1857

On the pancreas, its physiology, and pathology.

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In the human body a limited number of organs are distributed, which have for their performance a widely different set of functions. Though all of them are to a certain extent dependent, the one upon the other, yet each of them has something in common of which it maintains either alone or combined with others an independent action; or if united they are so grouped to gather as to claim the performance of a common function. In virtue of this arrangement of parts, we are entitled to mark out the regions of the body, according to the combined action of their contents. We thus localise the boundaries, which nature has made, into three great cavities, and attach to each that importance, which the combined action of the contents demands.

Circulation, which has for its object purifying the blood as well as distributing it: the agent being the heart: things have been referred to the chest. The two are separate and distinct as organs, but the combined action of both is necessary...
that circulation may be carried on in that
meaning they are inseparable, and may be
treated necessary organs of the circulation.
Following the same plan, we refer alimentation
to the various organs contained in the ab-
doninal cavity, and go no further that
this effect be produced. We do not underrate
the assistance, that is derived from mastic-
eation, and the mixing of the foods with
buccal juice, which is incapable, to
aid the gastric secretion. Yet this may
be performed by the abdominal contents, with
out any other interference. Now here we
have many organs, yet all continuing to
bring about this one result, a supply
to make up for the wanting of all the
It works in the body, during the performance
of their various functions, and they are
all of them in this may necessary organs
of alimentation. One set of organs while
remain, which are contained in a connected
with the bony casement of the pelvis.
So these pelvic organs, the function of ge-
neration has been attributed, and thy
may be collectively termed, necessary organs of generation. To the testes alone the power of reproduction is due, which together with the prostate, are the most important of these parts. The latter we mean to make the subject of these remarks, and are induced to do so, from many considerations. The important relations of the prostate, apart altogether from any marked change in itself, demand especial attention as being so frequently the seat of operation. It is to multiply instances, we need only mention lithotomy, an operation whose hazard is only equalled by its success in alleviating human suffering, in restoring to health, comfort, and happiness, those to whose existence itself could hardly be deemed a boon, and who were living only to be miserable. Other vesical affections might also be enumerated if proof were needed to stamp this as the highest of surgical victories, the restoring back to the world and friends, the man who but a little ago had signed his own doom, which
In now extracts, we have improved practices for the prostate, the institute of interest in its own account. Many and painful affections can be referred to it, as the test. And as the arch, are more especially the unhappy victims of this painful affection, whose strength is already wasted, of course capable of endurance. It is as least our duty than our privilege, in ministering to the welfare of mankind, that interference on our part should be based on correct principles, which are alone capable of relief. For relief accurate principles however are based upon facts, the result of observation and experience, in the diseased as well as healthy condition of the individual. For it is enough to know, the functions of a part are deranged, as they may be local or sympathetic or a change in action, without any material alteration of the part. This implies, then, a knowledge of the anatomy of the part, and unless our principles can be traced to a correct anatomy, physiology and pathology, they are useless.
feel and practicatory: nor can they contribute to the improvement of science, or be in any way,eful in their application to disease. As can
meet practice. One only be got from correct
principles, we must trace them to their source,
and consider the anatomy, physiology and path
epy of the prostate. In speaking of
the anatomy of the prostate, we mean to include
its topography, and minute structure, and
shall show consider their in detail.
Surrounding the neck of the bladder, and the com
movement of the bladder, the prostate is
labeled forwards an inch and quarter of
connected anteriorly with the pubis, and in bi
two of its indurations, slugs the natural tube
to the head, in this way a certain amount
of curvature is given to the tube, whilst sup
port and protection are at the same time
afforded; posteriorly the prostate rests upon
the rectum. Conical in its shape, the pro-
state has been fancifully compared to many
well-known forms. In the numerous de-
presentations of it, many have not lightly
likened it, to a heart, of the playing card.
from the rectum, and lateral expansion at its base. As to form and size, one may be con-
tent with the description, beerometers generally give of the prostate: it is the best for all
practical purposes, as serving to connect the
shape, with the volume, of the prostate, as
seen in health. By their size, it has been com-
pared with a large sized flail. It is thence
rounded somewhat on superior or pubic surface,
more flattened posteriorly, as it lies upon the
rectum, to which it is united by cellular
tissue. The intervening space between the Re-
tum and prostate having another fat, or other
packing, to serve as a cushion, it depen-
dent till a pathognomonic point of view: as
the introduction of the finger, per rectum,
brought me almost into immediate contact, with
that organ. The whole of the body alters its
relation, with surrounding parts, but in the
natural conditions, it is rather blow and post-
erior to the symphysis pubis. The pubic
surface, if grooved anteriorly, posteriorly, and
for it to spread a network of veins, con-
necting it with the two dorsal.
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case, he was induced to hope that it must be present in health as well, that the
mammalian, protuberance was a third like
immoderately enlarged; it protruded into
which he had been led by his imperfect
knowledge of the anatomy of the beast.
But we must not anticipate farther, as
we mean to investigate this matter fully,
in speaking of the globule of the prostate.
To return to our description of the prostate,
and have yet to notice its lateral, urethral,
and relations. Laterally it is compact top-
even, so as to form the apex of the pros-
etite cove; here it comes in contact with
the levator ani, from which it begins,
its gets slips of muscular fibers, and
these in virtue of their attachment, con-
nect it with the pubis. Others affirm
that it has an independent muscle of
its own, which attaches it to the pubis in
front, whilst posteriorly, it is connected
with a white band, of firm unyielding
fascial tissue, situated at the base of
the prostate, and derived from pelvis.
fascia. This band, in virtue of its fibrous
barkling structure, served as a point of
attachment, to the Caecum, prostate, and
other muscles. But its chief interest, it
owing to the fact, that at that spot, the
superficial and deep layers of the pel-
vic fascia, are brought into immediate
apposition; and so long as this continuity
is maintained, unpleasant risks are avoided.

