

Dr. J. M. Jory, recently returned from South Africa, has commenced practice in St. Catharines.

Dr. J. H. McFaul, of Toronto, who was seriously ill during the early part of October has recovered.

Surgeon Lieut.-Colonel G. Sterling Ryerson, Toronto, has been promoted to the full rank of Colonel.

Dr. Elias Clouse, of Toronto, returned to his home, October 23rd, after spending a couple of weeks in Baltimore.

Dr. W. C. Morrison, of Pinkerton, Ont., is spending some months doing post-graduate work in London, England.

Dr. E. M. Von Eberts has been appointed Registrar of McGill Medical Faculty, in the place of Dr. R. F. Ruttan, resigned.

Dr. J. Churchill Patton, of Toronto, returned to his home after an extended tour in the United States, October 20th.

Dr. W. T. Wilson, assistant physician at the Asylum for Insane, London, has been transferred to the Hamilton Asylum.

Dr. Duncan M. Anderson, lately surgeon to the Canadian Mounted Rifles, has commenced practice in Toronto at 241 Wellesley Street.

We are glad to announce that Dr. L. L. Palmer, of Toronto, who has been seriously ill from septicemia for several weeks, is slowly recovering.

Major F. L. Vaux, after returning from special service in South Africa, has been appointed a captain in the Canadian Army Medical Staff.

Dr. W. G. O. Dowsley, who has been practising for about a year and a half at Michipicoter, has removed to Toronto and opened an office on Robinson Street.

Dr. James Anderson, of Hamilton, is at present engaged in post-graduate in New York. He will go to London, England, shortly and remain there for some time.

Dr. John Barr, M.P.P., of Shelburne, was seriously injured in a buggy collision accident, October 22nd, resulting in a compound fracture of the leg near the ankle. He is now in the Toronto General Hospital, and is improving rapidly.

Surgeon-Major W. A. Willoughby, M.P.P., of Colborne, has been granted the honorary rank of Surgeon-Lieutenant-Colonel, 40th (Northumberland) Regiment.

Dr. T. S. Sproule, M.P., for East Grey, was in Toronto, October 26th, after his return from an extended tour in Manitoba, North-West Territory and British Columbia.

It is stated that Dr. T. H. Starkey, of University College Hospital, London, England, is likely to be appointed Professor of Hygiene in the place of Dr. Wyatt Johnston, deceased.

After attending the meeting of the Hospital Superintendents in Philadelphia, Dr. Charles O'Reilly, of Toronto, spent ten days in Atlantic City, New York and Buffalo, and returned to Toronto, October 26th.

Mr. Brefney O'Reilly, who is now in his fourth year in medicine, has quite recovered from an appendicectomy recently performed. He returned to Toronto, November 1st, after spending a fortnight at the Welland Hotel, St. Catharines.

Dr. Colin Campbell, of Toronto, one of the resident internes, Toronto General Hospital, 1899-1900, after acting as surgeon on the C. P. R. steamship *Empress of India* for two years has resigned, and recently visited his friends in Toronto. He left in October for Europe where he will be engaged in post-graduate work for some time.

Dr. G. H. Carveth has opened a private hospital at 239 College Street, Toronto, with good accommodation, home comforts and efficient nursing, under the supervision of physicians who send in patients.

WILLIAM H. CLUTTON, M.P.

Dr. Clutton died at his home in Edgar, near Barrie, in August. He graduated M.B., University of Toronto, in 1888.

INGLIS LOUGH, M.D.

Dr. Lough died suddenly at his late residence, 14 St. Patrick Street, Toronto, October 31st. He formerly lived in Bermuda, and had not been in active practice for several years. He came to Toronto twenty-six years ago. The cause of his death was said to be heart failure.

HOBERT S. GILBERT, B.A., M.B.