The nature and composition of fibrous struc-
ture naturally fits it for that purpose
of defence. It resists inflammation longer
than structure in the body, and will by
obscurerlur absorption end its continuity
be broken. There is much reason therefore
this structure should not be wounded.

As has been already mentioned, the edge
of the prostate comes in contact with the
pelvic fascia, from this an investment
it derived, and the fascia, from its con-
nections, it now termed Collo-rectal.
The prostate is brought in contact with
the fascia, anteriorly and laterally, by
continuation of the true ligaments of the
bladder. In this way the organ gets a
sheath of its own, which is attached to
neighbouring parts. The investing fascia of
the prostate is found by addition to itself
able into two layers, between which a layer
of connective tissue is to be found. Though
caused by this fascia, it is not brought
into immediate contact with the urothelium.
Resemblance, a pleat of vasa interventricularis
communicating in front with the
two dorsal pleats behind, posteriorly, they
join the rectal pleat, at the head and
neck of the bladder, and communicating
with the haemorrhoidal, supply the con-
tact into the internal iliac.
Arterial
supply is derived from branches of the
teal iliac, tents from pudic, vesical
and inferior haemorrhoidal, supply its blood.
Nervous supply is from the lateral,
superior hypogastric pleat of sympathetic.
Considerable light has been thrown upon
the minute structure of the prostate, by the
recent investigations of Ellis. From this his
concern, the propriety of classifying it with
the glandular structure, may fairly be granted. And if we rigidly adhere to definitions, and mean by the name of a part, something expressive of its function, the appearance of the protoplasm as a gland can hardly be maintained. Parts are termed glandular, in virtue of their function or composition, and their claim to be ranked as such, is in direct proportion to the cell element, or structure, as found to predominate in their composition. Glands, having for their far, pole, secretion, can only affect this by cell de-velopment; these cells, more matured, degenerate, and make room for new ones to undergo the same process of growth and decay. In order to meet this constant demand, for new materials, to replace the old, a copious supply of blood is necessary, that the secretion may be eliminated. Hence why all glands, throughout the body, are so vascular, and so richly provided with minute capillaries. The non-recurrentancy of this body, might there fore theoretically be adduced, as a reason for not considering this organ functionally important, as a gland. But there is no such
of new names, to bulk up the already formidable system of medical nomenclature. Only let us not be amazed, but let us attach to accurate conceptions, of the functions of parts and as that can best be remedied, by careful examination, of the structure of parts we shall proceed to give the result of this examination of the minute structure of the prostate. That the base of the prostate is muscular tissue, is an old idea, of that fact people have long been aware, but one may satisfy himself of this, by the most careful examination of the part. The great merit of Ellis discovery, consists in his being able to show the direction of the bundles of muscular tissue which enter into the formation and in tracing their connection and continuity with the muscular parts. Beginning with the urinary bladder, he shews that the circular fibres of the prostate are a direct continuation of the same set of fibres in the former, and that these circular fibres increase as you approach the neck of the bladder.
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that they cannot be regarded, as they really are, of great and
important, whether in the formation or function of
the muscular mass, constituting the prostate. It has been, mainly, to consist of
muscular fibres, particularly in their ar-
rangements and containing its interior a
few intercrossed muscular fibres, which
elaborate a peculiar secretion. We may
now open into the interior of this body,
and in doing so must cut through its
globular investment, which should proceed
into its interior, to bind together the muscu-
lar layers, and in this way give compact-
ness to the prostate, as well as the radi-
ating appearance it exhibits on section.
We must be careful not to confound that
with its circular muscular fibres, the radi-
ating would then be regarded muscular
slips, instead of binding prolongations from
its capsule. the direction of the gland about
their origin, as does also their fibrous texture,
It is now found, to be a hollow organ
and its fibres, as in all other hollow
muscles of the organized, organic kind.
The cell structure is now seen to consist of mucous follicles, a cluster of which communicate with a common tube, into which their secretion is poured. One part of the body tends to be cellular rather than the rest: the cell element predominates in posterior inferior surface, immediately behind the vesicular dimples, at that same spot, the third lobe, a more free enlargement is present, it to be sought for and found. A longitudinal section brings into view the urethra, enlarged at the centre of prostatic part, so that it presents a spindle-shaped appearance, which does not depend upon any contraction, as the natural calibre of the urethra, it maintained, as opposed and made from the dilatation. In this place the dilatation is doubled, circumvent by the fibres, composed of longitudinal muscular fibres, derived from the longitudinal submucous layer of the bladder. The minute fritillary remains to be noticed, it is a circular appendage of the
prostate, large enough to admit the point of a catheter, but not necessarily coming in contact with the instrument, passed through the urethra, or ignorance of the operator. It consists of two layers, fibrous tissue lined with mucous membrane. Along its walls pass the ejaculatory ducts, to open on its free anterior margin. Having made these remarks upon this anatomy, we will be better able to inquire into the physiology of the prostate: a subject which has hitherto received very little attention, a proof of which we need only mention, that in our standard works of physiology, a place even is denied it, in the index to subjects of general investigation, not that its existence is unknown, or questioned, but its function is unimportant as to be the worth of consideration. Any interest it seems hitherto to have possessed, is chiefly to be attributed to its pathology, but we yet hope to be able to attach a functional importance to the prostate.
For would we forget the tributary physiology, or its pathology, for none of its most important discoveries, in enabling us to ascribe a function to an organ in health, from its interruption or disease, the same effect in all cases depending on the same cause—susception of function? Among the most important of these we may mention the pancreas; its function at one time, that of the epithelial organ was long unknown, and only understood, after careful observation had witnessed its effect, when diseased, upon the individual. Rapid evacuation being the inevitable result of disease, obstruction to its duct from the presence of a tumour, or inflammation in the gland itself, he which causes the quality of a secretion it always attendant led to the conclusion, that the pancreas had no function to do with the conversion of fatty matters. Before this it was known to be an accessory organ of digestion, but its true function as an organ is now known to be to emulsify fats.
and so render them capable of absorption by the chemistry of the secretion about the body proofs. We are not however sanguine enough to hope for the same assistance from pathology, in enabling us to arrive at a correct conclusion, as regards the relative and importance of the prostate for this simple reason, that upon the uninter-
rupted secretion, the healthy maintenance of the organ and in no way dependant on that from that source no assistance can be derived as to its function.