Dr. H. S. Gilbert died of heart disease at Brooklin, Ontario, October 15th, 1902. After graduating in medicine, Toronto University, in 1900, he commenced practice in Angelica, N.Y., and was unusually successful. He was compelled to give up work last July, and came to Brooklin with a hope that a rest would restore him to health. His friends were much disappointed to find him steadily growing worse until death came.

DUNCAN McLARTY, M.D., M.R.C.S., Eng.

Dr. Duncan McLarty, of St. Thomas, died at the Buffalo General Hospital, November 7th, aged 63. He had been ill for about a year, and submitted to an operation, from which much was hoped. He did not rally properly, however. On the following day he sank rapidly, and died somewhat suddenly. He was one of the most prominent physicians of Western Ontario, and was twice Mayor of St. Thomas.

FRED C. STEELE, M.B.

Dr. Fred Steele, who had been practising for five years in Bracebridge, died of typhoid fever, October 31st, aged 30. He received his medical education in the University of Toronto,

graduating in 1896. He was very successful as a practitioner, and his prospects were of the brightest sort. Apart from his ability as a physician he was much liked by his many friends, most of whom were greatly shocked to hear of his death before they knew anything about his illness. His widow and one child survive.

THOMAS PATRICK WEIR, M.D.

Dr. Weir died in Toronto, October 27th, after an illness of a few weeks, from tuberculosis. After graduating, M.B., University of Toronto in 1888, he acted as one of the resident staff of the Toronto General Hospital for one year. He then became a member of the medical staff of the Asylum for Insane, Toronto, where he remained for four years. He commenced general practice in Toronto in 1893, but went to Port Arthur in 1900, where he practised until he was seized with acute tuberculosis. His wife and one daughter survive him.

Book Reviews.

Progressive Medicine, Vol. III, September, 1902. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HAKE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 421 pages, 26 illustrations. Per volume, \$2.50, by express prepaid to address. Per annum, in four cloth-bound volumes, \$10.00. Lea Brothers & Co., Publishers, Philadelphia and New York.

This third volume for the year of "Progressive Medicine" emulates the attractiveness of its predecessors, and will be found well worthy the careful study of every practitioner of medicine and surgery.

In this volume the first article covers the diseases of the thorax and its viscera, including the heart, lungs and blood-vessels by that most charming of English medical writers and specialists, William Ewart, of London. It deals with a group of diseases that the physician meets constantly in his daily practice. To him a thorough knowledge of the latest advances in connection therewith is an absolute necessity, and here it is to his hand, gleaned, condensed and in such form as cannot fail of appreciation.

Dermatology and syphilis are treated by William S. Gottheil, Professor of Dermatology and Syphilography in the New York School of Clinical Medicine, in a clear, lucid style so easy of understanding, and so acceptable to the practitioner who will find not only material for thought but information that will be found of infinite use in the treatment of this troublesome class of diseases that he meets daily in his practice.

Diseases of the nervous system from the pen of William G. Spiller, of the University of Pennsylvania, will be found not only of interest to the specialist but to all who have this class of patients come before them. The leading neurologists have been during the past year unusually active, and almost every name of note will be found mentioned in connection with articles of living importance to the profession.

The fourth and last but not least article in the volume is prepared by Richard C. Norris, of the University of Pennsylvania. That it is well done goes without saying, as is all that appears from Dr. Norris' facile pen. The entire ground of obstetrics, covering pregnancy, the management of labor, obstetrical surgery, tumors complicating pregnancy, labor obstructed by pelvic deformity, placenta previa, postpartum hemorrhage, the management of puerperium and the care of the new-born infant have been gone over in a painstaking way that insures the reader of "Progressive Medicine" a complete résumé of all that is new in these important branches of the subject.

In short, this volume will be found to contain all that is new on the subjects which it covers.

In medical literature so vast is the number of volumes and periodical articles which annually appear that no practitioner can hope, without such an aid as "Progressive Medicine," to keep abreast of the rapid advances that take place, and no one who attempts to do his duty by his patients can afford to be without these volumes, and there is no one, however well he may be posted, but can find ample material well worthy of his careful investigation and study.

Practical Diagnosis. The use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Fourth edition, enlarged and thoroughly revised. In one octavo volume of 727 pages, with 236 engravings and 25 full-page colored plates. Cloth, \$5.00, net; leather, \$6.00, net; half morocco, \$7.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

In preparing the fifth edition of this work, the author has rewritten a very large part of it, and has by the addition of much new material and by the careful revision of the earlier text kept the book abreast of the advances in diagnostic technique, with the object of providing the practitioner with a manual which will be an efficient aid to him in studying his cases.

The primary object of the work is to present the symptoms of a disease as they appear, and from this group of symptoms to arrive at a diagnosis, following the methods which are ordinarily employed at the bedside. Thus, if a patient has paraplegia, the reader will find in the chapter on the feet and legs a description of the symptoms of the various causes of the loss of power in the lower limbs, and so be led to a diagnosis of locomotor ataxia, myelitis, or neuritis, as the case may be, and in the chapter on vomiting there will be found discussed the various causes which produce this annoying and dangerous symptom.

The present edition differs materially from its predecessors in that its scope has been broadened to include not only the symptoms, discussed in the manner just described, but also the physical signs and clinical tests which experience has proved to be reliable. These have been considered much more fully than before, with the object of making the book as complete as possible. A large number of illustrations, most of them dealing with actual cases, have been introduced.

It is not surprising that this work has come to its fifth edition in six years, for in addition to its great practical value it is arranged with a view to maximum facility of reference, and its frequent revisions keep it always up to the most recent advances in its subject.

A Text-Book of Materia Medica, Therapeutics and Pharmacology. By GEORGE F. BUTLER, Ph.G., M.D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, Medical Department of the University of Illinois, etc. Fourth edition, thoroughly revised. Handsome octavo volume of 896 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, \$4.00 net; sheep or half morocco, \$5.00 net. Canadian Agents, J. A. Carveth & Co., Parliament Street, Toronto.

The new edition of this commendable work is offered to the profession after a careful and complete revision. The pharmacology and therapeutics of each drug have been thoroughly revised, incorporating all the recent advances made in pharmacodynamics. In view of a larger experience, resulting in more definite conclusions, numerous modifications have been made in the expressions of opinion regarding the utility of certain drugs, notably the newer synthetics. The chapters on organotherapy, serum-therapy, and cognate subjects have been enlarged and carefully revised. The author has wisely chosen for description only those drugs in common use, omitting many new remedies of doubtful value, and many of the official drugs which are practically never used. The book is an admirable one both for students and practitioners.

Essentials of Diseases of the Ear. By E. B. GLEASON, S.B., M.D., Clinical Professor of Otolology, Medico-Chirurgical College, Philadelphia; Surgeon in charge of the nose, throat and ear department of the Northern Dispensary, Philadelphia, etc. Third edition, thoroughly revised. 16 mo. volume of 214 pages, with 114 illustrations. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, \$1.00 net. Canadian Agents: J. A. Carveth & Co., Parliament Street, Toronto.

This valuable little help, one of Saunders' Question-Compend Series, has reached its third edition. The book will be found of service, not alone as an aid to the student, but also to the physician who wishes to take a post-graduate course in otology, enabling him, as it does, to acquire the rudimentary facts of the science with as little preliminary reading as possible. The essentials of otology have been stated concisely, without sacrificing accuracy to brevity. The diagnosis and treatment of diseases of the ear have been brought absolutely down to date by a thoroughly scrupulous revision; only such methods of treatment being included, however, that have personally proved efficacious in the majority of cases. Besides carefully revising the old text, many interpolations of new matter have been made, thus somewhat increasing the number of pages in the present edition. The illustrations—many from original drawings—have been selected with the aims of the book constantly in view; and they form a very commendable feature of the work. Indeed, the little volume before us will unquestionably continue to be one of the most popular of Saunders' unequalled question-compend series.