What then is the function of the prostate? That it has in some way to do with the generative act, may be inferred from these facts - that in animals who have no longer the power of generation, we find the prostate atrophied from disuse. Again, in those animals, as the mole, who have periodic return of the breeding season, we may observe during the interregnum, the gland wasting, and atrophying of the part, until the season shall again arrive; and at spring time, it may almost be said to
be immediately elongated, so as to equal and even exceed in size their urinary bladder. The position of the organ, its intimate connexion with those parts which furnish the obstacles for Conception, and in addition being found or at least fully developed only in such as have the intraventricular generation act, points to the same conclusion. These, together with the important fact that in men the organ is imperfectly developed until the generation or stage shall have become functionally important, seem to warrant us in concluding that it, together with the chain of glands in the neighbourhood, has to do with Generation and nothing else. After attempting to show that the prostate had a part to perform, or if necessary in generation, we shall now try to isolate it still more and give it a functional importance of its own. The prostate, in virtue of the interspersed muscular bundles, through its structure, must, on this account, be admitted to
Laterate a secretion of some sort, but as the quantity must be small, from the limited supply of cell structure which is to be found here, no great importance can be attached to its direction, which is a thin mucus-like fluid, with interspersed epithelial cells, derived from the mucous follicles, and finally acid in its reaction. So this fluid has been attributed the dilation of the ducts, and that, so long as the glandular structure of the prostate has been maintained, has been the only office assigned to it. So that by itself, it would object, that the quantity secreted is much too small, though it were necessary, that such a mechanical effect should be produced prior to the expulsion of the effluent. True a small portion might in that way be expelled, but no great benefit would result, as the greater quantity would be left behind. heated upon. Besides, this explanation only attempts to account for a particular effect, which may with so much reason be attributed to another cause. A purely mechanical purpose has also
been assigned to the prostatic fluid. Newtonian
as I supposed from well-known law regulating
the action of hollow muscles, that act best when
upon their contents, when moderately filled,
but not over distended, some have supposed
that the prostatic fluid helped to fill up
the prostatic urethra, that by this means
the seminal fluid, when brought within
the grasp of the compressor urethrae, should
be more forcibly expelled. This may be so
far true, but it presupposed, that the se-
menal fluid is incapable of filling the pro-
static urethra and in the next place gives
the prostatic no share even, in the expul-
sion of seminal fluid.

The acid nature of this fluid, though
only faintly acid, had been taken advan-
tage of, to prevent the coagulation of
the seminal fluid. The acid on the walls
of the vagina prevents coagulation of the
menstrual discharge. So the role of the great
purpos of the prostatic secretion must
be to prevent coagulation of the seminal
fluid. Now substance and spontaneously
coagulable, only if the fibrinous element enter their composition, we know that the blood is coagulable on this account. But we want proof of fibrin as such in the animal fluid: it contains albumen, but in order that albumen may coagulate, the aid of heat is necessary. Even for tries will not coagulate, as long as it is suspended in the liquor sanginis in motion through the system; neither acid nor alkaline in sufficient and required for long as this condition is complied with. On the same principle, we can see no reason for acids here, as through the act of defecation the male voids the mostpartable fluid, we need not wonder much at their failing along the more roomy bladder, unaided by acids or other neutralising agents. Another function has still been assigned, the prostatic fluid, that of starting a des- terine influence over the mouth of the ejaculatory duct. With this view it washed the mouth of the duct, that the cord urine may pass harmlessly over it. This
it a new function of the prostate, and if true would imply, that the prostate had no share of micturition, rather than generation. Besides, the mouth of the ejaculatory duct, must be no share of that assistance, as the stream of urine is carefully conducted past it, by an elevation at that spot. The true purpose of the prostatic secretion must appear to be that, to act as a lubricating medium to the walls of the urethra, prior to the discharge of the seminal fluid. For this purpose it came fitted, by the nature of the secretion, as well as by its position in regard to the urethra, placed as it is at the orifice of that tube, the secretion must of necessity be brought in contact with those parts of the urethra, through which the seminal fluid must pass.

The secretion is thin and merely looking of a granular and oily nature, which especially fit it for a lubricating office. The seminal fluid being more thickconsist, and avid to stand the need of such assistance, that friction may be diminished, and its flow
along the channel of the urether be easy and rapid. The prostate having already dis-charged its own secretion, is now ready to enter upon a new function, and one which in virtue of its structure, it is evidently fitted to perform—That the prostate is mainly muscular we have demonstrated already. We have seen how small a portion of its glandular, compared with the large muscular mass constituting the prostate. The cellular part must thus be taken next to the muscular, and to the latter accordingly must we attribute the functional importance of the organ. The use of the prostate was imagined to be that to receive into its cavity the seminal secretion and exfoliate it, as it continues into the urether. We have already seen that in that object it is assisted by its own cell structure; we have yet to show how the remaining part of its function is to be performed—Regarding the prostate as a hollow muscle, we are led by analogy to infer that its action must be similar with other hollow
muscles in the body; and in this part of
their action all of them agree, the irritation
of their Contractions stimulating them to Contract,
affords the only means of getting rid of
the irritation and in this way the several
organic functions of the economy are maint-
ained. This peculiarity of action is re-
ferred to their nervous supply; they are
all under the control of the sympathetic
system and thus their harmony of action is
preserved. The heart is caused to Contract
by the blood coming in contact with its
lining membrane, this is stimulus enough
for it to Contract upon the Command indepen-
dant of any supply from the Cerebro-spinal
system. Though rhythmic movements may
be referred to the ganglionic nervous supply.
The oesophagus, when the bolus of food is
brought against its walls, is excited into
action, and successive masses of food
are in this way introduced into the stomach.
The same law is observed throughout the body,
the containing part is brought into action
and in all hollow muscles, it is evident
to the stimulus of its contents.
Muscular tissue, whether voluntary or involuntary, has this for its object, contraction, and by that means it furnishes the condition and for motion: what movement or motion is muscular tissue seems Superfluous, and it would be strange that one part of the body only, should not comply with this vital law. We are entitled to regard the prostate a hollow muscle, from the arrangement of its fibres, circular in their direction, and its cavity within. This cavity only requires to be filled, when its peculiar action—contraction upon its contents—shall act—just the same thing as happens in the urinary bladder, yielding to the stimulus of its contents, it contracts, and the urine is soon expelled.