A System of Physiological Therapeutics. A practical exposition of the methods other than drug-giving, useful in the prevention of disease and in the treatment of the sick. Edited by SOLOMON SOLISCOHEN, A.M., M.D., Professor of Medicine in the Philadelphia *Polyclinic*. Volumes III. and IV., Climatology - Health Resorts, Mineral Springs. By F. PARKES WEBER, M.A., M.D., F.R.C.P., Lond., with the collaboration for America of Guy Hinsdale, M.A., M.D. In two volumes. Philadelphia: P. Blakiston's Son & Co., 1901.

Book I. is divided into two parts. The first deals with the elements of climate, altitude, and aerial currents, soil and general topography. The classification and general effect of the different classes of climate. The second part treats of ocean climates and sea voyages and resorts on the European coasts, and of Inland Europe and the British Isles.

Volume IV. of this excellent system takes up such topics as the health resorts of Africa, Asia, inland resorts of the Pacific, South America, Central America, the West Indies and Bermuda. It gives also a classification of the climates of Canada the United States, Mexico, and neighboring isles; health resorts in the Dominion of Canada, the resorts of the United States of America, the Republic of Mexico, and the Hawaiian Islands.

Following this is taken up the question of the general management of patients at health resorts, and most valuable chapters of special therapeutics complete two volumes of great interest and usefulness.

Correspondence.

To the Editor of CANADIAN PRACTITIONER AND REVIEW.

DEAR SIR,—The active staff of the Girls' Home were obliged to resign in a body within the past month, owing to a disagreement with the Board of Management, after repeated efforts on their part to come together. The action of the Board was such that no self-respecting medical practitioner could consent to act further under prevailing arrangements.

Members of the profession proposing to seek appointment on the Home staff would act in their own, and the profession's interest, if they would call upon me before accepting such appointment.

Yours very truly,

D. J. GIBB WISHART,

Senior member of the late staff.

Toronto, October, 1902.

HOW TO ASSIST YOUNG GIRLS TO WOMANHOOD.

BY EDWARD C. HILL, M.D., DENVER, COLORADO.

The primary establishment and the menopausal cessation of menstruation are the two crucial physical epochs of woman's life. The change from maidenhood to womanhood is one that involves the whole body, and manifests itself alike in the form, the voice and the sexual and nervous phenomena. In an ideal state of perfect health this transition into puberty should be as natural and uneventful as gliding from sleep into consciousness. Owing, however, to the present civilized modes of living, the cerebral development of young girls is fostered and forced to a degree that deprives the remaining tissues and organs of their necessary nutrition, and too often we are called upon to treat delicate girls that are like buds blasted in the blossoming. Many a woman traces back a prolonged existence of semi-invalidism to exposure and lack of care at the early menstrual periods. Tight lacing also predisposes to pelvic disorders by interfering with circulation and exciting uterine displacements. The strain of puberty upon the nervous and blood-forming structures may be too great in a subject hereditarily deficient in vital resistance and adaptability. So we may count among the morbid incidents more or less peculiar to puberty, chlorosis and anemias, general debility, neurasthenia and hysteria, acute pneumonic phthisis, chorea and hebephrenia.

According to Emmet, more than half of all women who have suffered at puberty from menstrual derangements are sterile and delicate in after life. Skene has stated that his observations showed that the vast majority of incurable diseases peculiar to women originate in imperfect development and consequent derangement of function. This development is either primary, during the embryonic stage, or secondary, at puberty. Defects in the former are irremediable, whereas secondary deviations from the normal standard are both preventable and curable in most instances.