During the process of coition, as the seminal fluid is being elaborated, and conveyed to the ejaculatory duct, the prostate, its own secretion having already been expelled, receives into its cavity the contents of these ducts. As soon as it has been
filled, obeying the structure of its contents, it forcibly contracts, a jet of fluid is produced, and a very motion is that the result of the successive contractions, until the whole fluid shall have been expelled. As in the heart, its contractions continue, as long as the presence of blood stimulates it into action; so have the prostate, continuing its action, until its cavity shall have been emptied of the seminal fluid. In claiming for the prostatic secretion a lubricating function, we have as far proceeded, other mucous glands, ministering to a like office. The salivary gland is believed to have for its office, to lubricate the bolus of food, that it may pass into the stomach through the gullet more easily. The atrocity in the prostate is thought to represent the female uterus. For that there seems little use: we would rather regard it as a vacated appendage, a receptacle to contain the seminal fluid secretion of the prostate.
The pathological conditions of the prostate have been carefully considered by many distin-
guished men: the frequency of its occurrence, and the class of people among
whose prostatic affections were more fre-
quently met with, combining, tend to the more minute investigation.

In speaking of its pathology, we mean to consider those diseases of most frequent
occurrence: they are the most important and interesting on that account. With
this view, we shall begin with inflammatory of the prostate. Few tissues in
the body can be exempted from this in-
flammatory condition; the non-vascular
adnex may not be included, and
these may be almost limited to the
appendages of the body, together with
the cartilages and tendons. They are
all non-vascular, and they are incapable
of assuming the inflammatory condition.

These may all undergo softening and
deterioration, a frequent result of the
inflammatory process, by absorbing the
matters thrown out around, and thus assume the appearance of that morbid action. But the inactivity of such structures to throw out the matter, of which inflammation is the effect, explains the idea of their being the primary seat of derangement. The local effects, appearance of serum, extravasation of blood and effusion of pus, of which inflammation is the manifestation, have not in these circumstances, the power of developing themselves. Blood is the Corporation and here it is about.

The local manifestations of inflammation are pain, tumour, redness, and heat not raised in amount to the feelings of the patient, but felt especially at those parts farther from the centre of the body, and in the nature of the individual at the lowest temperature. In addition to these symptoms of local disorder, constitutional symptoms frequently appear, and these are marked as the
lesion has been extensive, or important organs implicated. In each a local inflammatory or symptomatic focus is said to be present, and this is marked by quick pulse, hard bounding, with deformed reaction, tarry, so it may be altogether wanting.

Let us now examine the state of the part, and see what information we can get of the changes there and how they have been produced. When a stimulus has been applied to a part, the direct effect of it is to produce more activity in the part affected. This law holds good in health as well as in disease, and advantage of that is taken for the cure of the latter. The effect produced upon a part is in proportion to the intensity and duration of the stimulus; if these conditions be not fulfilled, there is the first action the opposite reaction is the result, excessive, or too long continued action, leading to the same and more of action. Dr. Bennett has proved by actual
measurement, that irritants applied with a view to excite inflammation, cause contraction of the capillaries, with increased circulation, so long as they yield to the stimulus. We had the same result by exciting a muscle, or a nerve governing a group of muscular immediate contraction: but if the tricus to turn be much for the part it loses its entirety and slow circulation with engorgement of the tissue, indeed. What is the cause of this derangement? The blood is changed in inflammation and its fibres supposed to be increased, because in these states the red corpuscles have more fibrin in solution; whilst in some acute inflammations, typical fever, fibrin is supposed to be diminished in quantity, because the red corpuscles have less fibrin in solution and consequently have lost power to coagulate. In the same inflammatory condition of the system we had opposite states of the blood, which precludes the idea of the blood being the cause of the change. The blood in both cases is abnormal. A result of some peculiar
influence, communicated to it from the part affected. That irritation is also attended on the part affected, may be readily concluded from the pain & clotting so often observed, as inflammation at progressing. But may not that be an effect of the change. a result of tension & pressure on the nerve tenes. That an influence is exerted over the circulation by the nervous system; witness the effects of sudden and unpleasant news upon the general circulation. the body became blanched, and the heart's action interrupted. But that the nerve independently of the heart, powerful by control the circulation may be at once seen by the rapid wasting of a limb after it has been robbed of its nervous supply. A certain tone is given to the muscles by the nerves, and as long as that medium tension lasts, the healthy circulation may be maintained. Too much importance must not be given the capil lateas as they may be regulated by the min use arteries and tissues around. The latter seem chiefly instrumental in bringing about the result. The sympatathy of the part is altered which
enables it to draw from the general circulation the proper fluid and its attractive force it increased, and its selective power diminished. This alteration of the vitality of a part may be induced by the direct application of a stimulus, or through fellow feeling, a diseased action may be communicated by continuity of surface, or by instigation, the Cause applied at the part, while the effect may be produced in a distant organ. These different results may be the coöperancy of the individual, when disease has a tendency to manifest itself at one particular spot, because of lower vitality than other parts in the body, the weakest sympathising most readily. Or it may be the result of former disease, the often a part has been the seat of disease, the more readily will it again act some unhealthy action. It may also be a general proclivity of the individual, that the structure, organ, or set of organs shall be most easily affected; such being the inflammatory condition, let us examine more particularly the Cause of Prox...
etiologies, and how if present the affection may be recognised. From its close relation with the two excretory outlets of the body, any alteration in their action, must be regarded as the exciting cause of this affection. Any substance of an irritating nature, passing along the rectum, or vomited, if inducing irritation in them, must, from the mere continuity of structure, produce a similar diseased action in the prostate, bladder when of large size and long retained in the lower bowel; as also irritation from the body acting violently on the rectum, are sufficient to produce prostatitis. Anything altering the urinary secretion, whether medicating remedies taken internally to alter the quality of the urine; or else the balans and canthareus, which especially affect the urinary organs, and cause inflammation in them, shall through sympathy, produce the same results in the prostate. Unhealthy urine, containing pus, or calculi, if inducing cystitis may also produce inflammation in the prostate. Leaje' direa urinary calculi pressing upon
the neck of the bladder, may, from the con- 
tinuity of structure, lead to inflammation of 
the prostate. Foreign bodies, small calcacu-
is detained in this part of the urethra, have the 
same effect here as in other parts of the body, 
excite an inflammation, which can only be remov-
ed with the cause. We may also include in 
this the introduction of Catheters, which may 
either wound, or be an irritable state of the 
urethra, lead to prostatitis. Afection of 
the urethra, gonorrhoea is treated by injecti-
on, structures as well, produced by sympa-
thetic prostatitis and cystitis with retention of ur-
ina. For this affection the Catheter must 
be used, but as preliminary to this we would 
advise Chloroform, to diminish spasm and 
expect to the introduction of the instrument. 
The causes there are local; inwards to the per-
ough, succedent and violent force eruption, 
membrane. Externally, Colds and change, may be men-
tioned as inducing to this affection. 

The affection may be recognised by pain in 
the perineum, a burning of an ascending along 
the urethra and pain, increased during mictur-
...in defecation. Examinging per rectum, ay, prostatic fluid is found and hard, froh the tension of the capsule. Should no obvious constitutional, not even local, and we may hope that the inflammation at the former. With this now our indications of treatment would be, to procure rest in the hole on the posture, and soothing applications to the body. The hot bath, tepid water, with a deodorant object of narcotic practice. Lacking to the perineum may also be demoralized, it will relieve tension, and capping with the time of object. Blood might be abstracted directly from the prostate, by lye, under per rectum. This may be managed with little trouble, by means of a speculum, or more simply by a cone of paper, allowing the head of the cone merely to protrude. But we think the practice incorrect on the ground that in most such the rectum, within the internal sphincter, are always followed by trouble, and hemorrhage. For this reason inter. All节 and blood, are ligated, and the gut, with 3 or 4 leech bites, in roughly in as favorable...
circumstances for killing, as after cutting off an internal hematoma.

Indeed, of localisation, the inflammation may go on to suppuration, with swelling and loss of temper. In such a case, the local and constitutional symptoms will be augmented, and the pressure of matter will be increased by fluctuation, if we examine per rectum. As soon as matter can be detected, it should be evacuated; no case in this way gives the direction of the evacuation, and provides against the dangerous consequences of allowing the matter to choose its own channel, whether infiltrating the peritoneum, or elevating through the bladder. The pus, if it be a matter of the gland, resolve inflammation more quickly than any other matter of the body, but localisation absorption or localisation is at least a greater and the matter is then liberated.