It is important in connection with the subject under consideration to bear in mind the essential reciprocal relations of the reproductive system and the general organization. As Virchow says, all the specific properties of woman's body and all her womanly characteristics depend upon her ovaries. In other words a woman is not fully a woman unless her sexual development is natural and complete and in line with a healthy general organization. A beautiful illustration of sexual dimorphism has been furnished by Prof. Max Weber (quoted by Skene), who presented the case of a chaffinch in which the left side of the body had the female coloration and the right

side that of the male bird, the two colors being sharply limited at the middle line. The bird was a hermaphrodite with a well-developed ovary on the side of the female plumage, and a testicle on the opposite side. The phenomena of menstruation offer the most palpable evidence of the onset of puberty. The precise nature of this rhythmic cycle is over-shadowed by a jungle of theories, and, as Millikin well says, we can do no better in the present state of our knowledge than accept menstruation as a habit which has been nailed upon our race by heredity, and which is for us an ultimate biologic fact.

Normal menstruation in temperate climates generally begins in the fifteenth year. In the tropics it appears much earlier, so that in Mexico one may see a grandmother of only twenty years. Within the Arctic Circle Eskimo girls do not generally arrive at puberty until the eighteenth year. City girls usually have the menstrual flow earlier than do hard working country girls, in whom muscular exercise has the same derivative effect on the pelvic blood supply as too intense devotion to study. The time, amount and character of the menstrual flow vary normally within wide limits. The menstrual cycle for different individuals ranges in perfect health from two to six weeks. The average duration in the temperate zone is about four days. Soaking more than three napkins daily is considered abnormal. Anemic girls, as a rule, tend to menorrhagia; chlorotic ones, to scanty menstruation. Clots are present when the amount of blood is great, or the mucus and fatty acids scanty. A periodic white menstruation, from supersecretion of the uterine glands, is not infrequently noticed in the intervals midway of menstruation.

Menstruation is or should be a perfectly physiologic process. In the virgin disorders of menstruation of whatever nature are nearly always dependent upon the defective nutrition of the reproductive organs, and this in turn upon a blood supply insufficient in quality or in quantity. In the great majority of cases, therefore, our efforts to aid nature in effecting the transformation of the girl into a woman, should be in the line of a happy balance of nutrition between the special female organs and the body as a whole.

Hygienic measures are of the first importance. Fresh air and sunshine are always in order. Exercise is especially indicated for the fat and flabby chlorotic girl, and her diet should be restricted in sugars and starches. The highly active, intellectual girl must rest from her studies and try to become a little lazy. Proper precautions should be taken in regard to reasonable care of the person at the time of the monthly periods. Yet the physician should beware of unduly alarming his little patient, and so bringing about a condition of hypo-

chondriacal valetudinarianism. Simple cleanliness is certain to do no harm, but good. The conservation of the general health and vigor is the chief factor in maintaining safe and easy menstruation.

In spite of hereditary defects, if the physician could have full control of the diet, clothing, hygiene and environments of the little girls in his clientele up to the date of puberty, but little if any medication would be then required. Unfortunately however, the lack of harmonious development in the preadolescent period necessitates considerable medical attention to secure a normal course for the critical metamorphosis of puberty, whose influences, as Dudley remarks, are fundamental, not only in the reproductive organs, but in the entire woman. Actual pain at the menstrual period in the young virgin may be considered always pathologic, and the same is true of menorrhagia or very scanty menstruation. Such abnormalities of function should direct our attention to the state of nutrition especially. The obese, chlorotic girl must take more exercise; the thin, delicate, sensitive girl, more rest. Fresh air and sunshine are needed in every instance. Red meat, eggs and other blood-forming foods should be taken in such quantities as can be well borne. The appetite for wholesome nutriment should be encouraged, if need be, by stomachic stimulants, such as the official elixir of strychnin, pepsin and bismuth. The use of bromides, coal-tar analgesics and diffusible stimulants at the menstrual periods can be regarded only as a temporary makeshift.