Abscesses of a different nature is not infrequently met with in the prostate, originating in a very different way. The infiltration of tuberculous matter, into the substance of the prostate, forms one of the least manageable affections. Depending as it does on a depraved state of the constitution,
and sympathetically affected with other important vital organs, it would be unreasonable to hope, by local measures, to cure an organic disease of which the local manifestation here is a mere symptom. Tubercular deposit in the prostate is not primary, though of frequent occurrence, when this disease is diffused through the body. Tubercle is generally associated with the lungs, as in this organ the earliest manifestation of the trouble is generally to be found. The functional importance of this organ in health led to the investigation of the changes in disease. Lesion of the lungs accordingly, though serious affections were present in other parts of the body, unnoticed, was deemed in all cases sufficient to account for the results. Tubercle is generally found widely diffused on mucous surfaces, though not by any means confined to this structure. For this reason we expect to find tubercular matter, diffused through the alimentary tract, especially in such places as mucous glands are present. And affections here often manifest themselves.
wells with such intensity as partly to com-
plique, if not in many instances to increase,
the cholera symptoms. The existing diarrhoea
of phthisis which so often leads to a fatal
termination is owing to ulceration of these patches
ulceration in these cases seldom leads to per-
foration, the reparatory process in mucous sur-
faces being so active, prevents this, so that
perforation of the bowels with its attendant
perforative celiotomy useless. If then we look
rather in the mucous patches of the inter-
testine we may with equal reason expect it,
in the mucous follicles of the prostate. And
that we apprehend to be a more frequent con-
dition of the prostate, than has hitherto been
anticipated. The occurrence of fistula in ano,
so frequently met with in phthisical subjects,
depends in theirs, upon this morbid state
of the prostate. The exudation matter re-
quires an outlet for its escape, and for that
purpose, the walls of the rectum, already thin-
ned by constant irritation, afford a most con-
tinuous channel. We do not in all cases meet
with fistula in ano, when phthisis is present.
No sure have an in every instance the action of the body track implicated. Physical irritation from large mouth & flabby edges, or would then consider a result of the normal state of the prostate. The cause of irritation is generally thought to be a peculiar blood plasma, ready when an occasion offers, and requiring only an opportunity of manifesting itself in a peculiar inflammation. After softening & disintegration of irritation, the matter is then extruded from the lung, leaving behind the empty cyst. These cysts have the power of forming concretions, which are often extruded, and regarded as fav. orable symptoms of the course of the disease. They only prove that new matter is not forming in this part of the lung, and that empty cysts somewhere exist, whose walls alone have the of forming those concretions. The composition of those concretions is invariably found to be phosphates of lime. Applying the same principle we have at least one way of accounting for prostatic calculi. Disintegrated irritants through its substance after they are softened and disintegrated leave behind them the contain.
The walls of that cyst now assumed a
less firm, and concretion, so many as there
have been cysts, can in this way be formed.
They may be generally seen articulated with
one another, in closed approach, and if the
urinary, may, by their pressure, cause the re-
moval of the proper substance of the pros-
tate, and thus convert it into a cyst, a bag
filled with calculi. And how they must
remain unless removed with the knife.
These calculi are similar in their compo-
sition with the earthy matter affected
in the healing process, after inter-
ular deposit in the compact and we can
see no reason why they may not be for-
moved after the sound place. A result of
lubricol in the one case, as in the other.
In addition to these other operations are met with
in the prostate, different in their nature, and
produced under different circumstances. Of
these one is an animal matter, the other the
same in composition with the already men-
bined, but having origin from a different
source. Dr. E. I. Jones had explained the fact.
men of these: they are usually to be found among the follicles of the prostate, minute in size, generally of a red sandy color, though sometimes paler and almost colorless. Some regard them as rarely absent in the prostate, if carefully examined. The result of this account of their formation. They originate in a large basal cell, filled with granular matter, of a matter of paranuera, with a nucleus sometimes in the center; it is observed to increase in concentric layers till its proper size has been reached, which is about two or three. If we examine the cell, a cavity will be found in the interior, of the same shape as the exterior, owing to its mode of development. At the end of their existence they may burst up and separate to their decay, situated between one another, others continue increasing by concentric layers. They are regarded by the appearance of their placid at different periods of their existence, beginning as a cell, its existence may here end, or, acting as a nucleus to the layers of mineral matter deposited around it may increase.
I must agree with Jones, in regarding their a healthy division, and attributes their formation to earthy matter deposited in the glands, but he had not told us, whence this earthy matter originated. The true explanation is that in certain states of the blood membrane, a ferment is furnished which leads to the formation of Calculi. Phosphate Calculi are of more frequent occurrence on the ureter and bladder; the obstructed ducts of the salivary glands, and the keratin on the teeth are similar examples of their presence. These deposits are sometimes extremely minute, like fluffy, red, with a sickly polished surface. The symptoms produced by these Calculi will be in proportion to their number and size; and often they are so insidious, that no indication of pain of their presence at other times their presence may be inferred from the constant pain and irritation experienced in the prostatic region, neck of the bladder, or at the bladder's stone. But by the metallic stone, we have a ready means of repairing the injury to the bladder.
Inercusions of the prostate are generally met with in old people. The reason of this would appear to be, that in the general starved condition of the system with earthy matter, as induced by the deposit in the interior coat, the mucous membrane of the prostate becomes sympathetically affected, and phosphate calculi are produced. Though not in the substance of the prostate, yet in the circulation, other abnormalities occur: the prostatic phlegm, is frequently the seat of urinary prostatitis. These phlebitides are frequently met with in the veins of the pelvis, on also the pleurae and peritoneum. They are of a cartilaginous consistency, and are similar in their composition, with the loose Cartilagex and with the joints. Their origin may also be the brain, some states of blood adhering to the sides of the sphenoid, extend in the first place into Cartilage, and eventually, at their highest development, change into bone. The idea of acquiring a nucleus from the surface of the Cartilage, is explained in the case of the veins, and cannot be procured even in the joints. A clot of blood at any event.
The prostate is liable to be changed in bulk, by having its substance involved in growths: of these two must only be mentioned, the one a firm and non-malignant growth, the other malignant Carcinoma, which happens it rarely to be met with in the prostate. Fibrous growths in by no means rare in this situation, but so little recognized result from their presence, that a foreign body is not even suspected, till the surgeon satisfies himself of their presence by attracting them with the sound as he is performing the operation of lithotripsy. They are generally of an oval or rounded form, and seldom increase to any large size, unless why they are so mischievous in this position they may be termed prostatic Polypi. Fibroid tumors embedded in the substance of the prostate, analogous in their formation, having similar connections, as we have in fibroid uterine polypi. When these polypi are developed on the surface of the prostate, it has a nodulated appearance. For obvious reasons they are not subject to the same
mammary development, that is sometimes observed in similar growths of the uterus if they were they would be more manageable. The existence of Japanese is denied in the prostate and cancer in any shape is nearly certain.Instances however are on record of Medullary carciomas seeping from the prostate, through the urinary bladder. In the hands full of the prostate, so as to simulate cancer. Sinhales, is owing to attend half of the time ungiving coexistent cancer may also be derived from the bladder and implicated secondarily the prostate.