The most constant and positive clinical sign of imperfect puberty is deficiency of the blood in red corpuscles and hemoglobin, the chlorotic type being perhaps more common than the simple anemic in relation to menstrual disorders. Hemic defects and malnutrition act reciprocally as cause and effect. The oxidizing life of the blood is in the iron it contains, with about one-twentieth as much manganese. The total iron of the adult body amounts to but 2.5 or 3.5 grams, chiefly in the form of hemoglobin. The normal daily content of iron in the food of an average diet is, according to Stockman, from five to ten milligrams. When absorbed, as in health, this food-iron replaces the metal continually lost by disintegration of blood corpuscles and excretion. The round of iron in the body seems to be from the duodenum to the mesenteric glands, thence to the thoracic duct, the general blood current and the spleen, from where it passes to the liver to be synthetized into hemoglobin for the red cells, on the breaking down of which the dissociated iron is eliminated by way of the large intestine.

The use of iron in anemic and chlorotic conditions is, of course, a cardinal principle in therapeutics. In girls becoming

women to supply a deficiency of erythrocytes or hemoglobin, one might infer at first thought that the best method would be to administer hemoglobin, that is, blood in some form. Chemistry proves, however, that when hemoglobin is taken into the stomach it is changed by the acid there to hematin (causing the coffee-ground color of small gastric hemorrhages), which, according to Cloetta, passes down the alimentary tract without being absorbed.

Most authorities conclude that inorganic compounds of iron in order to be absorbed must first be changed to albuminates by combining with food matters. All albuminous substances are hydrolyzed to peptons before they are capable of absorption. Hence it follows that a peptonate of iron is the preparation most likely to be readily and completely absorbed and assimilated. The best remedy of this composition, I think, is Gude's Pepto-Mangan, which I have used for the past ten years with great satisfaction, particularly in the hemic and nutritive disorders of female puberty.

This neutral solution contains three grains of iron and one grain of manganese in each tablespoonful. The latter ingredient is doubtless to be credited with a large part of the nearly specific effect of the remedy in functional menstrual derangements. The preparation is pleasant to the eye, agreeable to the palate, and has the great advantage over inorganic iron compounds of not corroding the teeth, deranging digestion nor inducing constipation. According to the nature and severity of the case, the dose varies from a teaspoonful to a tablespoonful. It is well taken in milk or sherry just after meals.

The following brief clinical notes may serve to illustrate the facts above stated. The blood count in each instance was made with the Thoma-Zeiss hemacytometer; hemoglobin was calculated by the Hammerschlag specific gravity method. I need hardly remark that the blood findings at the altitude of Denver are normally higher than at points near sea level.

CASE 1.—Jose K., 15 years, thin, delicate and somewhat strumous, had menstruated irregularly and intermittently for sixteen months; erythrocytes 3,600,000, hemoglobin 58 per cent. She was taken out of school, put on a diet largely protein, given aloin, strychnin and belladonna pills for her bowels, and for her blood, Pepto-Mangan (Gude), a dessertspoonful four times daily after eating. Under this treatment she made an average weekly gain of 1½ pounds in weight, about 150,000 red cells and 3½ per cent. hemoglobin, and was discharged cured in ten weeks.

CASE 2.—Alice R., 18 years, rather stout but pale, with greenish tinge; complained of palpitation and breathlessness on slight exertion; menstruation barely begun and scanty. She

was made to take gradually increasing exercise on her bicycle, a cool bath every morning, less carbohydrates and more proteins in her diet, and Pepto-Mangan (Gude) in the dose above mentioned. She recovered from all her morbid symptoms within four months, and has since married and given birth to two healthy children.

CASE 3.—Amelia B., 23 years old, an overworked servant girl, had suffered since the periods first began, nine years before, with marked dysmenorrhea, the flow being prolonged but rather scanty. The red blood cells numbered 3,800,000 per cu. m. m., with proportionate oligochromia. She was induced to rest at home and take six eggs daily, along with other nourishing food and Pepto-Mangan (Gude), a dessertspoonful four times daily an hour after food. She made a very rapid recovery, the red cells running up to 4,900,000 within two months and the menstrual periods becoming quite normal. By exercising proper care she has remained well for the past eight years.