In part of our subject still remain, to the Consideration of which we shall now proceed. Of the morbid changes in the prostate, its swelling may, let beyond all question, the most common. This enlargement of the prostate is so often met with in old men, that it is usually enlargement, and hypertrophy of the prostate, have long been considered as symptomatic. But that this should be a result of age does
not appear to us so obvious. If we proceed
the vital parts diminish, and general wasting
and atrophy become indicative of age, it must
be an outrage upon reason to assume, that the
formulae, at this season, should be altered
by an increase to the natural tension.
We know that the texture, arteries and mus-
cular, waste, as years advanced; and even
parachymal and structures obey the same law.
This is seen in that cavities: the contracti-
on of the chest, so distinguishing a mark of advanced life may be taken as an example.
It is forced to contract by the atmospheric
pressure, in order to accommodate its
collapsed contents. The brain now at di-
minished in volume in advanced years.
But within the walls of the Cranium, an
apparent exception may be found. The
old age the glands of Pecconi are enormous-
ly enlarged whilst they can scarcely be de-
tected in the young. This is owing, we think,
to the brand shrinking of the brain already
noticed. The cavity of the Cranium must be
gilled, and an atmospheric pressure has
not how the power of accommodating the containing parts to the contents. Additional space is given for the development of these bodies. The counter-pressure of the veins having now been removed by the thrillings in their space is given for their growth and they increase in size to serve their mechanical purpose. Increased action in a part also leads to increased growth. This is seen in health and disease as well of the former. Where a familiar example is in the limbs of the opera dancer of the letter when the functions of a kidney or a lung are interrupted by disease, the blood is increased in proper substance, it is hypertrophied because it must do more work. But as much can be almost in the prostate, as functional activity has long I had been suspended. We would therefore from these facts conclude that while enlargement of the prostate is no hypertrophy but a morbid action induced in blood may have atrophy in the circumstances would be real.
While the increase there must be attributed to disease. What we would ask is the cause of this while usually present of the prostate. In attempting to answer this question, we hope to derive assistance by taking into account the sequence of circumstances generally observed in connection with the appearance of this affection: the period of life at which it occurs, and the class of men among whom it is most frequently met with. What then may characterize the change observed in old age, that can qualify for this affection? Of these the most important are apparent in the altered condition of the circulation. The venous flow is especially interrupted in advanced age, the propelling force in them withdrawn, as the muscular tissue has been gradually wasting. This leads to slow circulation, and much animal congestion, especially in the most dependant parts of the body, is produced, to the want of a propelling power to urge forward the blood... This condition...
of the 'varous circulations leads to congestion, and temporary enlargement of the prostate, which, if not leading to permanent enlargement, brings it back into more favorable circumstances for receiving inva-
tions, which shall lead to this result.

Enlargement of the prostate is generally met with in those who live, or who have been living injuriously; or who have indulged to excess in worceal expe-
tures. Both of which conditions lead to excitement of the prostate, either direct-
ly or indirectly. In the former case gutative degranulation, through overfeeding; through sympathy, or irritation to the pubis, also induce vortation in the prostate.

In the latter as the prostate excited in the worceal region by frequent expe-
timent, it becomes more expelable, and thus more easily led to assume unhealthy action and former affections in the ure-
ther predisposed to a similar result.

Partly that have once been excited and influenced, are more slow to be again
Similarly affected, even from slight causes, and a chronic inflammation is thus produced. From these previous causes, and the unhealthy congested state of the prostate, we can readily understand, how a chronic inflammation can be excited, and encouraged, in it, which shall lead to its permanent enlargement. Irritations from without, communicated by the perineum, as from hunting and long journeys upon horseback, and those expressions can only be indulged in, by men who are physically in a healthy state. High living may with propriety be included, combined with these venereal concoctions, lead to similar enlargement of the prostate.

The same conclusion is forced upon us, when we examine the condition of the subject muscular tissue, or not enlarged, but the member is built it derived from muscular tissue, which is the highest eel development blood plasma, is capable of assuming. For this reason it is hard and firm to the feel, and on that account while enlargement of the prostate has been
The mucous glands may also participate in the change, and become distended with an altered secretion, so that the gland presents a soft, succulent appearance. It is from this altered condition of its glands, that the urine becomes loaded with a copious mucous deposit, so significant a mark of enlarged prostate—the opposite side has also been noticed, when the prostate is tough and overgrown looking.

Having approached into the cause of enlarged prostate we would now consider the manner in which this change has been produced. When this marked change has once been induced, no much not effect its general symmetry should be maintained. But that those parts coming in contact with the interior should be most altered. Other favoring circumstances may also be of use; but the enlargement, we should naturally infer, (other things being equal) would be greatest, when the density and resistance were least. Room for development...
room for development which is the end of growth, would in this way be most easily regarded. This change being now symmetrical, and the cause already traced to irritation, enable us to understand why the base and left side should be most fully developed in this mental condition of the parts. In speaking of the anatomy of the prostate, we refer to the base, between the lateral lobes, where the so-called middle lobe is to be found, as containing most of the cell elements. This offers less resistance than the firm muscular tissue which predominates at other parts of the organ and at this part we apprehend the mental change first begins, because here the conditions for growth are most fully supplied. The rectum being next to the left side of the body supplies the other condition, by coming directly in contact with the base and left side of the prostates; the irritation is most felt here, and the so called middle lobe is found at the base and inner edge of the left lobe.
The middle lobe is thus to be regarded as an expansion upwards of the left side of the prostate. When it is thus formed, it can continue increasing, and again pursue the course offered least resistance, turning upwards at the neck of the bladder, it comes in contact with the mucous mem-
brane of that vessel which offers less resistance than the firm fibrous covering of the gland. In this situation it may enlarge, and so to lessen the cavity interfere with the functions of the bladder. The cause still continuing the mental action does not stop here, the lateral lobes increase in their long diameter, but the left is usually found most developed, for the reasons already stated. Let it not be objected to this explanation, that the right lobe is often found larger rather than the left. This no one disapproves our statement as to the manner of the normal development (if we may be allowed thus to express an unhealthy action) than does the fact,
that the first position of the child in alcro, is not natural and normal, because the opposite position is frequently met with. The enlargement varied much in degree, from an ordinary size apple to apple considerably a man's fist: the third lower rounded, or a mammillary. The protrusion has been found to large as egg.