CASE 4.—Olive M., 13 years, blonde, thin, active, sensitive, a hard student, just beginning to menstruate, the flow being scanty and accompanied with pain. The blood count was 63 per cent. of normal, the color index 57 per cent. Under treatment similar to that mentioned in the first case, she became round and rosy, menstruated freely and easily, took on seventeen pounds in weight and raised the blood findings above the normal at sea level, all within eight months.

CASE 5.—Fannie R., 17 years, active, ambitious, intelligent, had such excruciating pain all through her menstrual periods for two years as to cause actual wasting. Physical examination revealed nothing normal except an undersized uterus. She was given Pepto-Mangan in tablespoonful doses three times a day, and was told to lie with the head lower than the hips. After three months' treatment the periods became quite painless, and have remained so for five years.

CASE 6.—Flora J., 16 years old, began to menstruate profusely a year before, since which time she has been always ailing; erythrocytes 3,100,000, hemoglobin 63 per cent. She was given cool baths and massage, a bitter tonic, laxatives and Gude's Pepto-Mangan in dessertspoonful doses. When discharged cured, five months later, the blood count was 4,700,000, hemoglobin 95 per cent.

CASE 7.—Maggie W., aged 15, clerk in a department store, was extremely chlorotic (hemoglobin 28 per cent.), with a soft, systolic basic murmur and some symptoms of gastric ulcer; menstrual moulina but no flow. She was kept in bed at home, fed largely on meat, fish and eggs, and was given Pepto-Mangan (Gude) thrice daily a tablespoonful at a time. The functional murmur soon disappeared, the iron in the blood came

gradually up to normal, the patient lost in weight as she gained in health, and menstruation appeared regularly.

CASE 8.—Nora R., 14 years, healthy in appearance but neurasthenic; no trouble with menstruation, except at this time she became more nervous and developed a rapid pulse and some swelling of the thyroid gland. For this incipient exophthalmic goitre she was kept in bed with a cold pack over the thyroid at the menstrual period, and was given Pepto-Mangan (Gude) steadily for six months in dessertspoonful doses. She has been quite well and free from the symptoms mentioned for over a year.

In conclusion the writer would like to emphasize the peculiar physiologic efficacy of Pepto-Mangan (Gude) in aiding young girls to a normal womanhood, when the crisis of puberty is complicated with any defect in blood-making and nutrition. Its action is prompt and pleasant, and the clinical benefits derived from its use are readily apparent to all concerned. In curable cases it is as nearly specific as any combination of drugs could be.

SOME REMARKS ON CATARRH.

By GEO. HOWARD THOMPSON, M.D., St. Louis, Mo.,
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In the past year I have been weaned away from the many varieties of tablets and powders which have been foisted upon a patient and indulgent profession for their use in treating the various forms of nasal catarrh. The tablets were generally soluble only in warm water, and had nothing to recommend them as superior to Dobell's solution. The powders used for insufflation generally caused irritation and sneezing, a thing to be avoided in acute forms of rhinitis. I have always been partial to the alkaline mixtures, in which respect the profession at large are probably with me. The best representative of this class, in my opinion, is Glyco-Thymoline, an antiseptic of claret color, pleasant taste, alkaline reaction and non-irritating to raw or mucous surfaces. I have found it a pleasant mouth wash, an effective gargle in pharyngitis and an ideal preparation for the cure of acute and chronic rhinitis. In these conditions Glyco-Thymoline will be found to produce the desired result. It seldom fails to cure acute pharyngitis in two days when gargled in full strength or diluted not weaker than 25 per cent. In acute rhinitis it has produced best results when in solution not stronger than 20 per cent. In chronic rhinitis I have used as strong as 50 per cent. solution, gradually increasing the

strength from 25 per cent. The following cases are fair representatives of the results produced by this agent in catarrhal conditions of the nose :