The effects of this enlargement, are obvious from its connection, with the two great exitory outlets of the body, the rectum and ureters, and the effect upon both will be in proportion to the size it has attained. It will drain the region of the retroperitoneal fat at first, with a flattened form of the face, an indication of that affection. In addition to these, the urachus is not frequently present, which will aggravate the other symptoms. But these are trivial compared with the effect, upon the urethra and bladder of a prostate much enlarged. The altered channel of the former and the diminished capacity of the latter lead to great inconvenience.
The urethra is increased in length by the lateral expansion of the prostate and the pro-
duction at the lobes expand, so also the urethra elongates. Sustained in realist of the urethra
by moving two inches to its natural length, by
this lateral expansion. The course of the
urethra, and has a turn, as the expansion
has been more on one side or other.
This point has been insisted on by many sur-
gent, and is of great practical importance, in
the using of instruments. The caliber of
the tube is not altered by this lateral ex-
pansion, unless it sometimes happens you
have a structure to complicate matters.
Another effect of this is altering the
division of organs in the bladder. One
will, the neck of the bladder must rise, and
this shall displace the urethra as well, by
giving a greater curvature to the tube. The
mouth of the third lobe tends to increase
this, but other and more unpleasant conse-
guences connected with it, yet remain to be
mentioned. In rare urinary affections depend
ent upon this change in enlargement.
of the bladder leads to changes in the urinary bladder and its contents. The third
lobe, hence with it as its gross, the mucous
membrane of the bladder, that produces bile
to the sufferer of the作者, which partially
or completely obstructs the flow of urine
according to the size of the renunciation
prostate. To meet this obstruction, addi-
tional effort on your part is necessary, and
probably of the bladder into diminished
cavity is the necessary result. In ad-
tension to the changes in the function of the
bladder, other changes are to be found
in its contents. As the bladder, from
its natural position, can never be fully
emptied of its contents, a small quantity
of urine is left behind, which then
becomes acid and bile either neutralizes
the bladder, or acting as a ferment
lead to the formation of vesical calculi.
A physician is sometimes found in the pro-
static urethra filled with urine in this extinct
state of parts; of this it is important
to be aware, that you may not the flow of
time to come from the bladder, whilst your instrument is only in the prostate collect and then expose yourself to the supposition of ignorance and your patient to fear. That the enlarged prostate has been the cause of all this may be readily determined by introduction of a catheter and manual examination. You require catheter to stop the prostate in position.

due to the treatment of crude enlargement of the prostate, little can be said, because little has hitherto been done besides to feel little or mean pressing symptoms.

But treatment will be guided by the regress of the symptoms. If the hematuria be only slight and a slow stream of urine allow at first our attention: the indication of treatment will be to prevent the progress of this mortal action, and therefore off a set of the disease. This is to be managed by carefully avoiding all source of irritation by enema to regulate, or by regulating the bowels by the occasional exhibition of a purgative cathartic: pumps, cold and all.
Such festive banquets of the disease must be avoided. The correction of the wound right also to be examined, and the parts of irritation from acid urine, be suitably counteracted by appropriate means; and by these means we may hope to prevent the further growth of the disease.

But in many cases these conditions are not complied with, and we then have what is termed a fit of the disease, with complete retention of urine coming on. The symptoms now demand attention, and we know to treat the retention not the irritated prostate. In doing the Catheter, with its attendant, the hip bath or operative room will mainly be desirable. Should the warm bath and opium fail, passing must then be had to the Catheter with Etheroform. In choosing an instrument, two things must be borne in mind: that the bladder is lengthwise, and the bladder elevated at its urethra. To make these events a larger and more curved Catheter is necessary, and the instrument is then to be introduced in the usual way.
with first Comic and Cartesian. As excellent
rules are given, by recent practical writers
on Surgery, for the introduction of Instrument
into the bladder, there is no need for our
inventorating. Should our attempt to intro-
duce the instrument be failed, by the in-
side arrangement of the third coat, the ob-
struction may be pierced by the point of
the instrument, and the overstretched viscera
released without withdrawing the Catheter.
The bladder may also be punctured for
secretion, by passing the lean through to
the rectum into the lumen of the blad-
ner, where the viscera is arrranged.

Can anything new be said for the rela-
tion of the remoral has been pro-
duced, but that would be impossible
without a fatal result. Indeed, from the
known action upon plants, has
been proposed, to exclude the uptorn and
removal of the part. But this method
would be subservi of the object it had
in view, and would tend to increase rather than diminish its effects. Besides,
we have seen already its increased is not glandular, and therefore not especially
fitted for removal by E.D. A
an opposite plan of treatment would more
commend itself which is based on scientific
principles. It seems to be a law of nature
that parts in rest, and not supplying a need
in the economy, are to be removed: the re-
duction of the enlarged uterus after the
expulsion of the child may be mentioned.

With the view of assisting nature to accom-
plish this change, let all forms of irrita-
tion be withdrawn, and let the secretory
system be rapidly reversed, and for a time
continuous movement and the most perfect
with stimulating food help up the activity
of the lower. But let these conditions be well
drawn, and we may with more reason hop
to effect a cure than by stimulating applica-
tions which are only fostering its growth.
Every internal secretion which has the reported effect of purifying blood by promoting absorption may, with propriety, be combined. To form the infusion, has been alluded to, the removal of ulcer and fibrin thence has been referred to the continuous act of its drug internally; and the amount of large veins, how sometimes in this way rapidly disappears. If there are also parts of the system, because the employments to favour the removal of foreign body, and why should it. It is not, followed by a like result in removing this foreign body, that mortally enlarged fibrin. In the union of fever and may be administered in five grains about two to three times daily; it is this advantage over the idea that it's prolonged and is not followed by gastric irritation. It must be added that instruments should tell us to add and should an obstacle be still afforded to the flow of urine, rather than aid it. Otherwise, we would recommend, as being more in accordance with the principles already advanced, that
the bladder be punctured for relief.