Case 1. J. T. D., aged 21 years, of medium stature and build, well nourished and of good family history, asked to be relieved of a cold in the head, from which he had suffered for two days. On going out into the air he would have to hold his breath until his nasal passages could accommodate themselves to the cold atmosphere. Examination showed his nasal mucous membrane to be swollen and congested, with an abundance of secretion of seropurulent mucus, which rapidly accumulated, stopping the nasal passages. Temperature, 99.6 degrees. The eyes were suffused, and the lips and alæ excoriated from the acrid discharges. The case being one of simple coryza, symptomatic internal treatment was followed, in addition to which the local use of Glyco-Thymoline in 20 per cent strength was adopted, the medicament being applied to the nasal air passages by means of the Bermingham douche. The solution was first warmed to the temperature of the body, or a trifle higher, and the instrument filled to about three-fourths its capacity, from which it was allowed to flow into the nostril, while the patient tilted back his head and breathed through his mouth. This simple operation was repeated during the day at intervals of two hours, with some relief ; but the remarkable effects were not noticed until the next morning, when, on awaking, the patient's nasal passages felt as though entirely well. During the second day, however, patient continued the douches, at longer intervals, though regarding himself cured of his acute catarrh.

Acute cases of nasal catarrh are usually cut short in just this manner by the consistent use of Glyco-Thymoline, and such prompt results may usually be expected in the early stages.

Case 2. N. F., aged 36, lawyer, family history good, with the exception of chronic catarrh, with which both parents were afflicted. One week previous to coming under my care, patient contracted a cold in the head, the symptoms of which were similar to those of the preceding case. The more acute symptoms, however, had subsided, and patient complained that his nose filled with thick muco-purulent matter, which interfered with breathing and required the constant use of the handkerchief. Examination revealed a mucous membrane congested throughout, even involving the pharynx and secreting the characteristic muco-pus, which would accumulate and drop into the pharynx or occlude the air passages. As in the preceding case, a 20 per cent. solution of Glyco-Thymoline was prescribed, to be used in conjunction with the Bermingham douche, at intervals of two hours. Prompt relief was effected, the patient being able to sleep with comfort for the first time in a week,



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although the air passages filled up during the night. The next day the relief was even more apparent, and in three days the discharge had completely stopped, together with all symptoms, and the mucous membrane bore a normal hue.

Case 3. H. H. B., male, aged 38, broker, short and well proportioned, and, aside from a chronic form of rhinitis, in good health. He complained of a fullness about the nose, with a chronic watery discharge, and was subject to frequently recurring attacks of coryza. Examination revealed a slightly swollen and congested mucous membrane, involving the upper part of the nose, especially the middle region of the turbinated bodies. Diagnosis of chronic rhinitis was made, and constitutional as well as local treatment at once instituted. Agents were chosen which have a tendency to prevent the hyperplasia of connective tissue and hypertrophy, as this is the condition to be antagonized in such a case.

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In conjunction with this pill, Glyco-Thymoline in 25 per cent. solution was prescribed, to be used by means of the Birmingham douche every three hours, if possible, but at least three times a day. The discharge, it is needless to say, rapidly subsided, so that in two weeks his "fullness about the nose" had disappeared, and he was, as far as examination could reveal, cured. This, of course, is an exceptional case, and I would hardly hold out the hope of a cure of chronic rhinitis, even of a mild form, in two weeks, although the outline of treatment will give results satisfactory to the patient in much less time. These cases usually require at least three weeks for a cure, but I report this case to show the possibilities in a favorable case of chronic catarrh.

Some few patients cannot acquire the "knack" of flushing the nasal air passages and breathing through the mouth at the same time, but usually this is acquired after a few efforts. Should, however, a small quantity be swallowed, no harm will result, as it is non-poisonous, and is not an irritant to the stomach. I keep it constantly where I can use it in my toilet, for I have had several acute attacks of nasal catarrh aborted with a single douching with a 25 per cent. solution taken just prior to the development of the rhinitis. In conclusion, I wish to emphasize the necessity of using the solution warmed to at least the temperature of the inflamed membrane. Cold solutions cause pain in acute cases, and may have a tendency to retard the cure.